U.S. DEPARTMENT OF AGRICULTURE

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NATIONAL ORGANIC STANDARDS BOARD

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MEETING

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THURSDAY
NOVEMBER 3rd, 2016

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The National Organic Standards Board convened via teleconference, Tracy Favre, Chairperson, presiding.

BOARD MEMBERS PRESENT:

TRACY FAVRE, Chairperson
HAROLD AUSTIN
CARMELA BECK
HARRIET BEHAR
JESSIE BUIE
TOM CHAPMAN
LISA DE LIMA
EMILY OAKLEY
SCOTT RICE
JEAN RICHARDSON
DAN SEITZ
ZEA SONNABEND
ASHLEY SWAFFER
FRANCIS THICKE
STAFF PRESENT:

MICHELLE ARSENAULT, Advisory Committee
   Specialist
PAUL LEWIS, Standards Division Director
JENNIFER TUCKER, Associate Deputy Administrator

ALSO PRESENT:

KRISTEN ADAMS, Midwest Organic Services
   Association, MOSA
NUR AHYANI, WWF-Indonesia
KAREN ARCHIPLEY
COLIN ARCHIPLEY
KIRIN BASRA
DAN BENSONOFF, NOFA/Mass
PRESTON BRAWN
MARIE BURCHAM, The Cornucopia Institute
CURT CHITTOCK
JIM CHMURA, ABC/Harvest Hill Beverage Co.
PETER CIRIELLO
JEANNINE DELWICHE, FMC Corporation
KATHERINE DIMATTEO, Wolf, DiMatteo + Associates
ROCCO DIMODUGNO, Lamberti USA
STEVE ETKA, National Organic Coalition
BARRY FLAMM
MARTIN GRAMCKOW, Southland Sod Farms
JAYDEE HANSON, Center for Food Safety
STEVE HEARN, Independent Organic Inspector
FRED HOERR
PHAEDRA LAROCCA
PHIL LAROCCA
KEVIN LAWRENCE
BRIAN LEHMANN
JENNIFER LONERGAN, The Humane Society of the United States
PATTY LOVERA, Food & Water Watch
CECILLE MADRIZ, Fennel Farms
GUILLERMO MARTINEZ, Kingdom Fresh Produce
DAVID MCCOY, Food Science Matters
MICHAEL MCFADDEN, Farm Forward

JEFF NICKERSON
ALSO PRESENT: (CONT.)

DENNIS NUXOLL, Producer Assoc.

JOSH PAYNE

EMILY POSNER, Recirculating Farms Coalition

STEPHANIE ROCHE

JAMES SBARRA

JOHN SCHOENECKER

ADAM SCHRETENTHALER, Formulation Solutions

MARGARET SCOLES, International Organic Inspectors Association

DENNIS SEISUN

JESSICA SHADE, The Organic Center

BARBARA SHPIZNER

TOM VALDEZ

KURT WAGAMAN, Superior Fresh LLC

MYRA WEINER
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(1:00 p.m.)

MS. TUCKER: Okay. We are right at 1 o'clock, so we're going to start easing into this. We have a lot of folks who are providing public comment today, so we don't want to delay our start. A couple of introductory logistics remarks. This is the National Organic Program in Washington, D.C. Welcome to this National Organic Standards Board public comment webinar.

For Board Members on the phone, we will be taking roll call, calling out the names of everyone who is online so everybody knows, for the record, who is on with us. Michelle will be reading those in a couple of minutes.

In the meantime, again, we please, please ask you to mute yourself. We will have to mute everybody if there continues to be background noise, and then that makes it very, very difficult to find the person who is next up for public comment. If everybody could mute themselves by either pushing star 6 on your phone
or the mute button on your phone it will go much, much smoother with much less technical disruption, okay?

If I have to mute everybody, then what we'll need to do is, when it's your time to give public comment, the speaker before you, you will need to enter in your name and the first four digits of your phone number so we can then find you to unmute you. We do lose a lot of time when we do that. Again, that's why we really appreciate it if people would mute themselves. It will make everything go much smoother, okay?

All right. Those are the logistics of the event. I'm going to now turn it over to Paul Lewis, Standards Director, for some opening comments.

MR. LEWIS: Thank you, Jenny. And I'd like to welcome NOSB members to today's webinar. Thank you for your member participation in this call and for all your work serving on the board. I'm excited about this opportunity for the board to conduct this meeting and public webinar as
part of the opportunity for greater public access at NOSB meetings.

This meeting, like other meetings of the NOSB, operates under the Federal Advisory Committee Act. And looking forward to hearing comments from the public to assist the NOSB preparing their recommendations to the USDA.

Also thanks to my National Gas Programs and several different colleagues for their help in behind the scenes. Wouldn't have today's call without them. Now I'd like to turn the meeting over to our Chair to conduct the meeting, and thank you for chairing this meeting, and looking forward to a very productive webinar.

MS. FAVRE: Thank you, Paul. Again, on behalf of the Board, I'd like to welcome everybody to the public comment webinar prior to our fall meeting. We've only recently begun doing these webinars and I think it's been a great opportunity to add access for those who might not be able to travel.

I wanted to let you know, we are
getting some background noise there. Those of you, please, I'll reiterate what Jenny said, please, please mute yourself. It's very distracting. It really takes away from the opportunity to hear those that are speaking and I can hear somebody moving around and crunching around in the background, so if you think you're muted, please just check to make sure, just so it's not a distraction to those that have taken the time to participate.

Jenny, I'm going to ask you if you will read a list of the board members that are in current attendance. And just as a heads-up to everybody, we are going to run a little bit long today because we wanted to try and accommodate as many public presenters as possible, but in the interest of full disclosure, some board members may not be able to stay for the full amount of time.

The best way to make sure everybody gets heard is to keep our comments to the allotted time period and I appreciate and thank
you in advance for your cooperation, so, Jenny?

MS. ARSENAULT: Hey, Tracy, it's Michelle. I'm going to go ahead and read the roll here.

MS. FAVRE: Okay.

MS. ARSENAULT: So on the line with us we have Harold Austin, Carmela Beck, Harriet Behar, Jesse Buie, Tom Chapman, Lisa de Lima, Tracy Favre, Emily Oakley, Scott Rice, Jean Richardson, Dan Seitz, Ashley Swaffer, and Francis Thicke, I'm sorry, Francis, I haven't seen you yet, so we'll watch for you, and there's several staff on the line as well, Jenny Tucker, myself, and Paul Lewis.

And I'm sure there are a couple more I can't see on the list at the moment, so they will be added to the transcript. So just so a little admin, we are having this call transcribed, just so know, and once you start your comments, you're going to hear a timer that's going to go off every three minutes, and we ask that you please finish your sentence and
end your comment at that time so we can get through everybody that's signed up.

I'm going to give you guys a little demonstration of what the timer sounds like so you know, so it'll be a couple seconds here. Everybody hear that okay?

MS. TUCKER:  It's actually pretty faint, Michelle, I think we need it just a little bit closer.

MS. ARSENAULT:  Okay. All right.

I'll work on that. Thanks.

FEMALE PARTICIPANT:  Are we supposed to announce that we're on?

MS. ARSENAULT:  No.

FEMALE PARTICIPANT:  Okay.

MS. ARSENAULT:  No, you're not. Thank you. Thanks for asking that. I'm sure others had that same question.

MS. FAVRE:  Okay. In the interest of our limited time here, I'd like to go ahead and get started with the public comments. And the way I intend to do this is, I will announce who
is up speaking and then I will also tell you who
is on deck, so which means who will be following
the current speaker so you can get yourself
prepared, okay?

So first up today is Marie Burcham and
on deck will be Steve Etka. Go ahead, Marie.

MS. BURCHAM: Hello. Can everyone
hear me?

MS. ARSENAULT: Yes.

MS. BURCHAM: All right. Hello and
good afternoon. My name is Marie Burcham and I
am a policy analyst at the Cornucopia Institute.
I am also an attorney with a background in
environmental and natural resource law. Members
of the Board and the public, thank you for the
opportunity to speak on this important issue of
the policy and procedures manual rewrite.

In general, the policy development
subcommittee has not followed the procedures in
the PPM for presenting proposals. In the current
draft, the PDS does not provide an explanation
with nutrition detail for these changes. In
particular, it should include a rationale for the proposal, including reasons why the proposal should be adopted, its historical context, and the regulatory framework pertinent to the issue.

The PDS also fails to discuss the strengths, weaknesses, and opportunities associated with these changes. We ask that now, and in the future, any explanations are more complete. Failure to commit to transparency and public input threatens organic integrity and it weakens the value of the organic label for us all.

I also want to speak to the Board about the importance of policy regarding the conservation of bio-diversity within the organic label. Currently, organic policy incentivizes farmers to bring untouched native ecosystems into organic production. Because they are considered clean, farmers are allowed to skip the three-year waiting period.

These pristine habitats are often weak and cannot be replaced even if restoration is
The NOP's three-year waiting period for transition organic production is critical to maintaining organic integrity. However, incentivizing farmers to plow over pristine habitat by allowing to easily go into organic production flies in the face of bio-diversity conservation. They should be de-incentivized immediately.

Bio-diversity is great, it's great in undisturbed environment, these areas serve as biohabitats for plants and animals, in fact, some of these lands may be vital to the survival of some species. These native ecosystems also form the foundation of a vast array of ecosystem services that critically contribute to human well-being. These services include benefits such as flood and fire control, and pollutant filtering.

Protecting and conserving bio-diversity is one of the fundamental precepts of organic agriculture, as defined in federal regulations. Organic regulations should
explicitly protect native ecosystems from being converted to organic production. This issue has not been given enough attention by the NOSB to date and I hope time will be dedicated to it in the future.

In general, we would support the Wild Farm Alliance's work in this area as well. Thank you for your time and consideration of these important issues and if you have any questions, I'd be happy to answer them.

MS. FAVRE: Thank you, Marie. Any questions for Marie? Okay. Hearing none, thank you, Marie. Next up is Steve Etka and on deck is Jessica Shade. Go ahead, Steve.

MR. ETKA: Can you hear me?

MS. FAVRE: Yes, we can.

MR. ETKA: I am Steve Etka. I'm policy director for National Organic Coalition. NOC has been very concerned about the recently enacted GMO labeling law. Just a little bit concerned as it relates to the definitions of genetic engineering use of the law which
potential conflict with USDA organic regulations.

The plea to the AMS Administrator
Starmer issued a policy memo clarifying that the new law and its regs were not, in fact, organic regulations, but we have also asked the AMS to clarify that the organic law will not impact the NOSB's work to address new genetic technology from excluded methods nor will it impact NOC's ability to respond to those recommendations.

The AMS has given us those assurances, and speaking of excluded methods, NOC strongly supports full adoption of all three sections of the proposal put forward by the material subcommittee. It is critical that, additionally, the NOSB, at this meeting, provide as much guidance as possible for the new incoming administration.

Because new technologies are being adopted so quickly, organic regs have struggled to keep pace and we need to move forward ahead now when it is clear we have consensus.

In organic production, a precautionary
approach should first require proof of safety to ensure that there are no unintended consequences, including GMO contamination concerns or other environmental health or safety impacts.

On the topic of incentives to convert native habitats or organic production, NOC is disappointed that NOSB was unable to bring forward a discussion back to this matter. While we support the continued expansion of the U.S. organic acreage, we feel that it should not be at the cost of converting native ecosystems that have no cropping history.

We strongly encourage the CSC subcommittee to prioritize this topic so that this discussion document will be presented to the public for comments for the spring 2017 meeting.

On the issue of research priorities, NOC continues to thank the Board for addressing the topic of research into organic community.

A couple comments, however, on organic no till, we agree that the issue needs greater research, but believe that the priority should be
expanded to address soil carbon restoration
techniques more broadly, because many organic
farmers are doing their own work on farm and
there needs to be more work and research into the
broader list of soil carbon restoration
techniques.

NOC would also like to express general
support for the NOSB's proposed livestock
research priorities. Substantial research has
been conducted investigating isolated strategies
for raising chickens, organically and humanely,
without synthetic amino acid supplementation.

However, we believe that studies
should be conducted to assess multiple strategies
in tandem that investigate the impacts of
national declining food sources, breed, and
strong animal welfare management strategies.

Thanks for the opportunity to comment.


Didn't see any. Thank you, Steve, very much.

Next up is Jessica Shade and on deck is Tom
Valdez. Jessica, go ahead.

DR. SHADE: Great. So hi, everyone.

Thanks so much for the opportunity to provide comment. My name is Dr. Jessica Shade and I'm the Director of Science Programs for the Organic Center. We're a non-profit organization that covers up-to-date studies on sustainable agriculture and health, and we also collaborate with academic and government institutions to fill gaps in the knowledge.

So first of all, I want to say thank you to the material subcommittee for its research priority. We really appreciate the creation of the research priority trademark and the efforts made by each subcommittee to bring forth its research priority for 2016.

We really rely on these angles NOSB research priority to guide the development of our own research projects, so the thoughtful development of the list is really critical for getting research that's important to organics done. And I'm just going to really quickly
highlight a couple of our current projects that were informed by NOSB priorities, and then I'll go into a few suggestions for additions to this huge list.

So we were really happy to see the inclusion of research priorities, to find alternatives to antibiotics for fire blight. When the NOSB first put out the call about the importance of that research back in 2012, we responded by collaborating with researchers from the University of Washington to provide really critically needed information on how to prevent fire blight from decimating apple and pear orchards without the use of antibiotics.

We also have a project examining organic solutions to control citrus greening, which is a response to the NOSB priority for plant disease management, and our project looks at the efficacy of organic pesticides for controlling the Asian citrus psyllid, we also attach combinations of the antimicrobial treatments, and tax non-GMO resistant varieties
of citrus for use in organic systems.

Our research project defined organic solutions to control citrus greening is an ongoing project and we just completed the first phase of the project and we're working on our second phase that looks at those antimicrobials that I mentioned.

In the last year, we also started a research project in collaboration with half a dozen academics at governmental institutions to develop an integrative test management strategy for organic rice production, which is funded by the Organic Research and Extension Initiative, OREI.

And so, basically, the cover crop-based rice production just kind of causes increased pressure from unique diseases, weeds, insects, pests that aren't found in dryland cropping systems, so our project focuses on developing cover crop-based production systems in combination with choices and seed treatments to enhance disease, weed, insects, and new plant
management.

So one of the topics that I had mentioned that we were really excited to see included last year was development of alternatives for materials in the national list. So to address that, we've been collaborating with the Organic Trade Association's National List Innovation Working Group at the University of Wisconsin to look into developing alternatives to conventional celery powder for curing organic meat products, and we were --

MS. FAVRE: I'm sorry to have to interrupt you. Yes, your timer had gone off.

DR. SHADE: Okay. No problem.

MS. FAVRE: Can you just wrap-up that last sentence?

DR. SHADE: Yes. The only thing I want to add is that we'd like to see more research on manure safety included into the research priorities.

MS. FAVRE: So great. Thank you. I'm going to have to be really strict on the time
this time. We're just so pressed on the
schedule, but I appreciate it. And I know time
goes very fast when you're speaking, so thank you
very much. Thanks, Jessica. Any questions for
Jessica?

MS. OAKLEY: Yes, Tracy, this is
Emily. I didn't hear the last point. More
research on what? Could she just state that one
more time?

DR. SHADE: Sure. It was manure
safety. So that's in response to the FSMA
proposed rules that included changes to the
required interval that untreated manure could be
applied to crops harvested to jumping that nine-
months minimal interval requirement, which
directly conflicts the NOC regulation, so we
think that it's important for organic to be
involved in that research as the FDA develops
more information to guide their next stage in
proposing a rule.

MS. FAVRE: Okay. Thank you very
much. All right. Next up is Tom Valdez and
we've got Doreen Regan, or Regan, on deck. Go ahead, Tom.

MR. VALDEZ: Hi. Am I open?

MS. FAVRE: Yes, we can hear you.

MR. VALDEZ: Okay. Hello to everyone and thank you for the opportunity to speak to you today. And thank you, especially, for all the work that you do in protecting the integrity of organic foods. My name is Tom Valdez and I'm here today to strongly urge you to disallow the use of carrageenan in foods, especially organic foods.

My background is that I have a degree in physics and spent decades in various segments of the computer industry as a systems engineer, hardware designer, software developer, project manager, and systems architect. I'm now retired. I've worked on designed systems for UCLA, USC Medical Center, Warner Bros., various major entertainment companies, most of the major oil companies, and many others.

The reason I bring this is that a
major principle in systems design and maintenance is that when something goes wrong that was working previously, you then look for what changed in that system. Simply, something changed and the system broke.

Now, I'm neither a doctor or a health scientist, but my body is a system and I've observed negative empirical data relating to carrageenan. Several years ago I began getting frequent headaches, very painful, like a tight, pounding band around my head. This is generally accompanied by a sort spacy, drowsy, disconnected feeling.

Usually when you tried to handle the headaches, the spacy disconnected feeling would persist, making it hard to concentrate and work. Wondering what had changed, I began thinking about my diet and realized that I'd been eating ice cream on a more regular basis, so I looked at the ingredients and found something I did not notice before; carrageenan.

I then switched to a brand of ice
cream that had no carrageenan, and then after a while, no more headaches. I knew at that point that I had to stay clear of carrageenan. I'm waiting for that sound to die away. I've had subsequent experiences where I've inadvertently consumed carrageenan and then I experienced the symptoms again.

It's to the point where any time we go to a friend or relative's house for dinner, my wife has to call in advance for ingredients of the food that could be used. From what I've read since, I'm far from the only person that experiences adverse effects from carrageenan.

Over the years, I've been surprised and angry to witness the increasingly widespread use of carrageenan in everything from almond milk, to cream, to cottage cheese, and almost all of the supposedly healthy brands of toothpaste. It is very important to me to have access to healthy foods. The foods that are marketed as being healthy, especially organic foods, certainly do not need to have strange additives
mixed in.

Carrageenan, in my opinion, shouldn't be allowed in any foods, and definitely not in organic foods. When I buy a carrot, the contents should be just that, a carrot, and the same goes for almond milk and other products. Thank you very much.

MS. FAVRE: Thank you, Tom. Anybody have questions for Tom? Okay. Thanks very much, Tom. We appreciate your comments.

MR. VALDEZ: You're welcome.

MS. FAVRE: Next up is Doreen Regan and on deck is Jeremy Domby. Go ahead, Doreen. Doreen, we're going to give you a few more seconds in the interest of time. Doreen, if you're speaking, we can't hear you.

MS. ARSENAULT: We don't see her name on the phone list. We don't have a phone number for her to confirm that she is on with us.

MS. FAVRE: Okay. All right. So we're going to skip over Doreen. Sorry, Doreen. And next up is Jeremy Domby, followed by Andrea
Bacle. Apologize if I'm mangling your name pronunciation. Go ahead, Jeremy.

MR. DOMBY: Thank you to the Board and everyone in attendance. My name is Jeremy Domby. I'm a private citizen and a consumer, and I'm also here to talk about carrageenan. My experience, unknowingly, started around 25 years ago. I noticed I started getting really sick with GI and IBS symptoms. I also had those severe headaches and that brain fog that Tom previously mentioned after I drank a chocolate instant breakfast shake.

And I started to notice this when I ate certain other dairy foods, especially ice cream. I thought it was lactose, but I didn't have any symptoms with just milk. I suffered with this issue for around 20 years, never knowing, and always afraid to eat certain foods, especially out at someone's house or at a restaurant.

Then, only five years ago, by process of elimination, I started looking at labels, at
everything that made me sick or after, I was sick. And I realized that it was this ingredient carrageenan. That was the only common denominator. And since then, I've had to be really diligent, checking every label on every product, just hoping that it's listed, and not just in their cream or other base ingredient that it's mixed in with.

I've heard some people say that only a small percentage of the population are intolerant, like I am, but I ask you this, how many tens of thousands never find out what is making them sick? It took me 20 years. Or how many are misdiagnosed with IBS or Crohn's Disease because it caused very similar issues?

Well, I'm here to tell you that this ingredient isn't just making a few people sick, it has the potential to make many people very sick, and worse yet, they're never going to find out. And many large corporations that used to lobby to keep carrageenan in their products have no already been removing them, and that should
speak volumes to the Board.

    We need to get this out of organic foods. It never belonged there in the first place. Even though Organic Foods Protection Act of 1990 says that if there is a non-organic ingredient, it's only allowed if it's not harmful to human health. Well, I am a human and it definitely harmed my health.

    So there really shouldn't be any valid arguments from businesses. This seems really kind of unethical. When a product isn't wanted or is determined to be harmful, if you're in that business, you either change products or you go out of business, just like they took asbestos out of construction, they took lead out of paint, we need to get carrageenan out of our food.

    So please take the right action and take it out of the organic food.

    MS. FAVRE: Great. Thank you very much, Jeremy. Anybody have questions for Jeremy?

    FEMALE PARTICIPANT: Thank you for bringing your concerns to us, Jeremy.
MS. FAVRE: Up next is Andrea Bacle and on deck is Jennifer Lonergan. Go ahead, Andrea.

MS. TUCKER: We haven't been able to find the number. She did give us a number, but it's not on -- we don't see the number on the list, so she said she's calling in from a different number. We don't know what it is. Andrea, last call.

MS. FAVRE: Okay. Sorry, Andrea. We're having to move on. Jennifer Lonergan, you're up next and then, Katherine DiMatteo, you're on deck. Go ahead, Jennifer.

MS. LONERGAN: Hi. This is Jennifer Lonergan. I'm a regulatory specialist with the Humane Society of the United States. Thank you so much for the opportunity to provide comment today. I want to start by thanking the NOSB's Livestock Committee for its very long commitment on hard work incorporating animal welfare into the organic standards.

The recent progress out of NOSB, based
on the Livestock Committee's recommendations is poised to make significant improvements in animal care and husbandry, and the rule will also recognize the many farms that are already engaged in management practices that really reflect an ethic of care and attention beyond conventional production.

The changes being proposed are a commendable step forward and we're really grateful for this body's work. I'd also like to bring our attention to another very important animal welfare concern that's growing in prominence and we hope will get your attention. We previously had brought this up before the NOSB in the April 2016 meeting in D.C., but we want to continue highlighting the issues because there's a large number of animals affected and it the potential suffering is severe.

So the problem is with welfare broiler chicken, conventional fast-growing chickens raised for meat grow at a rate that's 300 percent faster than it was 15 years ago. So birth nine
pounds in 56 days, instead of two pounds in the same length of time has been celebrated as seeds of efficiency, but there are a number of unintended detrimental side effects of selectively breeding poultry with a singular focus on production trees.

Studies consistently show that 30 percent of broiler chickens suffer from gait abnormalities that are significant enough to cause pain with any locomotion and the worst cases, birds can become crippled from slipped tendons or twisted legs. They can also die from disorders related to the increased metabolic demand of rapidly growing tissues.

So while organic farmers generally provide a suitable environment and are definitely trying their best to take excellent care of their animals, the genetics of the birds really limits the welfare status that any farmer can obtain, and we've heard from farmers in our Agriculture Advisory Council that they're concerned about this and they want something better.
So we hope that the organic program will require the use of more robust broiler chicken strains that are healthier, more disease resistant, and have better life strength. And these alternatives for growing strains are becoming more widely available in the United States. There's definitely a demand, various companies are stepping up to that, and numerous smaller breeders, and those hatching poultry are as well.

These are birds with lower mortality, they're much active, they have less lameness, they suffer less, and some major conventional producers are already testing these strains, so we hope that the organic community will become the leader in this and begin to require these birds now.

Thank you for considering my comments and please reach out if the HSUS can assist with furnishing research papers or other information. Thanks.

MS. FAVRE: Great. Thank you,
Jennifer and thank you for your timely completion. Questions for Jennifer? Okay. I don't see any. Thanks again, Jennifer. Next up is Katherine DiMatteo and on deck is Brian Lehmann. Go ahead, Katherine.

MS. TUCKER: We see Katherine on the headset. Katherine, you with us?

MS. FAVRE: Yes, if you're speaking, we can't hear you.

MS. DIMATTEO: Hi, can you hear me now?

MS. FAVRE: Yes, we can.

MS. DIMATTEO: Okay. Sorry. I still had myself on mute. Here we go. Katherine DiMatteo here, a partner in a consulting firm, Wolf, DiMatteo + Associates, servicing the organic sector for over 25 years. Thank you for the opportunity to comment, for setting up these webinars, and for your dedicated work as volunteers.

Our firm has submitted comments that you can read in detail if you wish. I will
present a summary now. Bioponics, don't combine hydroponics, aeroponics, and aquaponics under this umbrella. Consider each separately, as they are very different systems and should be treated and voted individually.

This proposal has come quickly and would benefit from further development and stakeholder input. Use of organic seeds. Yes, indeed, let's strengthen the requirements to use organic seed. Our revision to the March 2013 seed guidance document is in order, given the changes and growth in the organic seed industry.

Improvements should include contacting five, not three seed suppliers, checking that the search for organic seed was done early enough for a seed supplier to fulfill their requests, make increases in organic seed usage a requirement of an organic system plain goal, and hold handlers that source seed for contractual growing purposes to the same requirements as farmers.

Excluded methods terminology. We are supportive of the work being done on this topic,
however, there is a need to proceed with caution
and to recommend an approach that will not be
hampered by the inability to implement or by any
other regulatory issues. This is quite a burden
for a volunteer advisory board and the expert
group formally convened by NOP could help avoid
unintended consequences.

Now a general comment. There is an
ever-increasing amount of discussion documents
and proposals, in addition to the national list
of petitions and sunset reviews that are the
NOSB's primary and legally authorized
responsibility. We can't keep up, how can you?

We urge to apply some discipline to
the type and number of topics that you put on
your plate or that you accept from outside
sources. The organic community will muddle
through with the regulations and guidance as they
are and as we have done for many years.

For instance, input suppliers are
still working with the outdated EPA list, four,
farmers still do not have access to biodegradable
mulch film because the required form does not exist, and input suppliers, farmers, certifiers, material review organizations work with the draft guidance on the classification of materials, if they can even find it on the NOP Web site.

Lastly, I must include our position that has been stated at every NOSB meeting for the past ten years, the national list is part of a toolbox for organic production and handling, limiting the list or making it shorter is not automatically a goal or likely to be helpful to the organic community in the long run.

Please don't limit the toolbox unnecessarily. We need to do everything we can to encourage more organic acreage and food production in the United States.

MS. TUCKER: Good timing, Katherine.

MS. DIMATTEO: I was timing myself.

MS. TAYLOR: Oh, I thought I heard a second timer go off. That's pretty good. Okay. Good job. All right. Any questions for Katherine? Okay. Katherine, thank you very
much. Next up is Brian Lehmann, and, Brian, before you get started, I just want to make a general announcement reminder, please, please, everybody, mute yourself if you're not speaking, even if you think we can't hear you, we will be able to hear you. I promise, so please go ahead and mute yourself. Thank you.

Okay. Brian, go ahead.

MR. LEHMANN: Are you able to hear me?

MS. FAVRE: Yes, we are, but hold on. I just wanted to say, Dennis Seisun is on deck. Go ahead, Brian.

MR. LEHMANN: Okay. I'm Brian Lehmann, commenting as an individual citizen regarding excluded methods. The third discussion document suggests possible difficulties in detection and enforcement for newer gene editing and splicing techniques. It would seem to me, given the new GMO labeling law, that USDA does now have to look at detection.

I was looking at the language the other day, which includes in its definition of
bioengineering, the phrase, "The modification could not otherwise be obtained through conventional breeding or found in nature." So the modification could not otherwise be found in nature. That would seem to encompass even the newer technologies.

So we should be able to rely on USDA for detection methodology, since they're going to have to look at it for food anyway. That said, I would just reiterate, USDA was entrusted with organic standards for a reason, but not so they could turn around and say, introduction of an excluded method is somehow inevitable.

So that's about it. I thank the Board for all your ongoing efforts.

MS. FAVRE: Thank you, Brian. Any questions for Brian? Thank you very much. Next up is Dennis Seisun and on deck is Barbara Shpizner. Probably totally mangled that. Go ahead, Dennis.

MS. SEISUN: Hello, everyone. Can you hear me?
MS. FAVRE: Yes, we can.

MS. SEISUN: Great. My name is Dennis Seisun, talking as a private citizen. A little background, I'm a consultant in the area of all food hydrocolloids, which includes carrageenan amongst about 18 other different categories, such as starch, gelatin, pectin. I want to talk a little bit about the history of carrageenan. It's one of the oldest texturizing agents used in the food industry, not only decades, but probably centuries, if one goes back to the use of Irish moss by the Irish population to give texture to some of their foods.

So I review, I'm not a scientist, the markets for all these texturizing agents, and over the last 30 years have never really found any credible evidence of a general danger that carrageenan poses to the population. I also, as a non-scientist, keep an eye on some of the scientific research, and every time that carrageenan has been called into question, it's never been solid enough to change the mind of the
USDA, the FDA, the European Food Safety Authority, JECFA, all of these have consistently reviewed the use of carrageenan over the years and never found any reason to disallow it, or not only that, but actually have given it a prized designation of no ADI set; no authorized daily intake set.

And carrageenan is actually even approved for the use in baby food, so I think if there really was any kind of general danger in carrageenan that one of these organizations would have found cause to change its status.

As far as a few consumers, and I do realize, and I've heard some of the consumers talk about the reactions to carrageenan, really, the instances we've just heard about, and all the ones I've heard about in my surveying the market, have all been anecdotal and non-scientific. And if one takes anecdotal evidence for making decisions such as the one the NOSB is going to be considering on carrageenan, that really would be a sad day for science.
As an example, my son, actually, is allergic to fish, we've got people allergic to a number of things, so certain people will react differently to certain ingredients, and if we were to ban all ingredients to whom some people have a reaction, we'd probably all starve to death.

And then lastly, the social aspect of the use of carrageenan, most people probably aren't aware that this market actually guaranteed the employment of tens of thousands of seaweed farmers in impoverished conditions in countries like Indonesia, the Philippines, Vietnam, Malaysia, and their livelihood would actually be endangered by what I would find, the unreasonable banning or elimination of the use of carrageenan.

So I urge you to consider some of the scientific research and give credence to the individuals that have a reaction, but suggest that maybe they are the ones that, as they are doing now, read the label and avoid it. Thank you.
MS. FAVRE: Thank you very much, Dennis. Anybody have questions for Dennis?

MR. LEHMANN: Many, many questions. I would like to submit it myself for trial, scientific trial, and not be so anecdotal, but that's all I'll say.

MS. FAVRE: Okay. I'm sorry, when I ask for questions, unfortunately, we can't take questions from the audience. This is actually for Board Members. I apologize. Is it you, Brian, it is you speaking back up again?

MR. SEISUN: If I can just, three seconds worth, for anybody in the audience, not on the Board, that wants to contact me, the Web site is hydrocolloid.com, H-Y-D-R-O-C-O-L-L-O-I-D, .com, and by all means, please do contact me.

MS. TUCKER: Good. Thank you.

MR. SEISUN: Any other questions from the Board? No. In which case, I will sign off and mute my microphone. Thank you.

MS. TAYLOR: Thank you, Dennis. Okay. Next up is Barbara Shpizner and on deck is Kurt
1 Wagaman. Go ahead, Barbara. Barbara, if you're
2 speaking, we can't hear you, and it looks like we
3 don't have -- well, no, we do have the phone
4 number for her.

5 MS. TUCKER: The phone number that we
6 have for her has not dialed in, so we don't have
7 anyone from her area code on the line with us,
8 and I don't see her as being present on a
9 headset, so I think we'll have to do a final
10 call.

12 MS. TUCKER: So this will be a final
13 call for Barbara Shpizner.
14
15 MS. FAVRE: Okay. Next up is Kurt
16 Wagaman. Kurt, go ahead, and Barry Flamm is on
17 deck.

18 MR. WAGAMAN: Can you hear me okay?
19 MS. FAVRE: Yes, we can.
20 MR. WAGAMAN: Excellent. My name is
21 Kurt Wagaman and I'm the Business Development
22 Manager for Superior Fresh. Our company not only
23 represents a future model of sustainable food
production, but it also demonstrates an ecological and environmental awareness that establishes a production standard for the ag industry.

Our family, the leadership is committed to pairing a philanthropic endeavor with a successful aquaponics business model, and this is a family that's pleading their motivations and desire for sustainable organic and responsible food production for the future.

With the population of Earth predicted to reach nearly 9 billion by 2050, meeting the needs of the human diet will become increasingly more difficult. Based on current projections, a dire challenge will be presented to meet this demand with current farming and consumption trends. Superior Fresh is proud to be establishing and propagating a legacy while both promoting our owner's dream by facilitating a family atmosphere with our team, but also addressing an upcoming global challenge with sustainable food production.
Superior Fresh is not going to engage in philosophical debate of soil versus aquaponics. The debate with bioponics is seemingly rooted in economic motivations, personal agendas, or political subjectivity, rather, we want to denote the true scientific observance of organically grown crops with the absence of chemically formulated fertilizers, growth stimulants, antibiotics, and pesticides.

Furthermore, the implementation of growing practices of cycling of resources, promotion of ecological balance, and the conservation of bio-diversity. This is what our aquaponics facility does.

After years of research and development, and millions of dollars of capital, full case production is going to yield 2 million pounds of organic leafy greens, primarily 160,000 pounds of protein-laden Atlantic salmon and rainbow trout annually, all this with zero discharge water displaced on the surface of the State of Wisconsin.
The complexity of the soil medium is undeniable. Our integrated and state-of-the-art system invites beneficial bacteria to thrive. Microbial roleplay is obviously paramount in any plant growth, both in soil and any of the botanically measured systems.

We feel that we're demonstrating a true organic practice by minimizing all outfarmed inputs and producing our inputs on the farm. Our own nutrient-rich water in this recirculating aquaponic system. Our tremendous outputs are what we feel set us apart.

We feel that all aquaponic facility organic principles -- albeit a defined scientific process built upon a growing active use for thousands and thousands of years. I'm not here to segregate or question a given group's amity of business or personal platform, rather, I want to collaborate with this concept that was constantly grown new methods.

MS. TAYLOR: Kurt, excuse me. Excuse me, Kurt, I want to interrupt. Folks, we're
hearing talking in the background, it's very
distracting, and, Kurt, I want to apologize for
the distraction during your presentation, but
your buzzer has gone off.

MR. WAGAMAN: Thank you.

MS. TUCKER: Please, please, if you
are on the phone, please go on mute. Push mute
on your phone or star 6. This is running
spectacularly smoothly with everybody self-
muting. If we have to mute everybody, it'll get
a lot harder.

MS. FAVRE: Yes. And it's also very
distracting, both to the person speaking and to
those of us listening, so please, as a courtesy
to the presenters, and those of us listening,
make sure you mute yourself. Do we have any
questions for Kurt Wagaman?

MR. WAGAMAN: I'm sorry?

MS. FAVRE: I just asked if there were
any questions for you, Kurt.

MR. WAGAMAN: Oh, okay. Yes.

MS. FAVRE: Any questions for Kurt?
Okay. I don't see any. Thank you very much for your comments, Kurt.

MR. WAGAMAN: Thank you.

MS. FAVRE: Next up is Barry Flamm and on deck is Rocco DiModugno. I just totally mangled that. Sorry, Rocco. Go ahead, Barry.

MR. FLAMM: Can you hear me, Madam Chair?

MS. FAVRE: Yes, we can. Thank you.

MR. FLAMM: Okay. Congratulations to you, Tracy. Today, I wish to talk to you with the importance of considering bio-diversity in organic agriculture systems, and in particular, the need to eliminate the incentive to convert high-value conservation lands into organic productions.

I'm very pleased to see this topic's listed on the upcoming agenda for the Board meeting. Some of you know that I served on the NOSB in the environmental position and as chair in my last year on Conversation Board.

The value of bio-diversity for healthy
agriculture for society at large is recognized in
the organic rule in several places. Then the
principles of organic farming was adopted by the
Board on October 12, 2001. This expresses the
value and goals that link organic farming with
the protection of bio-diversity.

The Board further issued guidance
statements in '04, '05, and '09, and a review of
progress in 2012. The conversion issue was
identified in the Board's 2009 guidance document,
but no specific action or recommendations were
made. Many, if not most, organic farmers value
the conserving bio-diversity to its farm's long-
term sustainability and understand agriculture
system's function would then interact with the
larger ecosystem.

And there's been a number of
individuals and organizations that have worked to
advance conserving bio-diversity in organic
agriculture systems, including the Cornucopia
Institute, which I am currently a board member
of.
This work by individuals and by the Board sounds great, and is great, but many are shocked to hear organic policy and practice may also lead to and encourage the destruction of high-conservation value land. How can that be? The otherwise offensible rule requiring a three-year transition waiting period for farmlands that had synthetic chemicals applied before becoming eligible to becoming certified.

It's a very sensible rule, but it provides an unintentional consequence of providing a strong time and financial incentive to take clean high-value conservation lands instead. This is a problem that NOSB must address. The IFOM, International Federation of Organic Movement's, policy is that organic management does not undertake any action that negatively impacts high-conservation value areas.

I support the purpose of this policy and to a standpoint that high-conservation value lands have been destroyed or damaged and will not be allowed re-certification for at least five
years after its destruction. Thank you.


MR. FLAMM: Thank you.

MS. FAVRE: Next up is Rocco DiModugno and Yonathan Tilahun is on deck. Go ahead, Rocco.

MR. DIMODUGNO: Can you hear me?

MS. FAVRE: Yes, we can.

MR. DIMODUGNO: Okay. Good morning, everybody. I'm Rocco DiModugno. I'm in charge of the R&D for Lamberti. And thanks to the Board for giving me the opportunity to make comments on Lamberti petition for inclusion of potassium cellulose glycolate as a synthetic product aid.

The problem is, I want to go back to the crop subcommittee proposal, to better explain some information. Potassium cellulose glycolate is a product made by derivatization of a natural starter, it's a liquid, it's soluble in the drip
water, and it's nothing to move drip water, irrigation water, where is needed, into the roots, and is not changing composition.

After that, let's go to if potassium cellulose has a criteria defined by the OSBA. Criteria A1, yes. Criteria A2, yes, a natural substitute is not available, unfortunately. A3, yes, potassium is consistent with organic and farming.

Let's move to the Criteria B, B2, yes, potassium, it contains ingredient not classified as toxicological concern. After that, I want to move, even, to some additional criteria, and those are out of the CFR 25 600, to apply to any synthetic substance used as a processing aid or agent.

Let's go to criteria. I would think the Criteria Number 1, yes, it is naturally derived. Criteria Number 2, yes, use and disposal do not add adverse impact. Criteria Number 3, nutritional quality of crops treated with this the same or even better.
Criteria Number 4, yes, it is listed as a grass, generally recognized as hay. And the last question is this, is it something that's sanctioned for handling of an organic produced or agricultural product, the answer is, is not a sanction. And whether it's strictly recommended to say that important natural resources, like water, especially in those areas where drought is taking place.

Thank you very much for the opportunity.

MS. FAVRE: Thank you, Rocco. Any questions for Rocco? Okay. I don't see any. Thank you very much.

MR. DIMODUGNO: Thank you very much, everybody. I'll mute my call.

MS. FAVRE: Great. Thanks. Next up is Yonathan Tilahun and Helga Tan Fellows is on deck. Yonathan, are you with us? Yonathan, if you're speaking, we can't hear you. Last call, last call for Yonathan.

MS. TUCKER: We did not see his name
or number on the list we got.

MS. FAVRE: Okay. All right. Next up

is --

MS. SHPIZNER: This is Barbara

Shpizner. We're sorry we're late, but we're

here.

MS. FAVRE: Okay. I'm sorry, Barbara,
due to the time constraints, we're not going to
be able to probably go back and pick you up. I
apologize for that. That was explained in the
instructions that went out ahead of time and I
really do apologize. I know that this is a
complicated logistics, but it's really important
for us to be able to get through everybody.

And feel free, of course, as always,
to make sure we have your written comment.

MS. SHPIZNER: Okay. Thank you.

MS. FAVRE: Thank you. Yonathan, last
call for Yonathan. Okay. No Yonathan. Next up
is Helga Tan Fellows, and we have Preston Brawn
on deck. Go ahead, Helga.

MS. TUCKER: We don't --
MS. FAVRE: Helga, are you -- no Helga?

MS. TUCKER: No.


MS. TUCKER: We don't see her number on the list.

MS. FAVRE: Okay. No Helga. Last call for Helga. Okay. Preston Brawn, are you with us, Preston?

MR. BRAWN: Yes, can you hear me?

MS. FAVRE: Yes, I can. Hold on just a moment, please. Next up is Tsungbow Gou is on deck. Preston, go ahead, please.

MR. BRAWN: Thank you for this opportunity to weigh-in today on what I believe to be a critically important topic, that of the continued availability of carrageenan as an essential tool in the personal care industry formulators organic toolkit. My name is Preston Brawn and my written commentary details my technical and practical reasons in supporting
carrageenan in organic products.

But now I wish to speak from the heart rather than from the head. As a small town Maine native who has always loved the outdoors, I have adopted my philosophy, that our environment must always be treated well to maintain its vital role in our lives. We likened it to an invest fund.

We must always preserve the principle in order to receive the dividends. For these reasons, among many others, I am a believer in and promoter of natural and organic consumer products sourced from renewable resources. As a natural personal care products formulator, I try to develop organic and natural products that are as good or better than conventional products.

Our industry faces many unique sensory demands, from dispensing the product in its container through application and the leave-on time, how a product feels and looks to the consumer is equally critical to the end performance. I have heard far too many times that consumers must compromise their expectations
of quality and performance of cosmetics in order
to fulfill their desire to use natural and
organic sourced products.

    I do not believe that and I work very
hard in my formulation efforts to meet consumer
desires, while at the same time using natural and
organic raw materials. One of the key
ingredients I use for consistent stabilization
and tactile control is carrageenan. It is a safe
and foundational ingredient sourced primarily
from tar and seaweed, properties that are
uniquely suited to the cosmetics industry.

    It's ease of use, tactile, and
suspension properties, and other desirable
characteristics make this an essential and
valuable ingredient in our industry. I have the
latitude to formulate with a wide range of
stabilizers, carrageenan, alginates, xanthan
gum, and many others.

    In several cases, the gum of choice is
carrageenan. For example, in lotions and creams,
carrageenan are far superior to any other natural
gum. In shampoos, the effectiveness of natural
surfactants is improved and the rinse off and
wet comb-out characteristics approach those of
synthetic ingredients.

In toothpaste, the use of carrageenan
provides a stable high-performing end product,
unmatched by any other stabilizer, either natural
or synthetic. I strongly believe that
carrageenan must remain available to those of us
who formulate organic consumer products so the
consumer expectations may be met and concurrently
promoting the growth of our beloved organic
industry.

In closing, I thank you for your time
and attention and reiterate my desire to continue
the use of carrageenan as a vitally important
ingredient in my personal care formulation
efforts. I'll be happy to answer any questions
you might have and thank you for your time.

MS. FAVRE: Good job. Perfect.

Preston Brawn, any questions for Preston Brawn?
I don't see any, Preston. Thank you very much for your comments.

MR. BRAWN: Thank you again. I appreciate the time.

MS. FAVRE: You bet. Next up is Tsungbow Gou. Tsungbow, if you're on the line, it looks like we're not finding you. Are you with us today? Last call for Tsungbow Gou. Okay. Next up is Jim Chmura.

DR. CHMURA: Yes, Jim Chmura. Right.

MS. FAVRE: Thank you. And next on deck is Michael McFadden. Go ahead, Jim.

DR. CHMURA: Okay. Thank you for the chance to talk here. My name is Dr. Jim Chmura and I'm a food scientist and I've worked as a product developer in the beverage and nutritional business for over 30 years. I have extensive experience formulating both high and low acid rated drink beverages, and it's for the low-acid beverages that I want to make the case that carrageenan is essential for those of us who work in the product development world.
Carrageenan has a number of properties that enhance the quality of rate of drink or concentrated liquid products in which it's applied, and it's rather unique in that regard. Additionally, I would like to emphasize the fact that there really aren't a lot of other options available that result in many of the characteristics we see.

For example, I have a number of years' experience in the RTD infant formula and the adult enteral nutrition and sports nutrition areas where the thixotropic nature of carrageenan, which is the ability to stand under shearing properties, it's really essential in the development of a functional and shelf-stable liquid product.

Basically the produce has to act thick enough to suspend nutrients and hold the product together while at the same time it has to act thin when pumped through a feeding tube, or sucked out of a baby bottle, or even consumer via a straw. Many thickeners, such as starches, do
only one thing, and that is to thicken, which makes the liquid product harder to consume in some situations.

Other stabilizers, such as gum arabic and locust bean certainly have their utility, but also present their own challenges. Arabic and others, for example, are soluble fermentable fibers when used at high enough levels to impact viscosity, they induce certain digestive effects such that it won't be acceptable to use in certain product types.

One of carrageenan's big advantages is the fact that it's foundational at very low levels of use with no adverse clinical effects, and for example, in my career, I've use, probably, 100 to 900 parts per million in various products I'd worked with, which is very low.

Carrageenan is a seaweed-derived stabilizer and offers us in the product development world, the ability to develop a product that is supportive of its various consumption methods. Additionally, because
carrageenan is an ingredient that can be modified in its property by managing the ratios of the kappa, iota, and lambda fractions, we can create products with many different functional properties.

Key to this in products I work with is building it to suspend calcium and other insoluble nutrients or minerals, and suspend flavoring material, like cocoa, prevents fat migration and creaming defects and prevents phase separation in liquid products, where we would try to design a shelf life of 12 months or more.

Gellan and xanthan gum are often mentioned as possible carrageenan substitutes in liquid products, however, there are downsides. Xanthan, for example, really doesn't function well at neutral pH's, such as milk and infant or adult formulas, though it does work well in high acid formulations.

Both gellan and xanthan are derived from microbial fermentation processes while carrageenan is harvested from the ocean is
clearly from a very renewable and sustainable resource. Seaweed obviously grows naturally without the use of pesticides and fertilizers, and it's non-GMO.

The fact that carrageenan comes from an abundant plant resource that is renewable, sustainable, not grown with pesticides, fertilizers, or other additives, and is non-GMO, makes it far more consistent, I think, with the overall goals of an organic food supply compared with other gum or stabilizer options that are microbially sourced or from areas of the world that aren't necessarily having quality control that is high up on their list of things to do.

Additionally, carrageenan's been clinically studied as part of many products and in my experience, has never been shown to be a safety concern or result of an adverse outcome. Overall, based on carrageenan's functionality, sourcing that is consistent with the organic roles in overall safety, I would highly recommend that the NOSB vote to re-list carrageenan as an
approved ingredient for use in organic foods.

And on behalf of food product
developers everywhere, I thank you for your time
and consideration.

MS. FAVRE: Thank you, Jim. Questions
for Jim? We're getting kind of an echo feedback,
so again, if you're not speaking, put it on mute.
The echo sometimes happens if you're hearing it
on your computer while you're also listening to
it on your phone, so please make sure you're
muted. And we are hearing people speaking in the
background, so if you just were speaking, you're
who I'm talking to.

Okay. I don't see any questions for
you, Jim. Thank you very much.

DR. CHMURA: All right. Thank you.

MS. FAVRE: Next up is Michael
McFadden, followed by Nur Ahyani.

MR. MCFADDEN: Hi, can you hear me?

MS. FAVRE: Yes, we can.

MR. MCFADDEN: Can you hear me?

Wonderful.
MS. ARSENAULT: Hey, Tracy. This is Michelle.

MS. FAVRE: Michelle, I'm sorry, hold on for just a second. All right, people, somebody is not muted. Go ahead, Michael.

MR. MCFADDEN: Thank you and good afternoon. My name is Michael McFadden and I'm the general counsel for Farm Forward, an advocacy organization working to improve --

MS. FAVRE: Michael, I'm sorry. Jenny, can you go ahead and mute everybody?

MS. TUCKER: Yes. Okay. So hopefully people can still hear me. I'm going to go ahead, we have to reset because we had to mute everybody, so I'm going to go ahead and find Tracy and unmute you, because you need to be able to speak at any time. What's Tracy's number? I got to find Tracy's number. Tracy, can you please text in your number, chat in your number, to us so I can unmute you? Okay. We're finding you on the phone.

Sorry, folks, this is very
unfortunate. Tracy are you on the phone or on the computer? Text in your response. On a cellphone. We don't have a 719 listed on our audio. We have a couple of numbers that aren't labeled, so we're going to try and unmute you and see if it's you. Okay. Tracy, could you try and say something? Oh, okay, wait. Tracy, we're going to try again here, 209. Looks like we got you now. Just a second. Tracy, please try and say something.

MS. FAVRE: Yes, actually, I just heard the tone. I'm unmuted. Sorry about that. I'm calling from an alternate phone.

MS. TUCKER: Before we start off, now we have to read set logistics for everybody. This is going to get more complicated because we had to mute everybody, so what we really need to do is, when Tracy says that you are on deck, I need you to text in your name and whether you're on headset or phone. If you're on phone, I need the first four digits of your phone number.

So when Tracy says you're on deck,
just type in your name and either the word
headset or the first four digits of your phone
number, that way we can find you and manually
unmute you so that you can join the conversation.

MS. FAVRE: Okay, Jenny. Hopefully
you saw the text from Michael McFadden. He's
ready. He's on a headset.

MS. TUCKER: Okay. Michael, let me
try and unmute you. Hold on, Michael. Yes, it's
going to add a little bit of time now to allow
folks to be patient. Okay. It looks like you
are unmuted. Go ahead, Michael.

MR. MCFADDEN: Hi. Can you hear me
now?

MS. FAVRE: Yes, we can.

MR. MCFADDEN: Wonderful. Well,
thanks, guys, for your patience here. Good
afternoon. My name is Michael McFadden. I'm the
general counsel for Farm Forward, an animal
advocacy organization working to improve the
welfare of farmed animals by educating consumers
about better food sources and by providing
strategic consulting services to non-profits, universities, and business interested in adopting better farmed animal welfare policies.

I want to start by thanking the NOSB Livestock Committee for working so hard in the past to address farmed animal welfare issues. Farm Forward's comment, concerns, a critical animal welfare that is not currently addressed by the NOP, namely, the health and welfare impacts on chickens and turkeys who have been bred for rapid growth.

As I'm sure you know, modern poultry strains have been genetically selected for fast growth. The negative welfare impacts associated with this over-selection are tremendous and well-documented. Billions of chickens and turkeys every year have difficulty breeding, standing, and walking.

There is growing momentum to address poultry genetics within the animal welfare movement and growing public awareness of this issue as well. Farm Forward expects that in
2017, large restaurant chains and food service companies will commit to transition to purchasing poultry products that originate from slow-growing birds.

We also expect that major poultry producers, some of whom raise certified organic chickens and turkeys, will voluntarily elect to raise slower growing strains. Unfortunately, unless the NOP adopts maximum growth rate requirements, consumers will have no way of knowing whether they've chosen an organic product that comes from a healthier, slower growing bird.

As many of you also know, existing third-party animal welfare certifications, like animal welfare approved, already have strict requirements for growth rates and genetic welfare. And in March 2016, Global Animal Partnership, or GAP, committed to requiring slower growing chickens at all levels of its five-step program.

GAP is the standard used by Whole Foods Market and currently covers over 260
million chickens. In addition to requirements of growth, it's creating a ripple effect on this issue. In fact, just this morning, the food service management company, Compass Group, announced that it would voluntarily begin following GAP's standard, including its growth rate requirements.

This will mean another 60 million chickens per year required to grow at a more balanced rate. Consumers expect that the organic label guaranteed the highest standards for environmental protection and animal welfare. As more consumers understand the plight of fast-growing chickens and turkeys, they will look to certified organic farms to find products that are aligned with their expectations for humane treatment.

We strongly encourage the NOSB to recommend that the NOP develop standards to address genetic welfare by limiting the growth rates of chickens and turkeys. Farm Forward will be happy to provide guidance in this matter and
we welcome an opportunity to work with the NOSB
to develop standards to address the animal
welfare impacts associated with fast growth.

Thank you for your time.

MS. FAVRE: Thank you, Michael.

Anybody have questions for Michael? I actually
have one. Michael, have you submitted written
comments in regard to the animal welfare
standards or what's calling the organic livestock
and poultry practice, OLPP?

MR. MCFADDEN: You know, I'm not sure.

My colleague, Andrew, may have submitted those
comments. I know he submitted comments to the
effect of what I just spoke to the committee
specifically, but I'm not sure. It's something I
can look into. Can you give me that name again?

MS. FAVRE: It's the organic livestock
and poultry practice standards, which went
through public comment recently.

MR. MCFADDEN: I believe we may have,

but I'll have to double-check.

MS. FAVRE: Okay. That's actually the
best vehicle to convey that, but thank you for 
bringing those to us, and certainly, we on the 
livestock subcommittee are interested in those 
comments, so thanks very much.

MR. MCFADDEN: Absolutely. Well, 
thank you so much for listening and I appreciate 
it.

MS. FAVRE: You bet. Any further 
questions for Michael? Okay. Thank you, 
Michael. Next up is Nur Ahyani and on deck is 
Kevin Lawrence.

MS. AHYANI: Hello?

MS. FAVRE: Yes, Nur, are you with us?

MS. AHYANI: Yes.

MS. FAVRE: We're getting a really bad 
echo. If on a speaker, you might want to pick up 
the phone.


MS. TUCKER: Go ahead and speak, Nur.

MS. AHYANI: Hello? This okay?

MS. FAVRE: Yes, we can hear you. Go 
ahead.
MS. AHYANI: Okay. Thank you very much for the opportunity. My name is Nur Ahyani and I'm an agriculture officer in Indonesia, and I just want to make you aware about farming in Indonesia. Indonesia is the first producer and effects more than 500,000 small-scale farmers and socially responsible farming.

MS. FAVRE: Yes. Thank you, Nur. It's a little bit difficult to understand, I think, because of your headset, but we do have your presentation and thank you very much.

MS. AHYANI: Okay. Thank you.

MS. FAVRE: All right. Next up is Mr. Kevin Lawrence, on deck is Josh Payne. Kevin, are you with us?

MR. LAWRENCE: I am. Can you hear me okay?

MS. FAVRE: Yes, we can. Please go ahead.

MR. LAWRENCE: Sure. Terrific. So hello to everybody. My name is Kevin Lawrence. I'm the CEO and founder of BioNutritional
Research Group and I wanted to thank the Board for the opportunity to expand upon my written comments regarding the essentiality of carrageenan, especially in certain toxic products.

First off, I'd like to echo the comments of Jim Chmura. Jim, thank you for that technical delivery that you posted earlier. I can only say, I found pretty much everything Jim was talking about to be true in the case of my work with, primarily, low-acid beverages.

So specifically, as I outlined in my letter, carrageenans are an essential ingredient in a product that we make called Power Crunch Blast. It's a ready-to-drink beverage and as with all the products in that line, it delivers a highly superior protein nutrition in the form of something called high-DH hydrolyzed whey protein.

Now, these hydrolysates have very specific attributes that create significantly higher levels of protein absorption, distribution, as well as metabolic function.
compared to whole proteins, and as such, are a very important raw material for formulating what I believe is the next generation of protein supplements.

The problem here is that hydrolysates also behave quite differently from other proteins and one of those challenges is that they do not add viscosity to a beverage system, and this is a critical formulation challenge.

I know the subcommittee suggests that the removal of carrageenan from some product categories is a reason, possibly, to believe that alternatives might be used in all or a significant amount of additional products, but there are many instances where this is not true.

For this blast formula, we tried multiple other hydrocolloids, xanthan guar, gellan gum, and others, to provide the required mouth feel and critical suspension. However, they just do not work with this type of protein; categorically, do not work.

The unique protein reactivity of
carrageenan with hydrolyzed protein cannot be replaced with these other alternatives. And in fact, I had to rely on a combination of different carrageenans to achieve what we needed in the product.

Also, as Jim talked about, we really appreciate the extremely low levels that these carrageenans need to be used or employed in order to deliver the results that we need. Just to give you an idea of how essential it is and without it, how this type of product would never make it to market.

When we used these other hydrocolloids, we had critical problems with the formation of hard-packed sediment, and in fact, ice crystals actually formed as the vitamin mineral content dropped out of suspension.

This sediment and ice crystals cannot be shaken out. So when we talk about, and I believe it's actually a wise consumer instruction that the subcommittee makes to shake well before consumption, and it's something we at the --
MS. FAVRE: Kevin? Kevin, I'm sorry, yes, your timer is going off. I'm sorry. It's hard to hear, I know, especially if you're speaking.

MR. LAWRENCE: Okay. Well, I just, I guess, in the end, want to urge you that this is a primary and an essential ingredient to bring this type of protein to market in a beverage. Thanks for your time.

MS. FAVRE: Thank you, Kevin. Any questions for Kevin?

MS. TUCKER: Harold has a question.


MS. TUCKER: Oh, shoot, I have to unmute Harold for him to be able to talk. Just a second, let me unmute Harold.

MS. FAVRE: Yes, and it also looks like, Tom Chapman has a question as well, so if you'll go ahead and unmute him too, please.

MS. TUCKER: All right. Let me find -- just a second. I'm sorry. Who am I doing? Harold. What is Harold's number? Okay. Just a
second, Harold, I'm trying to find you. There you are. Okay. Harold, go ahead and ask your question.

MR. AUSTIN: All right. Thank you. Kevin, thanks for your presentation and for helping to provide us, because one of the criteria that we look at is essentiality. One question, the formulation of material that you guys are putting into the market, is carrageenan listed on the ingredients label of your product so that if a person did have a problem with it, they would be able to take and avoid drinking that material?

MR. LAWRENCE: It is. Yes.

MR. AUSTIN: Okay. Thank you. That's all I had, Madam Chair.

MS. FAVRE: Thank you, Harold. Tom, are you unmuted? Can you speak?

MR. CHAPMAN: Yes, I unmuted myself.

Is the power crunch, is that a certified organic product?

MR. LAWRENCE: It is not at this time.
It's something that we're on path to achieve. As you probably know, there are proteins that are difficult to bring to market in that venue, basically, due to the feed of the animals that supplied the milk originally, but we're making great strides and we will get there, and I'm hoping within the next year, because that's a label that we want to put on the product and it's a burgeoning area for RTDs in the natural organic markets.

MR. CHAPMAN: Thank you.

MS. FAVRE: Okay. Any further questions for Kevin? Thank you, Kevin.

MR. LAWRENCE: You bet. Thank you, all.

MS. FAVRE: Next up is Josh Payne, and we've got Jaydee Hanson on deck. Go ahead, Josh.

DR. PAYNE: Can you hear me?

MS. FAVRE: Yes, we can.

DR. PAYNE: Hey, I'm Dr. Josh Payne. I'm the state poultry specialist with Oklahoma State University and I've worked in the area of
poultry manure management, including pathogen control for the past 17 years. We see consumer groups, restaurant chains, and food retailers challenging poultry growers, nutritionists, and veterinarians to raise birds using fewer or no antibiotics.

The challenge for poultry producers is to maintain good animal health, performance, and welfare without raising food safety concerns.

Pathogens, such as salmonella, campylobacter, and listeria are not naturally found in the gastrointestinal tract of poultry.

Poultry litter consists of bedding, manure, and feathers, which is known to harbor pathogens. It's unrealistic to expect that poultry carcasses will not contain any potential harmful bacteria, whether it's organic, antibiotic-free production, or conventional.

Consumption of contaminated poultry products is often associated with food-borne illness. Infection is usually attributed to cross-contamination in the kitchen, inadequate
cooking, and improper storage temperatures. To successfully meet the federal and processing plant pathogen control standards, interest is centered on the implementation of on-farm pathogen reduction programs to reduce contamination loads in and on birds entering the processing plant.

The survival of salmonella in the poultry housing environment is dependent on both physical and chemical factors, such as temperature, moisture content, and pH of the litter. Poultry litter usually contains a slightly basic pH, between 7.5 to 5.5, which is actually optimal for pathogen growth.

Acidifying litter amendments are commonly used in poultry houses to reduce harmful ammonia levels by lowering litter pH. This process occurs by releasing hydrogen ions into the litter, creating an acidic environment, which neutralizes ammonia.

The secondary benefit of reducing litter pH to an acidic level is pathogen control.
Most pathogens will be reduced or destroyed in such an environment. Sodium bisulfate, sulfuric acid, and aluminum sulfate are all common litter amendments that can accomplish this task.

In addition, sodium bisulfate can also act as an antimicrobial by releasing sodium into the environment. Litter amendments are often applied to the litter prior to placement, and have even been used to shock treat the pad in poultry houses that have a history of disease challenges.

As the industry continues to shift toward antibiotic-free production, new challenges may arise to control pathogens from both a bird health and human food safety perspective. Proper litter management is going to be a key component for effective pathogen control. Litter amendments can be used as an effective pathogen control strategy for this. Thank you.

MS. FAVRE: Well, good job. Questions for Dr. Payne? Okay. Thank you very much, Josh, we appreciate your comments.
DR. PAYNE: Thanks.

MS. FAVRE: Next up is Jaydee Hanson and we've got David McCoy on deck. Jaydee, are you with us?

MR. HANSON: Yes, can you hear me?

MS. FAVRE: Yes, we can. Please go ahead.

MR. HANSON: Yes. I'm Jaydee Hanson. Senior Policy Analyst at the Center for Food Safety. We strongly support the committee proposal on excluded methods terminology and represent the -- and recommend the adoption of all three sections by the NOSB. We support the definitions of genetic engineering, genetically-modified organisms, modern biotechnology, synthetic biology, non-GMO, and classical, traditional breeding.

The overarching terms, modern biotechnology, as developed by the CODEX Alimentarius Commission, sets the standard for the rest of the world's definitions as documents and standards developed by the CODEX Alimentarius
are used by the World Trade Organization in trade disputes involving food, and as such, constitute a globally-recognized standard.

The other definitions associated with the modern biotechnology definition, i.e., GE, GMO, non-GMO, synthetic biology, are appropriate as subsections under the definition of modern biotechnology. But the NOP still needs the definitions given here as terms like GMO and non-GMO are terms most recognized by the public and used on labels.

The related definition of classical traditional breeding is important to have spelled out, since it hasn't been explicitly defined before. We support the principles criteria section on excluded methods and see that it is processed based and thus parallels the processed-based system used for organic standards.

The section explains how techniques are to be evaluated to determine whether they should be allowed in organic agriculture.

Finally, we support the terminology chart which
shows which techniques or terminologies are excluded or allowed in organic production.

However, we believe that four additional terms in the document's terminology chart transposons, systemics, intergenesis, and agroinfiltration should also be considered excluded methods.

One additional term, transduction, when it involves intentional in vitro manipulation, should also be added to the list. We urge the NOSB to add these terms to the proposal's terminology chart before approving the proposal.

And animal embryo transfer needs more discussion. Generally, we think it could be permitted. Artificial insemination is already permitted, but eggs for embryo transfer are often produced by injecting animals with large amounts of hormone that cause them to release a large number of eggs at one time.

If the NOSB approves embryo transfer, limits on hormones used could be considered,
also, given that the largest embryo transfer
company, Intrexon, Trans Ova, now owns ViaGen,
the last animal cloning company, steps need to be
taken to ensure that no transferred embryo is a
clone and that no embryos have been genetically
engineered.

MS. FAVRE: Okay. Jaydee, I don't
know if you could hear, but your timer has gone
off, so I'll ask you to stop there.

MR. HANSON: Okay. Thank you.

MS. FAVRE: Any questions for Jaydee
Hanson? Thank you. And thank you for taking on
this topic. It's a complicated one, so we
appreciate the feedback.

MR. HANSON: Okay. Thank you very
much.

MS. FAVRE: Next up is David McCoy and
then we've got Tim Mann on deck. David, are you
with us?

MR. MCCOY: Yes, I'm here. Can you
hear me?

MS. FAVRE: Yes, we can. Please go
MR. MCCOY: Thank you. I'm David McCoy. Thank you for the opportunity to address this group. As background, earned my PhD at the University of Illinois in Food Science and have worked in the dairy industry for almost 40 years. Next slide, please. I would like to note -- next slide, please.

First, I would like to note that carrageenan has been determined safe by numerous regulatory industries around the world, including the NOSB in previous reviews. Some of the agencies and countries that have reviewed this, have reviewed carrageenan and found it safe are listed on this slide. Next slide, please.

Of what I would consider special interest to this review is that in 2015, the FAO, Joint Expert Committee on Food Additives concluded that the use of carrageenan in infant formula was not of concern at concentrations of up to 1 gram per liter. This was a conclusion by independent international expert committee in
what is probably the most stringent food category, and they were using levels that other commenters have already mentioned were higher than they used.

I'm sure that you are aware of the work by Baer and the one by McKim reviewing the safety of carrageenan had difficulty with confirming other studies. Next slide, please. A recent double-blind survey was conducted by Clear Seas Research. Clear Seas is an independent market research company that surveyed subscribers of Dairy Foods Magazine and others in the dairy industry.

Double-blind studies have always been considered the gold standard for nutrition and research, but have rarely been used in marketing. The survey drew responses from 69 professional that participated in a detailed lengthy discussion of carrageenan and its relationship to other additives. The respondents in the survey represented a variety of job functions in the dairy industry, with 94 percent having at least
shared responsibility with food additive
decisions.

These are people that carefully
evaluate food additives and the basic facts about
carrageenan. Next slide, please. The
implications of the survey were very clear,
additives are not interchangeable. We've heard
that from several formulators in this allotted
hour.

Removal of carrageenan comes at a
price, at least half of the people said they
could not replace carrageenan. And a replacement
additive is not easily identified. Next slide,
please. With credible evidence of safety and an
industry preference for use, I urge you to re-
list carrageenan and let the consumer decide by
reading their ingredient statement, which is the
proper course for the organic industry. They
will decide if this is something they want in
their food.

Thank you for allowing me to present
this comment in support of the continued risk of
carrageenan and I thank you for your time.

MS. FAVRE: Thank you, David. Any questions for David? Thank you very much, David.

Next up is Tim Mann and we've Peter Ciriello on deck. Tim, are you with us?

MS. TUCKER: We have not seen Tim's number on the list and I haven't seen a chat from him with a number in. Tim, if you're on, please chat to us quickly with a number.

MS. FAVRE: Tim? Last call for Tim. Okay. Moving on is Peter Ciriello, if I said that correctly, and we've got Martin Murphy on deck. Peter, are you with us?

MS. TUCKER: Tim is here, but let me unmute him.

MS. FAVRE: Okay.

MS. TUCKER: Tim, you should be unmuted now. Can you hear us? Can you speak?

MS. FAVRE: Tim, if you're speaking, we can't hear you. Tim is unmuted? We do have Tim?

MS. TUCKER: We don't have Tim, but we
have unmuted the number that we believe he's calling in from.

MS. FAVRE: Okay.

MS. TUCKER: If you are there, please chat in a number that you're calling from, and again, as a reminder, for folks who are coming in on deck, please type in, if you're on the line, what number you're calling from so that we can unmute you when it's your time to speak.

MS. FAVRE: Okay. Tim, I'm sorry. We're going to have to move on. Next up is Peter Ciriello. Peter, are you here?

MS. TUCKER: Okay. Give us a second. We got to find him.

MR. CIRIELLO: Hello, can you hear me?

MS. FAVRE: Yes. Who's speaking, please?

MR. CIRIELLO: Hi. This is Peter Ciriello.

MS. FAVRE: Hi, Peter. Okay. It appears as though you're unmuted. Thank you.

MR. CIRIELLO: Okay. Great.
My name is Peter Ciriello. I'm a partner in Clearwater Organic Farms in Rochester, New York. I'd like to thank the NOSB for the opportunity to provide my comments today regarding our business model. Our business focuses on growing leafy vegetables and herbs in a controlled bioponics greenhouse environment.

We are in support of securing continued organic certification of bioponics facilities that follow well-established organic rules. Our goal is to ensure that consumers receive high-quality, fresh, pesticide-free foods. Our products are grown in a controlled environment with limited personnel access and with controls and monitored environmental conditions.

We monitor and control process conditions, including lighting, temperature, humidity, nutrients, feeding, and water conditions. We do not use any pesticides and we
are using certified organic fertilizers. We ensure that there is an ongoing biological activity and we do not use non-organic substances to control water conditions processing, such as for pH control.

We are a fully-integrated growing, processing, and storage facility so that we can ensure that our food is safe, clean, and free from any contaminants. In addition to growing safe, fresh, sustainable, and local vegetables, we also have a significant positive energy impact carbon footprint reduction advantage and water reduction benefits as compared to field-grown vegetables and other non-bioponic greenhouses.

We believe that bioponics and other controlled environmental and efficient growing systems will be essential to meet the growing worldwide food demand and we urge the NOSB to finalize organic certification rules for bioponics that adhere to strict organic principles and pesticide-free food production.

Thank you.
MS. FAVRE: Any questions for Peter?
I actually have one if no one else does. Peter, you mentioned that you ensure biological activity in the containers. Can you expand on that a little bit, please?

MR. CIRIELLO: Yes. We're using organic fertilizers, so we don't use any filtration system that would, so-called, sanitize the water, so we're controlling and measuring that activity, but we're not using any treatment of that water that would kill bacteria itself. We monitor that through the organic fertilizer that we choose and these organic fertilizers would be certified by our certifier as being organic.

MS. FAVRE: Okay. Thank you. Any other questions for Peter? Okay. Thank you, Peter.

MR. CIRIELLO: You're welcome.

MS. FAVRE: Next up is Martin Murphy and on deck Fred Hoerr. Martin, are you with us? Martin, if you're speaking, we can't hear you.
MS. TUCKER: We have one person who's called in from 626, but it doesn't match the number that he gave us. We have unmuted the line for whoever's in area code 626, so, Martin, try again, or try to speak, or type in a better number to find you on our list at.

MS. FAVRE: Martin? Okay, Martin, we're not hearing you. Last call for Martin Murphy. Okay. Next up is Fred Hoerr, and we got Jeannine Delwiche on deck.

MR. HOERR: This is Fred Hoerr, can you hear me?

MS. FAVRE: Yes, Fred, we can hear you. Go ahead.

MR. HOERR: My name is Frederick Hoerr. I am a veterinarian with specialties in poultry medicine and veterinary pathology. I have four decades of experience in diagnostic and veterinary services for chickens, turkeys, quail, and other avian species. Today I speak for the approval of sodium bisulfate as a control agent for bacterial diseases caused by clostridium
inorganic flocks.

Clostridium causes gangrenous
dermatitis and necrotic enteritis in chickens and
turkeys, ulcerative enteritis in quail, and is a
contaminate of wounds. In poultry farming,
sodium bisulfate is an EPA-approved poultry
litter amendment used to decrease ammonia, and as
a prevention agent for gangrenous dermatitis, a
disease caused by clostridium.

The outcome of an infectious disease
depends on three main factors, the level of
exposure of the disease agent, the virulence of
the agent, and the resistance of the host. We
cannot control the variants of clostridium, which
is a normal part of the flora of the soil, as
well as the normal flora in low levels in the
poultry intestine.

We do not have effective poultry
vaccines to improve resistance to clostridium,
therefore, prevention is focused on reducing the
numbers of clostridium in the environment and in
the intestinal tract. This is done by reducing
the environmental exposure to clostridium and by keeping the birds healthy to prevent an increase in the number of pathogenic clostridium in the intestine.

Sodium bisulfate decreases viable clostridium in poultry litter by 90 to 95 percent. This has been documented in the laboratory and on the farm. It is effective in reducing the incidents of gangrenous dermatitis in broilers.

Sodium bisulfate is not a treatment for poultry that are sick with the clostridial disease, rather, it is a mitigation, a safe mitigation, to prevent new infections within the flock and thereby reduce flock mortality and a disease outbreak. It can be used for disease prevention on farms with a history of clostridium disease.

Within this context, sodium bisulfate can be a safe mitigation in organic flocks afflicted with gangrenous dermatitis or necrotic enteritis. I recommend for your consideration
and approval, the use of sodium bisulfate litter treatment for the control of diseases caused by clostridium in organic flocks. Thank you very much.

MS. FAVRE: Okay. Thank you. Any questions for Dr. Hoerr? I know I'm pronouncing that wrong. I'm sorry. I actually have a question. There was actually three litter amendments that were petitioned at the same time. Are you familiar with -- I mean, the sodium bisulfate one specifically works on these diseases, but what about the other two?

MR. HOERR: Can you tell me what the other two that were petitioned?

MS. FAVRE: I knew you were going to ask me that. I'm sorry.

MR. HOERR: The sodium bisulfate works through acidification. And acidifies litter so that it keeps ammonia-splitting bacteria from proliferating, and it also substantially reduces clostridium, salmonella, and E. coli in the litter.
MS. FAVRE: Okay. And I see I have a message that Ashley Swaffer had a question, so, Jenny, can you unmute Ashley?

MS. TUCKER: Yes, let me find her. I'm sorry, I didn't see that. Okay. Ashley, you should be unmuted now. Try talking.

MS. SWAFFER: Can you hear me?

MS. FAVRE: Yes, we can.

MS. SWAFFER: Okay. So I got a question for you, there are several approved litter amendments from organizations, one brand name is Poultry Barn Fresh. Do you know, does that help with the clostridium in the litter and in the soil? And then my other question to you is, we have a lot of feedback from industry consultants and vets, and like Dr. Payne, why am I not hearing from the actual industry themselves?

There was no public comment from a single broiler company.

MR. HOERR: Well, the veterinarians, the feedback I saw, these are consultants that
work with the broiler companies.

MS. SWAFFER: Okay. So they're --

MR. HOERR: That's the answer to one of your questions, and so they are out there on the front line working in consultation with these companies. The other question you had about the other litter amendment, I am not familiar with that amendment. I am familiar with sodium bisulfate.

MS. SWAFFER: Okay. So let me phrase this a different way. Is there anything else besides sodium bisulfate that could be used to reduce clostridium in the environment?

MR. HOERR: It's the best one that I know of and as far as others, if there are others out there, they are not in popular use.

MS. FAVRE: Okay. If I might, Dr. Hoerr, it looks like the two other amendments are acid-activated bentonite and aluminum sulfate.

MR. HOERR: Okay.

MS. FAVRE: Are you familiar with those two?
MR. HOERR: Those are both acidifiers. Acidifiers are also added to the drinking water to lower the pH of the gut, to reduce the clostridium in the gut, so the basic process is one of acidification, and the acidification process, if you can drop that pH down in the 2 to 3 range, you get this bacterial -- you get this induced non-viability of these pathogenic bacteria. That's the principle.

And sodium bisulfate is effective in this use and it's not approved for organic flocks so that the health of these flocks can be managed in that regard.

MS. FAVRE: Great. All right. Thank you very much for that clarification.

MR. HOERR: Okay. Thank you.

MS. FAVRE: Next up is Jeannine Delwiche and on deck is Steven Hearn. Jeannine, are you with us?

MS. DELWICHE: I am.

MS. FAVRE: Okay. We can hear you, go ahead.
MS. DELWICHE: Can you hear me?

MS. FAVRE: Yes, we can.

MS. DELWICHE: Great. I'm Jeannine Delwiche. I am speaking on behalf of FMC, where I work in the role of sensory manager. My area of expertise is sensory science. I've been doing research in it for over 20 years and I have over 40 peer reviewed publications in this area. If you'll go ahead and go to the next slide. You might wonder why sensory matters.

Sensory properties drive consumer acceptance, and that consumer acceptance, in turn, drives whether or not people will eat your food. High palatability increases consumption and also compliance to dietary restriction. The more restricted a diet is, the less palatable the food is, the less people will stick with it.

So carrageenan imparts unique and superior properties to many food formulations. Now separation is something that occurs over time. Carrageenan helps eliminate that separation. The most important thing there is
that when a product separates, a lot of time this is perceived as a spoiled food, which results in the consumer doing a lot of unnecessary disposal of perfectly good food.

Another thing that happens with consumers is they don't always shake as vigorously as they should and miss key nutrients. So for the average consumer, maybe not important, but very important for people on restricted diets. Now, the flavors that you get when you use carrageenan in a formulation are a bit brighter, a bit more balanced, and carrageenan has unique properties.

It can be thick without being heavy or sticky, it's also very clean tasting. Go to the next slide. I can show you an example with gummy candies. What we did here is we matched our candies as closely as we could for flavor, taste, and color, and you can see, as we change the base from carrageenan, we see reduction in how much people liked the product.

Does it mean no one liked it? No, but
you're seeing a loss in consumer acceptability as you change the base. If you go to the next slide, what that translates to is with that reduction in palatability, you are putting consumers in the position and making a choice, and do they want organic that doesn't taste as good, or do they want something tastier that isn't organic?

When you combine that with organics products having a higher price point, that double whammy is going to decrease consumer use over the long term. If you go to the next slide. Bottom-line, by retaining carrageenan, you increase the repeat purchase of organic products, that results in higher consumption of the more nutritious organic products, increases compliance with doctor recommendation, and then overall increase in nutritional value to consumers. You eliminate that conflict between palatability versus organic.

Finally, since carrageenan is sustainably harvested in the wild without use of
pesticides, fertilizers, or other chemicals with
the growing of it, to my mind, it makes it a
pretty good fit to the organic mission. Those
are my comments. Thank you.

MS. FAVRE: Thank you. Good timing
too. Do we have any questions for Jeannine?
Okay. I don't see any. Thank you, Jeannine.
Next up is Steve Hearn and then we have Kirin
Basra on deck. Steve, are you with us?

MR. HEARN: Can you hear me?

MS. FAVRE: Yes, we can. Please go
ahead.

MR. HEARN: Good afternoon. Thank you
for letting me speak at this webinar. I'm the
owner of Hearn Poultry Services. I'm an
certified independent organic inspector for crops
and livestock. I'm an independent animal welfare
auditor, and ISO certified.

I'm speaking on the petition the NOP
received to add sodium bisulfate to the national
list of synthetic substances allowed for use in
organic livestock production. I urge the Board
to allow the use of sodium bisulfate as a synthetic substance to be used in organic livestock production.

Based on my observations of the poultry production, conversations with poultry production managers, there is a need in organic poultry production for the use of sodium bisulfate as a litter treatment to reduce salmonella occurrences in organic production.

Also, there is a need to reduce ammonia levels in poultry houses, especially during the core months of the year. I'm not aware of any natural inputs that will reduce salmonella and ammonia levels currently. Thank you all for your time. Any questions?

MS. FAVRE: Okay. Any questions?

Okay. I have one. You mentioned that the ammonia is an issue too. Are there other management techniques that can offset the ammonia issue besides the litter amendment?

MR. HEARN: Of course, you know, adjusting ventilation, but, you know, then you
get into cost, more and more propane, you know, because a lot of -- and this is meat poultry production. This isn't, you know, this isn't players, breeders, this would be broilers or meat turkeys. But the use of build-up litter is pretty common in the poultry industry in the meat for production.


MS. FAVRE: Yes, I'm sorry. Francis, don't go away, Steve, Francis, thank you, I didn't see it. It just popped on my screen. Yes, Francis, go ahead. Francis, if you're speaking, we can't hear you. Is Francis unmuted?

MS. TUCKER: I'm checking. Just a sec.

MS. FAVRE: Yes, looks like he's not.

MS. TUCKER: Francis, I've unmuted you, go ahead.

MR. THICKE: Can you hear me?

MS. FAVRE: Yes, we can.
MR. THICKE: Yes, yes. Okay. The veterinarian, Dr. Fred Hoerr, said that what's needed with the sodium bisulfate is something that acidifies the litter, and this product called Barn Fresh that was mentioned, about the same as the sodium bisulfate, I'm wondering if you're familiar with that product?

MR. HEARN: Yes. Now, you're saying that it does it the same way or the same amount as sodium bisulfate?

MR. THICKE: What I have seen when I had looked at the data is that the pH was taken down to about the same level as the sodium bisulfate.

MR. HEARN: Okay. What I've seen out in the field now, I'm speaking from, you know, my observations doing inspections, the Barn Fresh wasn't as effective. Now, this is in non-organic production. The Barn Fresh is not as effective as the sodium bisulfate in reducing the ammonia.

MR. THICKE: At the same rates of application or was it applied at a rate that was
recommended?

MR. HEARN: Both rates were at the recommended rates.

MR. THICKE: Okay. Thank you.

MR. HEARN: Yes.

MS. FAVRE: Great. Thank you. We appreciate the field perspective on these materials, so thanks very much.

MR. HEARN: You're welcome.

MS. FAVRE: Next up is Kirin Basra and we've got Myra Weiner on deck. Kirin, are you with us?

MS. BASRA: Yes, I am. Thank you for allowing me to speak today. I am speaking today in support of keeping carrageenan on the national list. A little bit about my background. I'm a food scientist and have worked as a product developer for the last 12 years. I have developed and researched products all over the food sector, ranging from low acid, high acid products, high protein beverages and bars, fermented foods, and I've explored new
technologies for improving preservation methods in produce.

Today, I am speaking on behalf of my organization, Premier Nutritions. We are a subsidiary of Post Holdings. We manufacture and distribute nutritional food products under the brands of Premier Nutrition, PowerBar Supreme, and Joint Juice. Our products are in the form of ready-to-drink beverages, bars, and powders.

Carrageenan is a vital ingredient to the stability of our organic shake products due to its interaction with the dairy proteins within this application. Carrageenan plays a multifunctional role. It provides protein stabilization and multiplication, mouth feel, viscosity, and suspension.

Its unique properties provide a degree of reactivity with no proteins. It helps minimize protein aggregation. Protein aggregation can lead to significant clumping which ultimately yields to product failures. So having carrageenan within the system really helps
us minimize the degree of that failure.

   It plays a crucial component to the
stability of this product. Based on our testing,
we have not found an acceptable alternative to
replacing carrageenan. Premier Nutritions
strongly supports the continued listing of
carrageenan on the national list. In our
opinion, it is safe for use in food and necessary
for the production of organic beverages
containing dairy proteins.

   Thank you. That's all I had for
today, but please advise if you have any
questions.

   MS. FAVRE: Okay. Do we have any
questions for Kirin? Okay. I'm not seeing any.
Thank you very much, Kirin. Appreciate it.

   MS. BASRA: Thank you for your time.

   MS. FAVRE: You're welcome. Myra
Weiner is up next with Robert Osburn on deck.

Myra, are you with us? Myra, if you're speaking,
we can't hear you.

   MS. TUCKER: WE texted her asking her
to send in her number. The number on the list is not listed on the people who have actually called in, but I have not heard back from her. She's on the computer, but we don't have a phone connection and I don't see her as attending or on a headset. Oh, here we go. Just a second.

MS. FAVRE: Okay.

MS. TUCKER: Myra, if you can hear us, we don't see a 908 on our audio listing. We don't see that area code as a number that has called in. I don't know how to find you without having a different number. I have one person who isn't associated with a phone number, but that person's already unmuted.

MS. FAVRE: Yes, I don't see her either.

MS. TUCKER: Myra, we don't hear you. Right. You can hear us, but we can't hear you, Myra, and 908 is not listed on our phone numbers, so when somebody calls in, we can see the listing of phone numbers and we do not see anyone from a 908 area code. That's the challenge right now.
MS. FAVRE: Myra, is that you speaking?

DR. WEINER: Yes, this is Myra.

MS. TUCKER: Okay. Go ahead, Myra.

Your turn.

MS. FAVRE: Yes, go ahead.

DR. WEINER: Thank you. I sent in slides.

MS. FAVRE: Okay. It looks like we've got slides for you now.

DR. WEINER: Great. Hello and thank you for the opportunity to address the NOSB. I'm speaking as a toxicologist who has worked on carrageenan for over 20 years and has published six peer-reviewed papers and reviews on carrageenan. I am in favor of maintaining carrageenan on the NOSB list. Next slide, please.

Carrageenan is a high molecular weight food additive which functions as a stabilizer, thickener, and gelling agent in food. It has food additive status, it is used as a
pharmaceutical excipient, and in personal care products.

In 1983, found it to be noncarcinogenic in independent rat and hamster cancer studies with no tumors. It is not harmful to the gastrointestinal tract and it's approved for use by Jack Frost and the European Food Safety Authority and CODEX Alimentarius.

It is often confused with another material of much lower molecular weight termed poligeenan, which is not approved for food use and which has been considered to cause duodenal tumors in laboratory animals by the International Agency for Research on Cancer. These are two completely separate materials. Next slide, please.

The safety profile of carrageenan is based on a number of animal dietary studies over the last several decades. It has one of the largest databases out there for food additive. It does not cause cancer or act as a tumor promoter, does not cause birth defects or
reproductive toxicity, it is not genotoxic or mutagenic, it does not cause gastrointestinal inflammation or ulceration when given in the diet.

It does not cause immune system effects by ingestion in the diet. It has been proven safe for infants and adults. And based on its large trimolecular weight up to 800,000 daltons, there is no absorption from the gastrointestinal tract, no enzymes to degrade carrageenan in mammals, therefore, carrageenan ingested in diet is excreted unchanged in feces. Next slide, please.

This table is summarized in my 2014 review article and shows numerous studies in which the effects of carrageenan on the gastrointestinal tract were evaluated.

MS. FAVRE: Myra, I'm sorry. I'm going to have to interrupt you here. Your time has gone off.

DR. WEINER: Okay. Thank you.

MS. FAVRE: Yes, we're going to have
to cut you off. Apologies.

DR. WEINER: Okay. Just to summarize, due to the high-safety profile of carrageenan, I believe that it should be continued on the national organic list and based on good science, and many studies, it is an excellent candidate for inclusion on the list. Thank you very much.

MS. FAVRE: Thank you very much. Any questions for Dr. Weiner? Okay. I don't see any. Thank you very much, Dr. Weiner.

DR. WEINER: You're welcome.

MS. FAVRE: Next up is Dr. Robert Osburn and then we've got Stephanie Roche on deck. Robert, are you with us?

MS. TUCKER: Rob, I've been communicating with you. I think you're using a headset. Look for an unmute button on your screen. Ideally, you're able to unmute yourself. Please try and unmute yourself and try and talk.

MS. FAVRE: Okay. Rob, if you're speaking, we can't hear you yet.

MS. TUCKER: I don't see your name as
a headset user on the computer here. We see some
with headsets with names next to them and I don't
see, Rob, your name or -- okay. I don't see your
name on the headset list.

MS. FAVRE: Actually, I do. I do see
him. Hold on just a minute.

MS. TUCKER: Can you unmute him? I
don't see him.

MS. FAVRE: He is on the list shown as
a headset down in the R's on the listing and it
actually shows he's not muted, so, Rob, it might
be on your end that you're muted, but he just
actually disappeared there.

MS. OAKLEY: This is Tracy. I'm sorry
to interrupt, I did unmute Rob just from my
screen.

MS. FAVRE: Okay.

MS. TUCKER: Rob, try and talk.

MS. FAVRE: Rob, are you speaking?

MS. TUCKER: So I see Rob as a Web
participant, but I don't see him as an audio
participant, and that's the difference, so he can
see us online, but we're not seeing his -- if you
look on the list under audio, so Board Members or
presenters, look under the list called audio, do
you see him there? I don't see him on that list.

MS. FAVRE: I did, and then he
disappeared. Oh, no, there he is. Rob, I see
you now popping up under audio and you are not
shown as being muted, so can you try to speak
now, please? I'm sorry. It looks like we're not
going to be able to accommodate you. I sincerely
apologize. In the interest of time, I'm sorry,
we're going to have to go ahead and move on.

Obviously, folks, it's not perfect.

We're doing our best to accommodate everybody,
but sometimes technology just fails us, so I
apologize, Rob. Next up is Stephanie Roche and
we've got James Sbarra on deck. Stephanie, are
you with us?

MS. ROCHE: Hi, can you hear me?

MS. FAVRE: Yes, we can. Please go
ahead.

MS. ROCHE: Great. Thanks very much.
Thanks for giving me this opportunity to speak to the board. This is about removing carrageenan from the organic list. In 2016, I personally experienced intestinal distress on a daily basis after consuming carrageenan contained in an organic milk. It began when I started consuming the organic almond milk with carrageenan every morning with breakfast, about 8 ounces.

After about a week, I developed a constant ill feeling throughout my entire digestive tract that often included aching and cramping. I always felt the worst just after breakfast and then symptoms would lessen, but continue throughout the day. The symptoms returned full force after breakfast again the following morning. I always had the symptoms, but the severity increased right after breakfast.

It was a constant digestive sickness feeling all the time. After about two months of trying to figure out what was causing this digestive distress, I happened to read that carrageenan is used to create gastrointestinal
distress in lab animals so researchers can study the resulting information.

I immediately stopped drinking the product containing carrageenan and the intestinal distress stopped after a few days and has never returned. I was shocked that this chemical is allowed in organics. I wrote to company to request that they remove carrageenan from all their products and they have never sent a reply.

The organic products I used to purchase did not have carrageenan in them and now they do. I found the products perfectly satisfactory before the addition of carrageenan. Normally I focus on a whole foods organic diet. Please take this chemical out of all organic food products. Thank you. And nobody paid me to give these comments. That's all. Any questions?

MS. FAVRE: Okay. Do we have any questions for Stephanie? Okay. I don't see any questions for Stephanie. Thank you very much Stephanie.

MS. ROCHE: Okay. Thank you.
MS. FAVRE: Next up is James Sbarra and then we've got Jeff Nickerson on deck.

James, are you with us? I see on your chat that you say you're on a headset.

DR. SHADE: Yes, can you hear me?

MS. TUCKER: Okay. I muted Jim's headset, so hopefully we'll hear from him. I don't know what number he is calling in from. So hopefully he'll appear on our 703 list. Once he joins us, I'll scroll down to that area code on the list, and hopefully a 703 number will appear.

Yes, as long as we're waiting for the call-in, Board Members, if you have a question, please write the question mark as we had discussed, but send it to all co-presenter.

If you send it to the Chairman, it's for the Chairman of the call, not the Board.

It's the technology chair, which is NOP, and I don't always see those questions come in as we're trying to find the next person on the list, so I apologize if we've missed calling on some folks, but you always want to send those question marks
to all co-presenters or Tracy directly so that we
know you have a question, because we can't find
people, advance slides, and keep track of those
questions all at the same time. It's just too
much.

MS. FAVRE: Okay. Thank you, Jenny.
I appreciate that clarification. I do see a 703
number and I think that might be Jim. It looks
like he just got unmuted. Jim, are you here?

MR. SBARRA: Hey, can you hear me?

MS. FAVRE: Yes. Thank you. Please
go ahead.

MR. SBARRA: Thanks for your patience.
Hi. I'm a certified organic aquaponic grower and
I am talking to persuade those in charge to keep
aquaponic growing included in the allowed
practices of organic farming.

Quick summary of my point of view, it
appears that those against aquaponics feel that
aquaponics does not improve the soil and does
have the similar ecology to that found in soil.
These statements are absolutely not true. As a
quick note, my responses are only really addressed at aquaponics and not hydroponics.

So in that PDF that was sent out to say that hydroponics and aquaponics can't be included in organic farming because of their exclusion of the soil plant ecology, and there is a similar ecology in bodies of water that cannot be ignored and has been proven in recent years to grow organic produce.

The whole engine that makes aquaponics work is that biology and ecology in the water. Without it, the fish would die from ammonia and nitrate buildup. Why would the ecology of soil be considered organic and not the ecology in water? The water and soil act as an agent for the ecology to live, as both provide an organic environment for plants to thrive.

What is more important in farming, water or soil? Well, we cannot grow without water, as we have proven with aquaponics, and we can grow without soil. So my point of view, the ecology of the water holds way more importance
for the organic farmer. And adding to that, the fish waste we get from our filters can be added to the soil as a compost to improve the soil as well, not just for our land, but other farmers' land as well.

And then there's another concern people brought up about building bioponic operations that pave over the soil and that that's a reason why bioponics should not be considered as organic, which I find a little ridiculous because that means any building built on a farm is then damaging the soil and shouldn't be allowed on an organic farm, and you all know we need buildings on farms.

And then finally, just a quick thought, the main difference between aquaponics and tradition hydroponics is that we have the fish waste that can be added to the soil to improve the soil as well, and thanks for your time. Appreciate it.

MS. FAVRE: Great. Thank you very much, Jim. Do we have any questions for Jim?
Okay. I'm not seeing any. Thank you very much, Jim. Appreciate your comments.

MR. SBARRA: Thank you.

MS. FAVRE: Next up is Jeff Nickerson and we've got Karen Archipley on deck. Jeff, are you with us? Jeff, it looks like you've been unmuted, can you go ahead and speak up if you're with us?

MS. TUCKER: Jeff, you are unmuted. Check your computer to make sure your computer volume is on, that you haven't muted your computer.

MS. FAVRE: Jeff, it looks like you've got a number you've suggested for unmuting and they've unmuted you, but we're still not able to hear you, so please check your muting.

MS. TUCKER: Yes, Jeff, I don't see a call-in from an area code 905.

MS. FAVRE: Okay.

MS. TUCKER: Jeff, are you with us?

MR. NICKERSON: Hello?

MS. FAVRE: Yes, Jeff, we can hear
you, but you're very distorted, but please go ahead. Jeff, are you with us?

MR. NICKERSON: Yes. Hi. I would like to give you some of my background. I'm general manager of a family-run business producing organic vegetables and herbs and sold to garden centers, fresh fruit in Canada and USA.

Our plant, they are grown only from organic seeds in media composed of organic certified peat moss, and organic certified compost. The majority of the nutrients are from media and are released by biological utility in the compost.

The growing period is ten weeks, depending on plant species. It is taken care of through a carefully planned ITM program based on prevention.

What I would like to focus on is the principle of organic agriculture. Manual P states that organic production system is managed, and includes all of these principles. These are composed of peat moss, organic compost, and the
biological activity possible for the release of nutrients to the plants.

In my opinion, rather than ruling out the possibility of growing organic plants in a container, they should be for growing organic grass in a container. Let's look at the benefits of growing organic. The consumer always trust us without clinical knowledge.

They enrich the soil with organic method and micro-organism. By eliminating the organic certification of the plants, the waste promoting exploitation of the market with products claimed to be organic, it might not be because of certification. The only available tool to give the legitimacy of being organic due to the yearly control certifying organic growers are subjected to.

I would like to conclude the plan as a separate growing process in hydroponic, and aquaponic. Thank you.

MS. FAVRE: Thank you, Jeff. Any questions for Jeff? All right. Thank you, Jeff.
Next up is Karen Archipley and then we've got
Colin Archipley on deck. Go ahead. Karen, are
you with us?

MS. ARCHIPLEY: I am. Can you hear me
okay?

MS. FAVRE: Yes, we can. Thank you.
Go ahead.

MS. ARCHIPLEY: Great. My name is
Karen Archipley. I'm the co-founder of Archi's
Acres and Archi's Institute for Sustainable
Agriculture in partnership with Cal Poly Pomona.
We are a hydro organic farm that has been
certified for nine years. We are very proud of
our practices. We are in San Diego, where water
is the most expensive in the world now that
Israel has figured it out.

We proudly demonstrate in the stores
as well as in our marketing that we are hydro
organic and have experienced more business
because of this. We also train over 120
beginning farmers every year, many are just
transitioning out of the military, but also, a
large number of civilians who choose agribusiness
as a career.

Many of our students have gone on to
start their own hydro organic farms, and most, if
not all, are choosing the hydro organic
production methods, due to the affordability of
rural land which is unobtainable by most people,
so many would not be farming at all without the
use of hydro organic practices due to the
productivity and the limited space and the
limited interest.

This includes rural and urban areas.

It is known that biological processes conducted
in the hydro organic are equivalent, and then
some, compared to field production. There has
been a lot of misinformation about the use of
synthetics and inert inputs, which is not
acceptable for any organic production.

Archi's Acres has never used synthetic
inputs, not even the ones that the NOSB has
approved. Not the use of ozone, no chlorine, or
other chemicals that opponents have attempted to
associate with our type of hydro organic production systems. It is our hope that the group so loud -- it was our hope that the group so loud about hydro organics would familiarize themselves with our production methods and see through the misinformation by visiting our farm or others.

We are happy to say a few have, but the loudest, have not. How can you say you're protecting organic if you don't understand it yourselves? We are in 2016. We should not be afraid of innovation. In fact, our planet is insisting on it. The container method was not raised -- container, or hydro organic, was not raised as a concern in a recent OTA research consumer study or in CCOF blueprint for an organic world, which took 18 months to produce.

I can say that the word soil was not anywhere in that document. This is much of a concern from growers not wanting to lose their market share, certainly not our customers. When I buy organic, I am looking to avoid chemicals.
Let's embrace this new generation of organic
growers and not turn them off with inappropriate
use or protectionism.

We should include all farmers, if you
want to have us label, I think the dirt farmers
should have to label as well. Let's all do a QR
code on our packages and include our
sustainability and production methods. We are a
B corp, Archi's Acres is a B corp, which measures
all of our inputs and our footprint on this
planet. We have been best for the world two
years in a row.

How often do we hear that, how do we
get more young farmers? Well, we have them on
our farm every day of the year and so far have
not seen as much as an olive branch handed their
way at all. Let's not live in fear of
innovation, especially innovation that dates back
to 600 B.C. Nothing new about hydro organics.

Seems this uproar is just another
example of protectionism, of market share, and
not welcoming new sustainable organic farmers.
Thank you for your time. I really appreciate being able to present today.

MS. FAVRE: Thank you, Karen. We have a question from Emily Oakley on the Board.

Emily, go ahead.

MS. OAKLEY: Hi, Karen. Thank you for your presentation. You and several others have mentioned a low cost of entry into hydroponic production, particularly for beginning and young farmers, and I was wondering if you could give me an estimate for the cost of entry into production for a profitable production in the first year for a beginning farmer; what their capital outlay would be?

MS. ARCHIPLEY: Sure.

MS. OAKLEY: Thank you.

MS. ARCHIPLEY: So we work in partnership with Farm Service Agency who does a micro-loan of $50,000 for anyone that completes our course or that they do a certified borrower training, and I can tell you that with $50,000 you can setup a container in hydro organic
production and actually make money. You can actually pay that off and then be able to expand.

You can make it as small or as large as you choose. We have graduates that have done, with $12,000, setup sodder production, setup wheat grass production, and it's really amazing. I mean, it's very reachable. You can go large and you can go small, and that is the beauty of it. We're not saddled to having to buy a piece of property. We can be on a rooftop, we can be on a parking lot.

You can do container production, you can do the NOP production, you can do aeroponics, there's a lot of ways that you can setup a farm very reasonably.

MS. OAKLEY: Thank you.

MS. ARCHIPLEY: You're welcome. Thank you for your question.

MS. FAVRE: Any other questions for Karen? All right. Thank you for your comments, Karen.

MS. ARCHIPLEY: Thank you.
MS. FAVRE: Next up is Colin Archipley and we've got Julio Garcia on deck. Colin, are you with us? Colin, are you here? If you're speaking, we can't hear you.

MS. TUCKER: I've been communicating with Colin. He says he's on a headset, but I cannot -- oh, Karen says he's speaking, but we can't hear you. Can you unmute your computer? Your computer might be on mute. Try unmuting your computer; unmuting your speakers on your computer. We don't have him and I don't see him listed on the headset.

MS. FAVRE: Yes, Colin --

MS. TUCKER: Okay. Give him a second. He's going to a different computer.

MS. FAVRE: Okay. Just a moment.

Okay. Just while we've got the time --

MR. ARCHIPLEY: Can you hear me now?

MS. FAVRE: There you go. Here we are.

MR. ARCHIPLEY: Great. Let me get my notes real quick too. I just want to say, I'm a
proponent of container and bioponic production. You have listened to a lot of these arguments today, so I just want to pull a few things out with my time. For one, look at what the vast majority of soil growers do. They don't rely on an inert soil particle to grow a crop, in fact, most of them kill their soil in order to adjust the structure of their crop to begin with, and add organic matter, and add the components that are required to be successful in growing crops within that soil.

All we're doing is taking the same things that make them successful and doing it in a much more efficient manner. Furthermore, the doctor has become a rock star in the organic industry. Basically, gained her stardom by telling soil-based growers to use water as a media to grow a diverse level of biology that can enhance that biology in the soil as well, and add that compost heap, clean soil, just for our production in the basis of our fertility program.

In terms of questions from, I think,
the Chairwoman of the Board earlier about, how do we monitor biological activities in our systems? Well, it's simple, we just take samples directly from the root zone and put it under a scope, and we can observe everything from bacteria to protozoa.

When we clean the system, we pull out worms, we pull out frogs, et cetera, so our systems are equally as diverse as any good soil-based production system would be.

Furthermore, I understand that, for many of you, you may not understand the importance of this, but I just wanted to point out that the organic industry falls under agricultural marketing service. So the consumer needs to be put first, and I'm talking about marketing products, and surveys are done with consumers, and what are they concerned about? Sustainability, chemical-free, pesticide-free, et cetera. They're not concerned about container production with or without.

In fact, when we ask them about it,
like my wife said about our operation, they enjoy hearing about the enhanced sustainability of these types of systems. It also makes a big difference to underserved communities, particularly in a rural environment, or excuse me, urban environment, that are also food deserts and lack access to good foods.

Furthermore, if you remove container and bioponic production from the chain, from the supply chain, you reduce up to 40 percent of organic tomatoes. What is that going to do to the supply chain? What is that going to do to prices? Is that going to help the consumers of 3-plus billion more people that will be on the planet in 30 years? And how is that going to effect the overall sustainability and where organics stand when there's 10 billion-plus people on the planet?

Lastly, I just want to point out that we know that there's a lot that's been brought around this, and you guys are under a lot of pressure, I'd just like to point out, making a
right vote doesn't always seem like the popular vote. And don't only think about the consumer today, but think about the consumer tomorrow, think about the industry tomorrow, think about overall consumer demands. Thank you.

MS. FAVRE: Okay. We have a question from Harold Austin. Harold, go ahead.

MR. AUSTIN: Thank you, Tracy. My question, listening to your presentation and listening to your comments, you're talking about container production and bioponics all in the same breath. From the Crop Subcommittee we've got a proposal on bioponics.

We've got a discussion document moving forward on greenhouse and container growing, and I guess my question to you is, the information that we presented, both the proposal and the discussion document moving forward, do you feel as an organic stakeholder that we've afforded the stakeholders adequate time to thoroughly digest both of these documents or do you feel that we should pull it back and provide more time for the
stakeholders to really dig into the meat of both of these documents so that we can come forward with a good solid discussion?

MR. ARCHIPLEY: Well, based on the remarks I've heard from, various stakeholders, there's a lot of uneducation, I think, involved in this discussion, I don't think they even asked for time to make their cases there, so I think the discussion should be pulled back and addressed.

And if I could take one minute to touch on container and hydroponics or bioponics, the reason why those two together, you look at the processes that occur, they may look differently, but the processes that occur are equal and that's equal to the occurring soil production, so there is one broad category for overall container production because an NFT system compared to a Dutch bucket system, even though they may be using different media, the processes that occur are equal and are equal to what occurs in soil.
MR. AUSTIN: Thank you.


We appreciate it.

MR. ARCHIPLEY: Thank you.

MS. TUCKER: Tracy, let's do a quick process check. We're seeing some patterns here. For some reason, we don't appear to always be seeing who is on a headset. If you are on a headset, you should be able to unmute yourself when it is your turn. So if you're on a headset, you can unmute yourself when it's your turn. Do make sure that your computer speaker is on so that we can hear you.

If you are calling from a phone and you're going to be speaking, we really do need you to IM us, text us, in the chat button with your name and the number you're calling from, otherwise we can't find you to unmute you for when it's your turn to talk.

MS. FAVRE: Great. Thank you, Jenny.

Next up is Julio Garcia and then we've got James
Gratzek on deck. Julio, are you with us?

MS. TUCKER: We've been trying to chat with him. We don't have a number and we don't see him online, and he has not responded to any of our chats.

MS. FAVRE: Okay. There's an 805 number listed. Carmella, can you send that to the Chairperson, please via chat.

MS. TUCKER: We don't have anybody from -- oh, just a second, no, we do not have an 805 on the phone list. We jump from 760 to 814, so there's no 805.

MS. FAVRE: I actually see an 805, but it's a different 805 number.

MS. TUCKER: Well, try and unmute him. I don't know why I'm not seeing that phone number.

MS. FAVRE: Okay. I've just attempted to unmute. It doesn't look like it -- oh, wait. Okay. There we go. I just unmuted 805, Julio, if you're speaking, go ahead. Can you speak?

No. Doesn't look like we're going to be able to
hear you. Okay. All right. I'm sorry. We're going to have move on. Sorry, Julio. Next up is James Gratzek and then we've got Adam Schretenthaler on deck. James, are you with us?

James, if you're speaking, we can't hear you.

MS. TUCKER: We don't have a phone number for him. We did chat with him, but he has not responded.

MS. FAVRE: Okay. Last call for James Gratzek. Okay. Adam Schretenthaler. Adam, are you with us?

MR. SCHRETENTHALER: Can you hear me?

MS. FAVRE: Yes, we can. And hold on just a moment, Adam, before you proceed. After Adam we've got Cecille Madriz on deck. Adam, go ahead, please.

MR. SCHRETENTHALER: Thank you. My name is Adam Schretenthaler. I'm an independent product development consultant making comments on my own behalf and not on the behalf of any of my clients. I wanted to speak today to express my belief that carrageenan is an essential to both
dairy and non-dairy low-acid beverages.

I have over 12 years of experience developing and commercializing aseptic dairy and non-dairy beverages. In the past, some of the specific products that I have developed, commercialized, and/or made significant contributions to include Muscle Milk protein drinks, including the organic variety, Vital Cuisine and other products sold through the nutrition industry.

I feel very strongly that carrageenan is an essential component of these beverages. Carrageenan is unique in its ability to provide product stability. The other organic compliant material, including gellan gum and xanthan gum, do not independently or in conjunction provide the same or vastly similar functionalities as carrageenan.

While I will concede that the combination of these two gums, gellan and xanthan, can provide somewhat similar properties, these ingredients have crippling disadvantages.
that make them not suitable replacements for carrageenan. Xanthan and gellan gum, when used in these applications, do not have the same thixotropic properties as carrageenan, meaning they do not bend when shaping or sheared.

And gellan and xanthan also have less sensitivity to temperature and remain thick as temperatures increase. When gellan and xanthan gums are used at the levels necessary to provide adequate particle suspension for stability, the thermal processing viscosity parameters cannot always be met.

Basically, the lack of thixotropic properties of these gums make the product too thick when it goes through the thermal process to create turbulent flow, which is necessary to ensure sterility and product safety. When produce viscosity, and often times, the product is also slimy in texture and it doesn't provide the same benefits as carrageenan from a mouth feel or organoleptic standpoint.

These factors cause formulators often
to use lower rates of gellan and xanthan, and because of this, it's not uncommon to find gellan or xanthan products to require vigorous shaking or to have products that have, basically, the contents at the bottom that cannot be shaken back into solution as, certainly, the product gets later in shelf life.

Also, specific to the 95 percent organic certified products, the inclusion rate of carrageenan is very low in comparison to the gellan and xanthan, and that gives -- it makes it very difficult to create a 95 percent organic product using gellan and xanthan to meet that 5 percent threshold.

So in summary --

MS. FAVRE: Okay. Adam, I'm sorry, your timer has gone off. I know it's hard to hear, so we need you to wrap it up, please.

MR. SCHRETENTHALER: Okay. Thank you.

In summary, gellan and xanthan, collectively, do not meet the standard of wholly non-synthetic alternatives to carrageenan. Thank you for your
time and consideration of my comments.

MS. FAVRE: Okay. Do we have any questions for Adam? Okay. I'm not seeing any.

Thank you very much, Adam, we appreciate it.

MR. SCHRETENTHALER: Thank you.

MS. FAVRE: Next up is Cecille Madriz and I did -- Jenny, I think we just sent you a phone number for Cecille too?

MS. TUCKER: Yes, and she should be unmuted now, 831, just a second, yes, try talking, Cecille.

MS. ARSENAULT: We have two phone numbers for the 831 area code, and neither one of them is the one that Cecille provided.

MS. TUCKER: Yes, if there are any presenters, what we are realizing on our end as Chairperson here, is we know that there are more people on the phone than we can see, and so for some reason it is not showing all the numbers. So Board Members who have been promoted to presenter, if you're seeing a number come in, and you see that number, if you could go ahead and
unmute it for us.

The other alternative is, we could go ahead and try again to unmute everybody and see if we can do that again. I don't know why we're not seeing all the numbers, but clearly, not all the numbers are showing up on our list.

MS. FAVRE: Okay. I am seeing an 831 number for Cecille and it is showing unmuted, so, Cecille, if you'll try to go ahead --

MS. MADRIZ: Hello?

MS. FAVRE: Yes, we can hear you.

Please go ahead.

MS. MADRIZ: Okay. Hi. Well, my name is Cecille Madriz. I am the substrate manager of Fennel Farms. We are here in Aromas, California and we grow organic blueberries in substrate container production. I'm 25 years old. I'm a first generation farmer and I've been studying how to work in controlled environments for a while now.

And this is, honestly, the most conventional way for people my age to get into
farming organically. And basically, in the
course of a year, because we planted this day
last year, we have seen a lot of similarities
between substrate and soil, incredibly close
similarities, like, it's amazing what you can do
in a controlled environment to produce the same
environment as you would in soil.

But that's not to say that aquaponics
and hydroponics can't do the same thing either.
It's all microbiologically the same and it
produces, efficiently, what a plant needs without
creating as much waste, water, fertilizer, or any
kind of application.

We also rarely ever have to use any
sort of pesticide because our plants are
maintained at an adequate level so we don't have
an excess amount of nitrogen, which attracts a
lot of different types of pests, or anything else
in the soil which would increase the likelihood
of root pathogens.

So basically, I don't know, it's
essential to let people my age have an
opportunity to see how far we can get organically out of the soil, because honestly, soil commercially, organically, is not the same thing as a small farmer. A small farmer is a lot better at being organic than a commercial farmer of a large-scale, like, 300-acre plot farmer because there is nothing but inputs, and inputs, and inputs without maintaining the soil structure at the healthy level that a plant requires, requiring more inputs year after year.

And never cover cropping or rarely cover cropping is one of the biggest problems with commercial farmers is, they end up leaving their grounds to waste and although it's organic, it's not maintained or improved like they should be. So substrate is the answer of letting more ground become organic, allowing more people like myself to get into the business who contain the organic philosophy, like it has been shown to us, and not how someone else has perceived it.

And it's just -- oh, that's it?

MS. FAVRE: Yes, Cecille, that's the
end of your time. Thank you. Anybody have comments or questions for Cecille? Thank you, Cecille, it's nice to hear from young farmers. We appreciate you calling in.

MS. MADRIZ: Thank you.

MS. FAVRE: Next up is John Schoenecker. John, if you can hear us, and then we've got Dan Bensonoff on deck. John, can you hear us?

MR. SCHOENECKER: Yes, I can. Can you hear me?

MS. FAVRE: Yes, we can. Please go ahead.

MR. SCHOENECKER: Okay. Thank you for this opportunity to comment. My name is John Schoenecker and I've been working in the vegetable seed industry for over 29 years. I'm here because I'm passionate about the seed business and the value it brings to growers, consumers, and the environment.

I'm currently employed by HM Clause. We're a company that specializes in breeding
production and distribution of new and innovative vegetable varieties. In 2014, I served as the Chair of the American Seed Trade Association. I'm offering these comments as a private citizen.

I understand that the NOSB has identified topics of excluded methods and plant breeding innovations, or modern biotechnology, also at times called new breeding techniques, but a whole laundry list of new methodologies, as having implications for the organic community and note that your current draft proposal does not really fully capture the potential benefits and positive outcomes these new breeding technologies will provide.

Some of the goals of plant breeders are to develop new varieties that are improved for diseases resistance, reducing chemical usage, yield, adaptation to a wide range of climates, and improve fruit quality. Less improved sheet varieties will challenge producers sustainability with lower yields and higher input costs.

For consumers, inferior genetics
result in more expensive or lower quality produce. Please consider that these plant breeding innovations will have a significant and, I believe, positive impact on plant breeders in the wider agricultural communities ability to meet the need for environmentally sound and sustainable farming practices.

It's imperative that the positive use of these methods be accepted by society. While I understand your charge is organic food production, I ask and urge you to recognize that with the maturity of the NOP comes a broader responsibility to all forms of agricultural production. Improved plant varieties are really important to all sectors of all agriculture and especially organics.

Plant breeding improvements can provide built-in solutions that are more sustainable, environmentally friendly, and have a positive impact on organic and all forms of production. By excluding these methods, plant breeders will have fewer tools to produce
improved and beneficial varieties.

I believe that by excluding these methods you will exclude solutions for farmers. I urge you to please take the time to really carefully consider and understand all the implications your decision will have. Your rules will determine which modern breeding methods will be allowed to provide solutions for organic growers and it will have a significant impact on global societies ability to produce the best possible food for an ever-growing population.

Thank you for the time to comment and your attention.


MR. SCHOENECKER: Okay. Thank you.

Thanks, everybody.

MS. FAVRE: You're welcome. Next up is Dan Bensonoff and then we've got Margaret Scoles on deck. Dan, are you with us?
MR. BENSONOFF: Yes, I am. Can you hear me?

MS. FAVRE: Yes, we can. Please go ahead.

MR. BENSONOFF: Okay. Thank you for allowing me to speak today. My name is Dan Bensonoff and I'm the policy director for the Northeast Organic Farming Association in Massachusetts. While we do not dispute that hydroponics has a role to play in our food system, and that it can meet certain criteria of sustainable production, we believe that it does not fit into the definition of organic production under the OCPA, nor does it meet the standards under the NOP rule.

Well-known organic practices, such as crop rotation, green manures and cover crops, continual improvement of soil organic matter and fertility do not exist in any substantial way within a bioponic system. Such practices not only enhance soil biology, they also sequester carbon and enhance bio-diversity.
Moreover, the complexity and diversity of the soil food cannot be matched by a bioponic system. It is not enough to simply add some soil biology into a bioponic system. The entire soil food web includes both micro and macro fauna, including highly complex symbiotic relationships with fungi and bacteria that affect both plant health and nutrition.

Additionally, the ease and temptation to stray from organic materials is far greater in a controlled hydroponic or bioponic system than in a soil-based system. Detection of liquid-based conventional fertilizers and pesticides is much more challenging to detect in a bioponic system. It would take a highly-trained and experienced inspector to notice those substitutions.

In fact, several inspectors that I've corresponded with have said that bioponic systems are essentially uninspectable. We are not opposed to a sublabel of organic bioponics to give a competitive edge to bioponic growers who
use organic inputs. However, we do believe that consumers associate organic production with natural soil ecosystems.

Therefore, we urge the NOSB to uphold the 2010 NOSB recommendations at this fall meeting and fill in the necessary gaps for clear and well-defined rulemaking. Thank you very much.

MS. TUCKER: Tracy, are you there? We can't hear you if you're talking.

MS. FAVRE: Oh, yes, sorry, I had muted myself as instructed. Sorry about that, folks. Yes, thank you, Dan. Any questions for Dan? I'm not seeing any. All right. Thank you very much for your comments, Dan. Next up is Margaret Scoles and then we've got Curt Chittock, or Chittock, on deck. Margaret, are you with us? Margaret, if you're speaking, we can't hear you.

MS. TUCKER: Margaret was with us earlier on headset. I no longer see her name on the list. Does anybody else see her name on the headset list?
MS. FAVRE: I do not see her at the moment.

MS. TUCKER: Oh, she's going to call-in.

MS. FAVRE: Oh, wait. Yes, I do. I do see her there, Margaret, but it looks like it may be disconnected, you're not lit up in green, so maybe it's not currently active?

MS. TUCKER: Margaret, go ahead and say something on the headset. You should be able to speak even though it's not green. We should have a headset symbol, but she should be able to speak. I just don't see her. We had unmuted her before, told her to unmute herself.

MS. SCULES: Can I call-in?

MS. TUCKER: Hi. We hear you.

MS. FAVRE: Yes, we can hear you, Margaret. Go ahead.

MS. SCULES: Great. Thank you for this opportunity to comment. This is Margaret Scoles from the International Organic Inspectors Association, an international association of
MS. FAVRE: Margaret, let me interrupt you just for a minute. We can almost not hear you at all and there's also somebody, sort of, banging in the background, so, Margaret, if you could speak up a little bit or turn up your volume, that'd be appreciated.

MS. TUCKER: Yes, we also need everybody else to mute yourselves. We have been unmuting people as you've been giving public comment, but once you're done, you got to put yourself back on mute.

MS. SCOLES: How about now?

MS. TUCKER: Much better.

MS. FAVRE: Much better. Thank you.

MS. SCOLES: I actually didn't release about the microphone. This is Margaret Scoles. I'm the Executive Director of the International Organic Inspectors Association. We train organic inspectors globally and we provide membership support for inspectors. I'm commenting on the discussion document on personnel performance.
evaluation of inspectors.

And I wanted to speak to two things, one is the value of inspector field evaluations and to, two, that promote the idea that there are other alternatives that are viable to annual inspection of inspectors, or annual evaluation of inspectors.

We agree with the certifier instruction 2027 that the NOP published in 2013, that says that inspectors cannot be evaluated just on the basis of the reports and client feedback. That's paraphrasing pretty broadly, but we do agree that field evaluation is an essential part of evaluating inspectors.

Inspectors work solo and we think that more field evaluations are a good thing. Our pilot field evaluation program last year showed that over half of the inspectors evaluated felt that they learned something about how to do a better job on inspections and more than 1/4 said that they learned something about the NOP regulations.
So we are in favor of evaluations, but we do think and are working hard to make the IOA inspector accreditation more robust, to make it be an alternative to annual evaluations, and we would like to see the NOSB's 2001 documents on inspector qualifications be looked at again because in that document the NOSB suggested that IOA accreditation could be one way to establish qualifications for inspection.

Our program includes work life experience, commitment to organics, education, inspection experience, continuing ed, and also very essential, an evaluation from all the certifiers they'd worked for in the last three years.

The only thing that was missing, and we're working to change, is that there were not witness audits or field evaluations, so our program will include an evaluation every three years or every five years for very experienced inspectors. And we think this would be adequate oversight and it could be a more affordable
alternative and we would like to see the NOSB 
resurrect that in anything that you do. 

And that's what I'd like to say. 

Thanks very much.

MS. FAVRE: Thank you, Margaret.

Anybody have questions for Margaret? Okay. I 
don't see any. Thank you very much Margaret.

MS. SCOLES: Thank you.

MS. FAVRE: All right. Next up is 
Curt Chittock and it says that you are unmuted, 
Curt, so hold on just a minute, and next up is 
Guillermo Martinez on deck. So, Curt, are you 
with us?

MR. CHITTOCK: Yes, this is Curt.

MS. FAVRE: Okay. We can hear you. 
Please go ahead. Thank you.

MR. CHITTOCK: Great. Thank you for 
the opportunity to speak to day. My name is Curt 
Chittock. I'm a second generation seed dealer in 
Northern California and I've been involved in 
providing grain for livestock, commonly referred 
to as fodder. My company uses soil technology to
sprout virile grains in a six-day process. Because we only use water in a growing medium, livestock can consume the entire sprout, roots and all.

I understand that sprouts are produced for a short time using only water and getting their energy and nutrition from the seed, that sprouts could be considered as a processing step in the organic seed. I would request that there be a clearly stated guideline regarding sprouts that are produced in this way, with only water for a short period, that it can be considered organic when organic grains or seeds are used, and this will help bring clarity for the producers that are currently using this technology in their organic feeding programs.

In regards to hydroponic, aeroponic, and aquaponics, I believe that they have merit being labeled organic and that no pesticides, herbicides, or GMOs are used. It is a sustainable and an environmentally-friendly method to produce a clean food source, especially
in inner cities where lack of available land is present.

But I also believe that a label stating the method of farming should be used to inform the consumer of such. I appreciate your time and thank you.

MS. FAVRE: Okay. Thank you very much, Curt. Do we have questions for Curt?

Okay. Thank you very much, Curt. Next up is Guillermo Martinez and we've got Phaedra LaRocca on deck. Guillermo, are you with us?

MR. MARTINEZ: Yes. Can you hear me?

MS. FAVRE: Yes, we can. Please go ahead.

MR. MARTINEZ: Thank you very much for the opportunity for sending our comments to the NOSB. Basically, we are actually organic growers of vegetables, mainly tomatoes. For site-specific conditions, container growing is a lot more sustainable for the environment than growing it on soil.

Water is a precious resource where our
farms are located. Using container for growing assures us that we use the water efficiently. In fact, containers are a lot more efficient than traditional irrigation methods on soil. We nurture each plant with the right amount of water so there is no waste.

We recycle all the drainage of the containers to use it again in our crops, that reduces the water consumption, of course. We use a rich soil in our containers where we combine certified organic natural materials that help us achieve better yields and reduce the use.

The materials that we use are certified organic compost from different sources of residues with high nutrients plus microorganism that create an active biology in the soil. At the end of our cycles, we use those materials from our containers to incorporate into other fields, such as corns and soybeans, around the area.

That means that the active soil biology, but improve the fertility of the fields.
So using container growing methods not only just help in maintaining the richness and naturalness of the soil where the crop has been cultivated, but also in maintaining the richness and naturalness of other fields as part of our process of continually recycling materials and nutrients. This is sustainable.

Using containers and greenhouse growing methods helps us to achieve better yields per acre. Actually, we have more supply for the growing demand for organic products. This is the basic principle of less is more, we produce more in less acreage.

We believe it is the obligation of organic producer to strive to make organic produce affordable for American families. If existing organic growing methods are restricted, yields will go down, price will go up, and many of our existing consumer will no longer be able to consume organic produce.

That's basically it and thank you very much for the opportunity again.
MS. FAVRE: Thank you, Guillermo. Do we have any questions for Guillermo? I don't see any. Thank you very much. Okay. Next up is Phaedra LaRocca and on deck is Phil LaRocca. Phaedra, are you with us?

MS. LAROCCA: Yes. I'm here. Can you hear me?

MS. FAVRE: Yes, we can. Please go ahead.

MS. LAROCCA: Excellent. Well, good afternoon and thank you all for allowing the phone call. This is a wonderful addition and use of technology. My name is Phaedra LaRocca Morrill. I'm with LaRocca Vineyards and we are an organic winery and vineyard. And as a certified organic wine producer I would like to support the continued use of peracetic acid used for sanitation of our tanks and parts.

I would like to support the continued use of tartaric acid, which is a natural acid adjustment for our wines only when needed, and I would like to support the continued use of copper.
sulfate, used for very little, but for frost
protection and to protect black rot in the
vineyards.

And as an organic consumer, mother,
and quality food purchaser, I would like to speak
in favor of organic hydroponic growing practices.
While shopping for quality clean food, I always
purchase organic first, looking for the USDA
seal, and I would no doubt purchase an organic
hydroponically-grown item versus a conventional
choice.

As I understand it, this is an
excellent opportunity for young farmers to
continue growing organically without having the
mass amount of funds needed to purchase land.
Also, from what I've read, hydroponic farming
actually uses less water and can be, if
organically done, an environmentally-friendly way
to grow.

I think it is fair to say that organic
growing is a -- excuse me, it's fair to say that
hydroponic growing is a current form of
agriculture around the world, so why wouldn't we make it the best it can be and allow these growers to become certified organic?

I encourage the board to certify organic hydroponic crops for consumers to choose from and enjoy. I think the label should read certified organic hydroponically grown, then the consumer has the ability to choose what they want to purchase. Thank you.

MS. FAVRE: Okay. Thank you for your comments, Phaedra. Harold has a question for you. Harold, go ahead.

MR. AUSTIN: Thank you, Tracy. Phaedra, kind of a two-part question. One, with the use of the peracetic acid in your production process, have you looked at other disinfectants and sanitizers, and, you know, why have you gone with a peracetic over those, if you have, and secondly, coming into play, does that take and make increased a need for proper sanitation and disinfection in your facility and your process?

MS. LAROCCA: Okay. Sorry. Peracetic
acid, yes, we have used other things in the past, however, peracetic acid, from what we've come to understand, it actually, eventually, evaporates, so it keeps the sanitation of your item clear and free of the potential hazards of getting soiled, however, afterwards, if it's left out, it will evaporate.

And we do work with, like, a company locally that helps us with sanitation and peracetic acid in the wine industry has been the best. It can't affect the wine product or anything.

And also, following my comments is Phil LaRocca, my father, who works with us, and he has a little bit more knowledge on the peracetic acid and long-term organic wine production, so if I could derail that question to him, that'd be awesome.

MR. AUSTIN: Perfect. Thank you.

MS. LAROCCA: Okay. Do you want me to pass it to him right now because he's next in line?
MS. FAVRE: No, let's wait, please.

All right. Anymore questions for Phaedra? Okay. I don't see any, so thank you, Phaedra. Next up is Phil LaRocca and just before you start, Phil, I just want to give everybody a heads up that it's, by my clock, 2:58, which is two minutes prior to our scheduled deadline.

We do have, though, about, maybe, 12 other people that we're going to go ahead and continue with, but for those of you that have other obligations, please know that we are coming up on the 3 o'clock hour, so we will go ahead and continue and try to get to everybody if we can.

Okay. Next up is Phil LaRocca and then we've got Martin Gramckow on deck.

MS. LAROCCA: Hi. This is Phil LaRocca. I'm the owner and winemaker of LaRocca Vineyards. I'm also the Chairman of the Board of Directors for California Certified Organic Farmers, CCOF. My first comments will be as an organic citizen and my final comment will be as representing CCOF's Board of Directors.
I really like to attend the NOSB meetings in person, but because of scheduling I can't make it, so I really want to thank you for giving us this opportunity to do this on the phone. As my daughter said, and I'll give a little information on the peracetic acid, I've been around a long time, 42 years as an organic farmer, 32 years in the wine business.

Prior to this, for example, CCOF, we had our own in-house security holding review, and at that time, we were using iodine as a sanitizer, and through our materials review in the past, we've recommended that we switch to peracetic acid, and then the company that we used began spreading this throughout the whole wine industry, and the beer industry pretty much uses it.

So that's how we do it. It's kind of an extra protection be we steam a lot of things. We use tartaric acid when needed for adjustment, and as my daughter said, copper sulfate, we use sparingly, using mostly as a frost protectant.
I also want to speak in favor of hydroponic organics, but I'm in favor it's labeled as certified organic hydroponics so you would allow the consumer to make a decision on what he or she wants to purchase.

Whether it was a mistake or not, the fact is that most certifiers have been certifying hydroponic operations for a while. I believe we have someone 12 years in the certification and I know we have quite a few between the five and ten-year range, and in an era where the small farmer is becoming extinct, to actually get rid of these growers would be a shame.

It would be a shame to have somebody that's made their living all these years under an organic certification label, or hydroponics, to have the rug pulled out from under them. I would see that as a crime, quite frankly.

Now, to speed it up, I'm switching hats and this is mostly directed to the NOP, but have the Board share this. In California, we're the only state that has to pay a state
registration fee. CCOF, we put together a bill, 18-6, which we got passed, signed by the governor, which was good, it was a compromise, but we removed duplicative paperwork, for example, we're the only state that had to fill out paperwork for the state and for the NOP, so we got rid of that.

We also got some fees lowered for growers under $250,000, and some of the money which they have stockpiled to go to organic research. However, the majority of our growers are still having to pay a pretty large fee, which I look at as a California organic tax.

And I'm bringing this up to the board because, as the state with the largest amount of certified farms, and I believe we are 65 percent or organic income coming in, we don't get any money from the NOP because everybody says the state's covering it. And as long as we get that attitude, organic farmers in the State of California will continue to be taxed.

MS. FAVRE: Okay. Phil?
MR. LAROCCA: Thank you.

MS. FAVRE: Thank you very much.

We've run over time a little bit, so thank you for wrapping it up. Any questions for Phil?

Okay. I don't see any. Thank you very much, Phil. We appreciate your comments.

MR. LAROCCA: Thank you.

MS. FAVRE: Next up is Martin Gramckow and we've got Kristen Adams on deck. Martin are you with us?

MR. GRAMCKOW: I'm here. Can you hear me?

MS. FAVRE: Yes, we can. Thank you.

Please go ahead.

MR. GRAMCKOW: Very good. Thank you. Honorable members of the NOSB, I want to thank you for the opportunity to comment. Together with my brother, I own and operate Southland Sod Farms in Southern California. The company was founded over 40 years ago and we are proud to be a founding family of the turf industry in the state.
Drawing on our own patented growing processes, however, we became one of the early innovators of organic container berry production. We grow our berries both in the field and in containers, with virtually identical input. The only differences are location of the fields and the growing media, soil versus substrate in a container. Same inputs, same biology, less water, less fertilizer, more sustainable.

I'm troubled by the recent recommendation of the Crop Subcommittee to disallow bioponic systems. I am particularly concerned with the current lack of discussion and lack of justification for de-certification. The USDA has supported new bioponic growers through cost-sharing program for certification, as well as startup capital through the Farm Services Agency.

The Obama Administration even recognized a bioponic grower as a champion of change. Yet, the Crop Subcommittee voted to de-certify these growers with virtually no
discussion on the topic. These producers, many
of them small growers, no face the real potential
that they will not have a business after the fall
meeting.

I encourage the NOSB not to carve out
liquid-based bioponic systems from the discussion
and to vote yes on the motion. If not, then I
encourage the NOSB to send a recommendation back
to subcommittee to validate the legitimacy of any
decision, a recommendation to de-certify should
at least include a thorough explanation as to why
bioponic systems are inconsistent with the
applicable organic certification program.

And it should include an exit plan for
the many small growers whose livelihood will be
taken away. The essence of organic is embodied
in the USDA regulation which states, a production
system that is managed in accordance with the act
and regulations as part to respond to site-
specific conditions by integrating cultural,
biological, and mechanical practices that foster
cycling of resources, promote ecological balance,
and conserve bio-diversity.

Our innovative systems do all of those things and should be embraced. Additional regulation is unnecessary unless it can be shown that these systems do not meet the guiding principles. Consumers should have an option.

NOSB members highest responsibility is to consumers who purchase products under the organic label.

Consumers want organics and are not concerned with the soil bioponic controversy. In fact, I am familiar with one grower that increased their sales by labeling their product as hydro organic. There are some growers who have told me there is a magic in the soil that cannot be duplicated, that is an article of faith, not science.

I urge the members of the NOSB to keep organics relevant and to stay innovative. Thank you.

MS. FAVRE: Thank you, Martin. Do we have any questions for Martin? Okay. I'm not
seeing any. Thank you very much for your comments, Martin.

MR. GRAMCKOW: Very good.

MS. FAVRE: Next up is Kristen Adams and we've got Beth Jones on deck. Kristen, are you with us?

MS. ADAMS: I am. Can you hear me?

MS. FAVRE: Yes, we can. Please go ahead.

MS. ADAMS: Great. Thank you for the opportunity to provide this verbal comment and also, I did submit written comments on the aquaponic and hydroponic task force report and the Crop Subcommittee proposal on hydroponics, aquaponics, bioponics.

Here at MOSA we support the continued expansion of the organic industry into new systems that are sustainable and in line with organic principles. The standards are rooted in improving and in maintaining our whole environment.

The backbone of organic production is
about complex natural interactions and symbiotic relationships. And while we have traditionally focused on soil ecology, we recognize that life and all of its diversity exists in a continuum of living conditions, not just those reliant on soil.

And organic producers role is to nurture and steward the complex interactions found in nature, to foster cycling of resources, to promote ecological balance, and conserve biodiversity. Soil is a part, but holistic thinking is really the heart.

We believe that organic principles hold solutions to our current challenges, climate change, food safety concerns, food deserts, extreme weather, and diminishing natural resources, and the organic community is being called on to adapt and to be ever-cultural innovators.

We've witness this communities' ability to be outside-of-the-box thinkers as we've considered yeasts and mushrooms,
aquaculture and agriculture, and perhaps we are no experiencing, as we did during the rise of the traditional organic movement, the rediscovery of a valid and valuable agricultural production system that was lost during the recently historical access to synthetic agricultural inputs.

We recognize that bioponic systems could contribute to the growth of the organic industry while still addressing current concerns. And so as we consider the four production systems that are addressed in this task force report, we agree that sterile, inert hydroponic systems do not align with OCPA and the USDA organic regulations.

But we do see areas of alignment in bioponic and aquaponic production systems. In order to continue this discussion, a standardized set of definitions must be carefully considered. Establishing regulations is a reasonable and expected path and we think that this proposal prematurely arrives at a closed door for
innovation in the organic production opportunities.

MOSA supports the motion to allow bioponics as consistent with organic production under the provisions and recommendations to be developed by the NOSB in 2017. We also support the growth of the organic industry and encourage standards or guidance developments in all areas where production systems do not entirely align with current standards. Thank you.

MS. FAVRE: Thank you, Kristen. Any questions for Kristen? Okay. Thank you very much. Next up was Beth Jones, but she had to drop off and so next up on top of that Emily Posner, Posner, and then on deck after Emily will be Joan Norman. Emily, I unmuted you, are you able to -- why don't you say something. We'll see if we can hear you.

MS. POSNER: I'm here.

MS. FAVRE: Good. We can hear you. Please go ahead.

MS. POSNER: You can hear me?
MS. FAVRE: Yes, we can. Thanks.

MS. POSNER: Okay. Excuse me. Hi.

This is Emily Posner and I'm calling in on behalf of Recirculating Farms Coalition. I am the organization's policy and legislative director. I also wanted to thank the NOSB for including this call-in option for comments as this presents an efficient and ecologically efficient way to participate in the democratic process, so thank you and we hope you continue to do that.

I'd like to reiterate in support of many of the comments I've already heard today about the support of adopting the hydroponic and aquaponic organic label as well. In particular, I also wanted to comment about the aquaponic task force report that was submitted from the task force committee.

Recirculating Farms Coalition is very concerned about this particular report and we find it problematic for a couple of reasons. First, the report's first page presents three items in the table of contents. One was the 2010
NOSB recommendation subcommittee report, the second was the Hydroponic and Aquaponic Subcommittee report, and the third was an Alternative Labeling Subcommittee report.

We're concerned that this report doesn't have any type of introduction or presentation as to why the task force decided to break up into these particular subcommittees, which on their face, do not seem to be in line with what the task force's identified objectives were.

Most glaringly, it is entirely unclear why there was even a 2010 recommendation subcommittee on the task force, however, in the subcommittee's report, they self-described itself as accepting the task of providing clarification for their support for the position taken in the 2010 NOSB recommendation on the production standards for terrestrial plants in containers and enclosures.

However, it is unclear from whom. It seems wholly outside of the initial that was
assigned to the task force in the first place.

RFC does not contend that the 2010 NOSB recommendations to the NOP should have been discussed by the task force as to why aquaponic/hydroponic operations align with U.S. law and regulations, but the six-year-old recommendations are just that, they are recommendations, and the NOSB recommendations have no course of law without final approval and implementation of the USDA.

And since NOP and the USDA have not adopted these recommendations, it does not seem logical or efficient to devote so many pages, 100 in all, of this report to a document that is not about law or regulations, 2010 recommendation subcommittee, this would seem to inappropriately claimed authority could be the final word on whether hydroponic or aquaponic farms do not align with the 2010 recommendations.

They have no actual authority to do this, as the entire task force was to evaluate six, among many other things, for the report.
Talk about creating a report on that particular aspect of the issue at hand was -- seems both wasteful of time and effort and in the end was very misleading to the public, the NOSB, and the USDA.

This section of the report should not be given anymore priority or authority when submitted by the task force. They should be viewed skeptically by the NOSB, given that is surrounding in its creation.

RFC is also troubled that the task force included --

MS. FAVRE: Emily, I'm sorry to interrupt, but we've run out of your time. I apologize for interrupting you.

MS. POSNER: That's okay. I had a hard time hearing the beep in the first place.

MS. FAVRE: Yes. It's hard to hear and it's particular hard when you're talking too. It's really hard. Any questions for Emily?

Okay. I'm not seeing any questions. Thank you very much, Emily. We appreciate it.
MS. POSNER: Thank you.

MS. FAVRE: Next up is Joan Norman and we've got Patty Lovera on deck. Joan, are you with us?

MS. TUCKER: Did any Board Member -- was anyone able to see her? We can't see Joan or the number she's calling from on our list. Was anyone able to see her on the list?

MS. FAVRE: I do not see any 410 number at all, Jenny.

MS. TUCKER: Okay. And you don't see her name on a headset.

MS. FAVRE: Let me see. No, I don't see her. It doesn't look as though she's here. Okay. Last call for Joan. Okay. Patty Lovera, you're up next, and then we've got Drew Norman on deck. Patty, are you with us?

MS. TUCKER: Let me unmute Patty. Patty, we've just unmuted you. You should be able to speak now. Go ahead.

MS. LOVERA: Okay. Hi. Can you hear me?
MS. TUCKER: Yes.

MS. FAVRE: Yes, we can. Thank you.

Go ahead.

MS. LOVERA: Hi. My name is Patty Lovera. I'm with Food & Water Watch and I appreciate the opportunity to comment on the webinar this afternoon and Food & Water Watch is also a member of the National Organic Coalition, so I'm just going to hit a couple of topics very, very quickly all at once.

So on the excluded methods, we urge the Board to adopt all three sections, and was mentioned earlier, there's a couple of specific items on the to be determined list that we think should move to the excluded list, including transposon, cisgenesis, intragenesis, agroinfiltration, and I also would support the concern that Jaydee from Center for Food Safety raised earlier about embryo transfer.

And I would also, I know several people said this, but it's really very clear in our work, in light of the legislation this
summer, consumers are looking for information through labels about where GMOs are and are not, and it really raises the stakes on organic being as current as we can be on what a GMO is so we can give the best most solid answer that if you don't want GMOs, organics is a place where you can achieve that.

Quickly, on hydroponics, I know this is a long discussion, I would just say that, you know, we spent a lot of time thinking about this and talking to people, and really can't escape, kind of, the roots and philosophy of organic in the role of systems and the role that soil plays in the system, so we think that it's not appropriate at this time to put the bioponic systems under the organic label.

And I think that the comments heard from Massachusetts did a good job outlining the many reasons why. And then last, I just want to read a couple of, kind of, we think, emerging issues for organic that we think the Board should be thinking about. One is, similarly, with this
system approach, you know, the role of clean
water and clean land in producing good food and
the threat that goes to that by oil and gas
extraction.

So I know that OCPA and National
Organic Coalition have mentioned in their
comments the need and the role that developing
agricultural impact mitigation plans could play
and we would certainly support that. We would
also just really urge the NOSB, as you have an
ongoing conversation about inputs, preventing
contamination of inputs, to think about water as
an input. We're already having this conversation
because of oil waste water has ended up in some
parts of the irrigation systems in California.

This is a conversation that is
happening and we're getting these questions from
consumers and I think it's time for organics to
be talking more explicitly about this. And then
finally, the last emerging issue that I'll raise,
as much for the program as for the Board is, you
know, an ongoing discussion that needs to be
happening about the role of imported organic grains.

These are very long, complicated supply chains and we worry about the opportunity for mishandling, commingling, or outright fraud in those kind of supply chains and we think that the program, in particular, needs to spend more attention on it, whether it's a certification question, you know, a research question, what data do we have about what's coming in, we think there's a bigger discussion to be had here to make sure that we have organic integrity in the viability for domestic producers isn't hurt.

Thanks.

MS. TUCKER: Tracy, I think you might be on mute.

MS. FAVRE: Oh, yes. I'm just chatting away over here. Yes, Patty, I'm congratulating you on your good timing and then I didn't follow my own instructions and unmute, so thank you very much. Any questions for Patty?

Okay. Thank you, Patty. Next up is Drew Norman
and we've got Dennis Nuxoll on deck. Drew, are you with us? Drew Norman.

MS. TUCKER: Tried to locate Drew and we don't see him online either.

MS. FAVRE: Okay. One last call for Drew Norman. Okay. Sorry, Drew. If you're on here, we're going to have to move on. Next up is Dennis Nuxoll and then we've got Charles Mulamata on deck.

MR. NUXOLL: Good evening. I know that I'm in-between you and happy hour, so I'm going to move along. My name is Dennis Nuxoll. I'm the Vice President of Federal Affairs for Western Growers. On the screen you should have a slide that introduces you to Western Growers. I will try to cover three topics. For the longer written comments, we submitted to the Board earlier, so seed guidance, excluded methods, and timed research.

Seed guidance. We believe several of the methods of encouragement cited in the discussion document intended to increase the use
of organic seed are productive and we support them. However, there are several proposals that would drastically alter the landscape and do so without regard to the facts on the ground or market conditions.

Let me walk through a couple of examples where we have these concerns. First, the Board should be weary of limitations on or the elimination of the three sources rule. From our perspective, the underlying issue with organic seeds is availability, as the state of organic seed report acknowledges. If organic seeds are not available in sufficient quantity, then they aren't simply available for use.

Limiting the number of seasons the producer has before non-organic seed is disallowed or forcing producers to spend more time engaging with more than three sources does not solve that fundamental problem. All these types of proposal will result in is the loss of production of organic produce, an outcome no one within the organic community, nor at the Board,
should support.

Further, the Board should be weary of other proposals that would propose drastic action to close loopholes. For example, producers grow different varieties to meet a number of on-farm and marketplace objectives, such as disease and pest resistance, seasonal and climatic variations, forcing a change or organic seed may not take into account these on-farm issues.

Second, in instances in which seed variety are dictated in a buyer's contract, forcing the immediate use of an organic seed variety could eliminate sales and potential reduce organic produce available in stores. Why is that?

Buyers often like varieties of product based on the look, the shape, the color, the shelf life, the taste of a product, forcing producers to switch varieties and the getting the buyer to accept this switch is not a simple process. Gaining a buyer's acceptance of a new variety can take many years.
These, among other factors, suggest the need for continued incremental rather than drastic change in the space, we urge the Board to keep that in mind as they work on these strengthening seed purity.

Excluded methods, Western Growers agrees that terminology surrounding excluded materials needs to be updated. In doing so, we strongly believe the Board should adhere to this basic principle. If the advancement could have been done using traditional breeding, then that advancement, even if done using advanced genetic techniques, should be allowed.

Here's a hypothetical, with our knowledge of the genome of a tomato, we could identify which tomato gene enhance the water use. In turn, we could identify genes from a wild tomato variety that use less water and insert them into commercial organic tomato plants in order to improve water use efficiency.

While this type of cross-breeding between otherwise compatible plants could be
accomplished using existing breeding techniques, doing so would take many years and it's very expensive. Securing research investment to create new seed varieties for small acreage crops like those found in the produce sector is difficult. Modern genetic technology has the potential to reduce development of cost and shorten the time it takes to bring an organic seed to market.

If we can use technology accelerate that work, what would otherwise have been done through normal breeding, then the Board must allow that technology as you consider the excluded method.

Research priority. One of the earlier speakers talked about the need for research into animal compost. We heartily concur. Not only do we need to do work on the food safety aspects of animal compost, but we also need to ensure that organic producers have the best management practices in place to ensure that we are not contributing to nitrogen runoff problems in the
environment. Those are research priorities that need to be added. Thank you for your time. Any questions? I'm happy to answer.

MS. FAVRE: Thank you, Dennis. Any questions for Dennis? I don't see any. Thank you very much, Dennis. Next up is Charles Mulamata and on deck with the last current listing is Gilbert Calhoun. Charles, are you with us?

MS. TUCKER: We didn't see him on the list so we don't have his phone number. Does anybody see his phone number in the Board? It's a 256 number?

MS. FAVRE: No, I do not see a 256 number.

MS. TUCKER: Okay. So there's no 256 number and I don't see him as a headset person, so last call.

MS. FAVRE: Last call for Charles Mulamata. Okay. Next up is Gilbert Calhoun. Gilbert, are you with us?

MS. TUCKER: It's the same deal, we
don't see him on our list. Do any Board Members see a 661 number?

MS. FAVRE: No. I do not see a 661 number and I don't see him on alphabetical listing for headsets either.

MS. TUCKER: Okay.

MS. FAVRE: Okay. Now, I know there were a couple people. We've run over and run long. I'm sorry we weren't able to circle back around and accommodate people that missed their times lot. I know that this is a relatively new process for us with webinars, but they are becoming increasingly popular, and as a result, we had an extraordinary number of people calling in today, and so I appreciate, in the future, we'll all have our process down and be able to have everybody show up on time and be available.

With that, I will wrap it up here today. We do want to tell you how much we appreciate those of you that have called in today to share your thoughts. We understand that it's onerous sometimes to get to the meeting and we
want to tell you how much we value and appreciate
you participating in this process. It's vital to
our decision making and we appreciate that you've
taken the time to be here today.

Any comments from any of the Board
Members before I wrap it up and close it down?

MR. AUSTIN: Thank you.

MS. FAVRE: Okay. Thank you,
everybody. We appreciate it. Thank you for
participating. Everybody have a great afternoon.

Take care.

MS. TUCKER: Thank you. We are now
going to terminate the call on the NOP side.
Thanks to everybody for attending. Tracy, thank
you. That was masterful moderating. Excellent
job.

MR. AUSTIN: See you in St. Louis,
everybody.

(Whereupon, the meeting in the above-
entitled matter was concluded at 4:26 p.m.)
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CERTIFICATE

This is to certify that the foregoing transcript

In the matter of: National Organic Standards Board

Before: USDA

Date: 11-03-16

Place: teleconference

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neil R. Gross
Court Reporter
UNITED STATES DEPARTMENT OF AGRICULTURE

NATIONAL ORGANIC STANDARDS BOARD

FALL 2016 MEETING

WEDNESDAY
NOVEMBER 16, 2016

The Board met in the Chase Park Plaza, 212-232 Kingshighway Boulevard, St. Louis, Missouri, at 8:30 a.m., Tracy Favre, Chair, presiding.

PRESENT

TRACY FAVRE, Chair
TOM CHAPMAN, Vice Chair
HAROLD AUSTIN
CARMELA BECK
HARRIET BEHAR
JESSE BUIE
LISA DE LIMA
EMILY OAKLEY
SCOTT RICE
JEAN RICHARDSON
DAN SEITZ
ZEA SONNABEND
ASHLEY SWAFFAR
FRANCIS THICKE
ALSO PRESENT

MILES McEVOY, Designated Federal Officer, Deputy Administrator, National Organic Program
MICHELLE ARSENAULT, Advisory Board Specialist, National Organic Program
LISA BRINES, Ph.D., National List Manager, National Organic Program
SAM JONES, Public Affairs Office, Agricultural Marketing Service
PAUL LEWIS, Ph.D., Director, Standards Division, National Organic Program, USDA
BRUCE SUMMERS, Associate Deputy Administrator, Agricultural Marketing Service
JESSICA WALDEN, Materials Specialist, National Organic Program
C-O-N-T-E-N-T-S

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MR. McEVOY: Good morning. Good morning, everyone. Good morning. We're going to get started. Hello and good morning. I'm Miles McEvoy. I'm the Deputy Administrator of the National Organic Program, part of the USDA's agricultural marketing service.

I'm also the designated federal office for the National Organic Standards Board which is a federal advisory committee. Welcome to St. Louis and Missouri. This is the first NOSB meeting that has been held in Missouri as far as the records that I have seen. Missouri is home to over 400 certified organic farms and handlers producing a wide variety of organic products. It's really great to be here.

The next few days will be full of great comments from a variety of people. I look forward to hearing the diversity of perspectives and the great discussions. We look forward to receiving the NOSB recommendations that come out of this
With that, I open the fall 2016 National Organics Standards Board Meeting. I'll now turn it over to Tracy Favre, the Chair of the Board.

CHAIR FAVRE: Good morning, everyone. I hope everyone is well rested and ready to tackle the issues this morning. First thing we're going to do is a brief introduction with the board members and we are going to start with Francis Thicke down at the end.

MR. THICKE: I'm Francis Thicke. I'm an environmentalist, I'm in the environmental seat and I'm also a soil scientist and an organic farmer, crop and dairy farmer from Iowa.

MS. OAKLEY: Emily Oakley and I have Three Springs Farm in Oklahoma and I sit in one of the farmer seats.

MR. RICE: Scott Rice. I'm with the Washington State Department of Ag. Organic Program and I sit in the certifier seat.

MS. SONNABEND: Zea Sonnabend, Watsonville, California. I sit in the scientist
seat. I'm also the owner of Fruitilicious Farm and work part-time for CCOF.

MS. BEHAR: I'm Harriet Behar. I'm with the Midwest Organic Sustainable Education Service, otherwise known as MOSES. I'm a certified organic farmer and I'm in the environmentalist seat and I'm from Wisconsin.

DR. RICHARDSON: Jean Richardson in one of the consumer seats. I'm professor emerita, environmental studies and environmental law, University of Vermont, and an organic inspector for the last 16 years.

MR. SEITZ: Good morning. My name is Dan Seitz. I fill one of the consumer member seats. I'm also the Executive Director for the Council on Naturopathic Medical Education and the board member of a food co-op and I live in Great Barrington, Massachusetts.

VICE CHAIR CHAPMAN: Good morning. Tom Chapman from Clif Bar and Company based in Emeryville, California. I sit in the handling seat.
MS. DE LIMA: Lisa De Lima. I sit in the retailers seat. I'm Vice President of MOM's Organic Market.

MS. SWAFFAR: Ashley Swaffar. I sit in the producer seat of a small certified organic vegetable farm in Fayetteville, Arkansas. I also am an independent organic and animal welfare inspector.

MS. BECK: Good morning. My name is Carmela Beck. I'm the organic program manager at Driscoll's based out of Watsonville, California. I sit in the producer seat.

MR. BUIE: Good morning. Jesse Buie. I'm President of Ole Brook Organics in Brookhaven, Mississippi. I sit in the -- I'm a farmer and I sit in the organic producer slot.

MR. AUSTIN: Good morning. Harold Austin. I'm the Director of Orchard Administration for Zirkle Fruit Company located in Selah, Washington, a fourth generation organic apple, pear, cherry, blueberry, and wine grape producer, packer, and shipper. I sit in one of the
two handler positions.

    MS. WALDEN: Good morning. I'm Jessica Walden. I'm with the National Organic Program.

    MS. ARSENAULT: Michelle Arsenault, Advisory Committee Specialist. Good morning.

    DR. LEWIS: Good morning. I'm Paul Lewis, Director, Standards Division, National Organic Program.

    DR. BRINES: Good morning. I'm Lisa Brines. I'm the Nationalist Manager for the National Organic Program.

    CHAIR FAVRE: I'm Tracy Favre. I'm from Granbury, Texas where I have a small farm with my husband. I'm the Director of QAI and I sit in one of the environmental seats. With that we are going to turn it over to our board secretary Lisa de Lima for the acceptance and meeting.

    Oh, yes. I'm sorry. I even made a note about it, Michelle. We do have one member that's not here with us today, A-Dae Briones. She's had a personal family emergency and was not
able to attend today. We all wish her and her family the best.

With that I will turn it over to Lisa de Lima for the secretary's report.

MS. DE LIMA: Thank you. At this time I would like to ask the members of the board if they have any changes or corrections to the posted April 2016 meeting summary. Seeing none, we'll accept those, Madam Chair.

CHAIR FAVRE: Thank you, Lisa.

We have a very packed agenda today so we're just going to keep rolling along. Without anymore ado, we're going to turn it back over to Miles for the USDA National Organic Program Report.

MR. McEVOY: Okay. I would also like to recognize Bruce Summers who is the AMS Associate Administrator.

Bruce, I don't know where you disappeared to but you are somewhere in the room. There he is in the back. Bruce Summers was recently appointed or selected to become the Associate Administrator at the Agricultural
Marketing Service. The Agricultural Marketing Service has programs including the National Organic Program.

Bruce has had many years of experience in agricultural marketing service, especially the fruit and vegetable programs and specialty crops. He's new to the position. This is his 13th day as the Associate Administrator.

Big supporter of organic. He's here to learn. He does need to leave later today but is very interested in learning more about the organic community, the organic issues and supporting the work of organic agriculture.

We also have Sam Jones here from our Public Affairs Office so any press inquiries if you could coordinate that through Sam. Sam is also in the back of the room there.

We have a duck in the back as well.

Not with AMS but we love ducks at AMS as long as they have outdoor access.

Okay. It's great to be here and I'm happy to report on the progress we've made over the
last few months. I think I have control. Okay.

First of all, I would like to celebrate the board members that have devoted countless hours, hundreds of hours to supporting this process at the National Organic Standards Board. We have five members of the National Organic Standards Board whose terms end in January so this is their last public meeting.

They have contributed so much to the organic community, to this whole public process to writing proposals, to making recommendations. We’ll have official sending off on Friday but since more people are here the first day of the meeting, I wanted to make a special shout-out to Tracy Favre, current Chair of the Board from Texas; Jean Richardson, past Chair of the National Organic Standards Board; Zea Sonnabend, who has done a lot of the wrangling on the Crops Subcommittee for many years; Carmela Beck, who has run a lot of the things in the CACS, the Certification Accreditation Subcommittee; and Harold Austin, who not only ran the Handling Subcommittee but suffered and
recovered from an awful fall in San Diego. It's
great to have you back here, Harold, as well.

Thank you all for your service. I
think they deserve a round of applause for
everything they have done. We are going to miss
them a lot.

So with that, we are next going to
announce the new appointees to the National Organic
Standards Board that the secretary has made. So
everybody get out your -- there will be a press
release later today as well as lots of information
about these new appointees but here is a preview
of the new appointees to the National Organic
Standards Board.

We will start with Joelle Masso from
Fresno, California. She's currently the product
line manager at Olam International, one of the
largest suppliers of processed organic tomatoes.

She previously served as Senior Manager
of Strategic Quality for WhiteWave Foods Company,
Earthbound Farms from 2014 to 2016 and a Senior
Manager for Quality Food, Safety, and Organic
Integrity at Earthbound Farm from 2009 to 2014.

She has a masters in food science and microbiology and also well versed in organic seed use, supply limitations, and consumer and grower perspectives. She is going to fill the organic handler spot that's opening up in January.

Next we have for the public interest our consumer interest representative Ms. Sue Baird from Missouri. I think Sue may be in the room. There she is.

Welcome, Sue, to the National Organics Standards Board. It's going to be great to work with you over the next number of years. Ms. Baird serves as the executive director of the Missouri Organic Association doing business as the Mid-America Organic Association which educates consumers and farmers about the advantages of organic food and production practices.

She also serves as an independent organic consultant, inspector, and reviewer.

She holds a masters in animal science and poultry diseases and has served on numerous local,
state, regional, and national boards that serve the organic community and industry. Since 1995 she has owned and operated a cow/calf operation.

I had the pleasure of working with Sue through the National Association of State Organic Programs when Missouri had a state organic program. That was a while ago. Probably back in the mid-90s. Nice to be able to work with Sue again.

Next we have for the Environmental Protection and Resource Conservation Representative Dr. Asa Bradman from Berkeley, California.

Dr. Bradman is at the School of Public Health at the University of California Berkeley, Associate Director of the Center for Environmental Research and Children's Health, an adjunct associate professor of environmental health sciences, the co-founder and associate director of the Center for Children's Environmental Health Research and the Director of the Initiative on Environmental Quality and Childcare.

He also serves as a member of the Board
of Trustees of the Organic Center and has reviewed conventional and organic ag. inputs and materials. He has a Ph.D. in environmental health sciences with a background in conservation resource studies. We will welcome Dr. Bradman to the Board in the spring.

In terms of organic farmer representative we have Mr. Steve Ela from Colorado. He's a partner and manager Silver Spruce Partners doing business as Ela Family Farms, been a certified organic farm and fruit orchard, since 2004. The operation is also certified for the processing and handling of organic fruit butters and other fruit products.

He serves as a consultant at Gerber Products as well. Mr. Ela has a masters in soil science and has served on a wide variety of boards and advisory committees addressing food and agricultural issues nationally, regionally, and locally.

Next for the scientist position we have Dr. David Mortensen from State College
Pennsylvania. He's a professor of wheat and applied plant ecology at Penn State University. Served previously as professor of wheat ecology at the University of Nebraska from 1987 to 2001.

He's the current chair of the Pests and Beneficial Species in Agricultural Production Systems Foundational Program. That's a mouthful. USDA National Institute of Food and Agriculture Competitive Grants Program.

He serves on the Board of the Pennsylvania Association for Sustainable Agriculture and is a member of the Rodale Farming Systems Advisory Committee. He's got a Ph.D. in crop science and soil physics.

With that, welcome to the new members. As I said, there will be more information available on our website through press release and other information about the new members.

Okay. Next let's dive into the work of the National Organic Program. Our mission is to ensure the integrity of USDA organic products throughout the world. Our vision is organic
integrity from farm to table. Consumers trust the organic label.

Meaning it's not just certification of the farm level but making sure that there's a complete audit trail from farm to market and that there's certification and verification along the way. Our core role, it's a regulatory program to implement the Organic Foods Production Act and the USDA organic regulations.

The National Organic Program has five core goals. First and foremost, protecting organic integrity. Second, market access for those interested in participating in the organic market. Third, clear standards. Fourth, utilizing technology to advance organic integrity. Last, people and process, ensuring that people working in the National Organic Program are well supported, qualified, and trained and we have effective and efficient processes.

A little bit more about people and process. We currently have around 45 staff in three divisions in the Office of the Deputy...
Administrator. We have a stable budget. It's been the same for the last three years and will probably will be the same for 2017, though we're operating under a continuing resolution at the current time.

We are responsible for 80 certifying agents as well as eight trade arrangements to ensure organic integrity. We ensure that these parties are meeting all requirements and we rely on them to conduct the certification, the verification, and the enforcement work around the world.

So it's not just the 45 employees of the USDA Department of Agriculture that protect organic integrity. It's the hundreds, if not thousands, of organic inspectors, reviewers, material review organizations and enforcement compliance officers around the globe that work to protect organic integrity.

There's 31,000 directly certified operations under the USDA Organic Program in 120 countries, plus thousands of farms and handlers
that are certified through recognition and accreditation arrangements. It's a very broad scope and huge workload for the National Organic Program with a relatively modest budget of $9 million.

A $9 million budget for a $43 billion industry, that translates to about 0.1 percent of our budget is related to the sales in the US alone of organic products. But we're not alone in protecting organic integrity. We have lots of partners that help us along the way.

Our goal is to provide our people with the training equipment and work space to be successful. We provide feedback to our staff through appraisals, support through training needs, and support work life balance.

There is a very heavy workload within AMS' National Organic Program. We recognize that. We try to address that and have a reasonable work life balance for our staff. It's a really great place to work.

We are in the process of recruiting some
additional staff for the National Organic Program so anyone that's interested in joining the team, please keep your eyes out for announcements for new auditor positions and new compliance officer positions that will be announced relatively soon. Or if you know someone that's interested, we are looking for qualified staff to help us in our work to protect organic integrity.

In regards to process, we do a lot to continually review our processes, identify areas for improvement, and implement systems that more effectively and efficiently utilize our resources and protect organic integrity. We are constantly reviewing our systems through internal audit, through management review of those audits, and are strategic and operating plans.

We have a peer review process that we'll get into in a little more detail a little bit later this morning. We have assessments that are conducted by foreign governments. This past year we've had assessments conducted by Japan, Korea, and Mexico that have looked at our accreditation
and enforcement systems.

We also have an Office of Inspector General audits that is currently underway. Security warning. Okay. But that's not here. Evacuation drill not here but somewhere else in the USDA system. Sorry about that.

Yes. We do have an OIG audit underway that's looking at the organic equivalency arrangements so we are looking forward to the recommendations that come out of that process. There's many different assessments that are underway. We take these very seriously. We are always looking for ways to improve our process and make the system better.

We also take a team approach to many of our projects. We have our sound and sensible projects. We have an internal communications team. We have an import oversight team that's doing a lot of work to look at ways of strengthening our oversight of organic imports into the US.

This includes people from APHIS Plant Protection and Quarantine office that are
providing a lot of assistance in that project. We've had a lot of success in this team approach.

We took a team approach to the writing of the final rules for the organic livestock and poultry practices and that was very successful, as well as our work on addressing our FOIA, Freedom of Information Act, responses.

Okay. So moving on to protecting organic integrity. We like to describe the whole system of protecting organic integrity. The certification process is certainly an important part of that, but there are many other aspects of a comprehensive oversight of the organic sector.

So clear enforceable standards, communication about those standards, a transparent process so that we provide the opportunity for public input into the process. The certification, which is the core business process, that's done thoroughly by qualified staff that are doing inspections correctly, looking at organic system plans, conducting all the work that's important in that certification process effectively.
An effective complaint process. So a way that folks can file complaints and that we address and review and investigate those complaints and take appropriate action. A penalty system that is appropriate for the types of violations that are found.

Market surveillance so that there is a review of labels in the marketplace to see that they are compliant with the requirements. Unannounced inspections that are conducted so it's not just scheduled inspections but a certified operation may be inspected at any time on an unannounced basis helps to build that trust, build that capacity in the control system.

Periodic residue testing as a component of this overall system. Then, as we just talked about in the process part, continue improvement in our processes as well as the processes of certifiers and producers and handlers. That's kind of our overarching way of looking at the organic control system.

This slide is a little small but this
shows compliance and enforcement actions for the last two fiscal years. Last fiscal year ended at the end of September. The primary mission of our Compliance and Enforcement Division is to bring operations, uncertified and certified, into compliance with the regulations.

Compliance creates a level playing field for certified operations and assures consumers that organic products meet a consistent standard. We review every complaint we receive and investigate those that are within our jurisdiction and provide evidence of violation of the regulations that are sufficient to warrant an investigation.

In 2015 we received nearly 550 complaints and closed a total of 390 complaint cases which was a record number. Last fiscal year we received almost 500 complaints and closed a total of 357 complaints. Most of these complaints contain sufficient evidence of violation of the regulations and, thus, were investigated.

Their closure represents that more
operations are now in compliance. You can see the numbers here and this presentation will be provided. It is also provided in our compliance report that is provided through the USDA organic insider as well as the USDA organic integrity newsletter.

The National Organic Program has expanded its publication of data regarding enforcement of the Organic Foods Production Act and the USDA organic regulations. We've published enforcement records involving certified and uncertified operations.

We've published enforcement documents that are not completely new for the National Organic Program. Many of these documents were previously on our website but were removed during the website refresh which was over a year ago now. As part of that ongoing effort to increase transparency, we are posting more and more of these enforcement actions that we have taken.

We've include settlement agreements, AMS administrator decisions that were finalized in
fiscal year 2016, the administrative law judge
hearings for three of the six cases, and over 25
administrative law judge decisions and orders from
2004 through 2016.

So all these things are available for
review on the USDA National Organic Program.
We're on the AMS website actually. Then we also
have a link to all of the judicial officer decisions
and we plan to continue to post more of these
enforcement decisions as we move forward.

Some notable enforcement actions
include Yorgo Foods and Saul Farms. An
administrative law judge entered a consent
decision regarding the sale of agricultural
products as organic without certification by Yorgo
Foods. This was a long-term process. It took
numerous years for us to get to this point.

Sometimes it does take a while to respect the
due process rights of an operation, a certified
operation or suspended operation. It takes a
while. In this particular case in April we
prevailed and Yorgo agreed to a three-year
suspension and a civil penalty of $880,000 with $540,000 held in abeyance provided it complies with the regulations during its suspension period.

Another significant case is Saul Farms which in March Bernard Saul pleaded guilty to wire fraud and money laundering in connection with the sale of conventional alfalfa seed as organic. We worked very closely with the Idaho State Department of Agriculture and the Department of Justice on the investigation and the enforcement on this particular case.

A lot of these enforcement cases, especially when they go beyond civil penalties, involve us working with the Office of the Inspector General and Department of Justice.

A little bit about the Freedom of Information Act. Since 1967 the Freedom of Information Act has provided the public the right to request access to records from any federal agency. Federal agencies are required to disclose any information that is requested under FOIA unless it falls under one of nine exemptions which protect
interests such as personal privacy, national security, and law enforcement.

FOIA also requires agencies to proactively post online certain categories of information including frequently requested records as Congress, the President, and the Supreme Court have all recognized that FOIA is a vital part of our democracy.

President Obama and the Department of Justice have directed agencies to apply a presumption of openness in responding to FOIA requests and AMS works in the spirit of cooperation with our FOIA requesters.

FOIA requests are processed within 20 business days. That's the requirement under the Freedom of Information Act. NOP staff are responsible for identifying the responsive records.

Those records must be reviewed to ensure that they are complete. We need to redact the information that falls under the nine FOIA exemptions. Some FOIA requests are very
straightforward but many involve hundreds or thousands of pages and years of records.

Currently we have four NOP full-time staff members that are devoted to FOIA as well as two full-time contractors and additional staff support assist as needed. FOIA is becoming increasingly time consuming because of the number and breadth of the FOIA request.

We always strive to provide information as fully and complete as possible through the AMS website and will be posting more information on our website related to these FOIA requests. We are dedicating about 10 percent of our resources to responding to these FOIA requests.

We have nothing to hide and we are happy to share this information. Please understand that we have limited resources, a limited budget, and the resources that we devote to FOIA are taken away from other core activities of enforcement and oversight.

Okay. Let's move on to talk about the Organic Integrity Database and other technology...
assessments. Our vision for the Organic Integrity Database is to develop a modernized database that contains up-to-date and accurate information that increases supply chain transparency and supports the integrity of the organic control system.

The first release of the new integrity system was launched just a little over a year ago and this modernized system is funded from the 2014 Farm Bill. It was $5 million funding was provided for five years. It is a rather modest IT investment and we've already done a lot with the implementation of this database.

Because of integrity certifiers can log into the database and regularly update the list of organic operations that they certify. Certifiers can track the history of an operation to support certification and compliance activities. Industry and the public can conduct searches and access standard reports more easily and with greater precision than with the old posted list.

Certifiers are increasingly using more structured listing of commodities so we've created
a taxonomy of commodities and services which is a significant improvement over the previous listing. Industry and public can perform increasingly sophisticated advance searches by operation status, effective date, exact product name, and other criteria. More data is becoming available as it is being populated by certifiers such as labeling categories.

Certifiers and third party application developers can access data through automated data feeds. Farmers and handlers can find a certifier based on the office and the certified operations locations.

One new feature that was recently launched was that certifiers can provide a federal organic certificate through the integrity database. This is a new feature that was launched last month. It allows certifiers to provide a federal certificate to certified operations.

Currently each accredited certifier utilizes its own certificate with different formatting and different information that's
provided on the certificate. By moving to a federal certificate the certificates will provide the same information. It will be more difficult to create fraudulent certificates.

The federal certificate has a watermark and a QR code that links back to the integrity database. These are additional safeguards to reduce fraudulent certificates and improve the ability of buyers, certifiers, auditors, and other regulatory officials to track and verify organic products.

The integrity database has been a huge success. The team is very active and continuing to make improvements. They have one administrator's award as well as a secretary's honor award for the work that they have done on this database.

The database is developed and improved with lots of input from certifiers. Many certifiers are actively engaged. There are over 40,000 operations actually listed in the database because it includes both certified operations as
well as suspended revoked and surrendered operations.

We continue to learn and improve the system based on input from certifiers and other data users so we appreciate all the input that we've gotten to continue to make this a better system.

We will continue to make improvements to the system with the remaining funds for the project. The funds for this project will run out over the next couple of years but we do intend to make additional improvements. Our final year of development, a rough sketch is that making the system work more quickly. It's a little slow so we are looking at making it work more quickly.

Enhancements to the certificate module, improvements of data analysis tools and make more data reports. Commodity reports with aggregate acreage to support transition of certifier survey data from the National Agricultural Statistics Survey to the integrity database.

We are working very closely with NASS
to get that information and be able to publish reports on the organic sector. Additional system administration tools and then working to improve data quality of the information that is submitted. Lots still going on for the integrity database.

We also have some other technology initiatives that we are working on. We are investing in technology for the accreditation processes and workflow. This will save time and resources for audit scheduling, report generation, report reviews, and basic certifier contact management.

There is a lot of work involved in scheduling audits of certifiers and conducting all the review. This technology initiative will help us with that work. It also will enable certifiers to more easily transmit information to the National Organic Program, streamline our corrective action submittal and reviews of those corrective actions.

There are annual reports that are submitted and other data exchanges. No new technology investments will be needed for
certifiers to benefit from these new capabilities but it will make it easier for certifiers to provide information to the National Organic Program.

Okay. On to standards and we'll talk about standards and standards-related work. First of all, the rules that we are working on, we have the organic livestock and poultry practices. This rule was published in April of 2016. The final rule is now in interagency review at the Office of Information and Regulatory Affairs at the Office of Management and Budget. It was submitted earlier this month and the plans are to have the final rule published before the end of the administration.

For organic aquaculture the proposed rule is also at interagency review at Office of Information and Regulatory Affairs and we do also expect that proposed rule will be published before the end of the year or the end of the administration. It's getting down to the wire, though.

Sunset 2016 final rule, that was
published in August of 2016 so this completed the sunset process for 2016 materials. There were a few products that were removed from the National List including egg white lysozyme, cyclohexylamine, diethyl amino ethanol, octadecylamine, tetrasodium pyrophosphate.

Okay. We'll go on to the next thing. Treated lumber draft guidance. We published treated lumber draft guidance in the summer. The public comment period closed end of October but this is our continual work to expand the program handbook and provide further clarification around the USDA organic regulations.

Lumber treated with arsenate and other non-allowed synthetic substances cannot come in contact with soil or livestock. Organic farmers use lumber for many different purposes; fences, farm buildings, structures, animal housing, and lumber treated with arsenate or other prohibited synthetic materials can't be used in organic production areas or come into contact with any part of an organic crop.
This draft guidance explains how organic producers can prevent soils, crops, and livestock from contacting lumber treated with prohibitive substances. This was open for public comment through the end of October. We received many comments from you all. We really appreciate that and it will help us to finalize this guidance and make it better.

We also published material review instructions. This was issued as interim instructions. By interim we mean this is effective upon issuance with a request for comments. Instructions are issued to certifiers under the authority of the administrator.

The administrator has the authority to tell accredited certifiers to do certain things. That's what an instruction is, instructing the certifiers to follow certain procedures certainly in line with the USDA organic regulations. This is effective upon issuance.

It's based on the National Organic Standards Board recommendations from 2011 and 2012.
so thank you NOSB for your recommendations on this particular topic. It clarifies certifier responsibilities for reviewing substances that are used by organic producers and handlers and those include maintaining documentation that supports their determination for all substances that are used by a producer or handler.

Demonstrate the qualifications of personnel that are conducting the materials review. So ensuring that there are qualified staff that are doing the materials review work and that they have clear procedures, as well as additional information. Again, this was open for public comment. We appreciate the comments that we have received. We plan in the future as we issue new instructions to issue them as interim instructions and request comments.

So a quick review of recommendations that the National Organic Standards Board has provided. We have this more detailed list available on our website. In terms of practice standards, there's been 178 recommendations from
1994 to 2015. 149 of those have been addressed, completely addressed.

24 are in process including things like aquaculture and animal welfare. There are many things that we are currently working on. We have identified five recommendations that are outstanding meaning we haven't begun work on and that includes expiration dates on certificates, inspector qualifications, retail compliance and certification, mushrooms, and GMO prevention strategy guidance.

In terms of the National List from the same time period, about 20 years here, there have been 280 recommendations on the National List. 254 of those have been addressed. The outstanding ones are very recent and they are all in process in terms of us addressing those through notice and comment rulemaking.

In terms of sunset, 129 reviews have been completed. Sodium nitrate, this will make Zea very happy I think, that we do have a plan to address sodium nitrate for 2017. We plan to get
a proposed rule out on sodium nitrate for 2017.

Okay. Thumbs up on that one. Good.

Okay. So the Board creates a lot of work, a lot of really excellent recommendations. There's a lot of work for AMS and NOP to do to implement those recommendations. A lot of those have been addressed. A lot of those are in process but we still have a lot more work to do to fully implement all the NOSB recommendations.

In terms of underdevelopment, meaning things that are very far along in the process, a lot of work was completed in 2016 for these particular topics. So basically the rules are written that they are not -- they haven't gotten through the clearance process. These are those projects.

The final rule on origin of livestock, very far along in the process but it will not be published this -- it won't be published this calendar year. There is still more work to do on that. Organic livestock and poultry practices, as I mentioned that is at OIRA and we do expect that
to be published before the end of the administration.

In terms of proposed rules, we do expect the aquaculture proposed rule to be published before the end of the administration. Aquaculture, pet food, and import certificates are all written and they are at various stages of the clearance process.

We have a regulatory pipeline and it is only so big and there are only so many things that can fit through that pipeline and these things are waiting for the port to open, for the arrival gate to open so that they can go through the process. They are very far along in the process. We just have to wait for that pipeline to open. I don't know if pipeline is the right analogy, but maybe I'll think of something better next time.

In terms of our plans for the coming year, in terms of things that are new projects that we plan to work on for 2017 around standards, National List. We continue to implement previous NOSB recommendations. Actually, this is -- some
of these things are fairly far along in the process
so we should see some rulemaking on the National

One thing to keep in mind is we have a
new administration coming in. It's going to take
some time for the new administration to get settled
and determine what their regulatory priorities are
and so things will probably slow down for a while
until that gets all sorted out.

For sunset we will be completing the
2017 sunset process this coming fiscal year. As
I have already mentioned, we should have a proposed
rule out on sodium nitrate in 2017. At least that
is the plan.

Other things that are under
development, the compost from the lawsuit on
compost. We are doing a Notice and Comment
Rulemaking on compost. That should be out later
in 2017. Then the big project that we are going
to work on in 2017 is improving oversight and
control of the organic trade.

There are many things that we have
identified in the organic regulations that could use improvement, could use tightening to improve organic integrity, to improve control systems. One of these is eliminating exclusions for brokers and importers.

This is a thing that I think is really important. It's 205.101(b). They are currently excluded from certification so we are looking at including them in the requirements to be certified to make sure there is a complete audit trail. It will help us with enforcement as well to eliminate that exclusion.

Looking at the expiration date on certificates, which is from a previous NOSB recommendation, codifying the requirement for unannounced inspections, clarifying compliance procedures. There is some work in that area. Then clarifying identification of non-retail organic products.

These are some of the things that we're looking at. We feel like this is an important update, revisions that are needed to improve the
regulations around the control systems that protect organic integrity. We will be providing more details of this as this project moves along during 2017.

We also have guidance under development for 2017. Final guidance on classification materials and materials for organic crop production. Those are actually final and ready to publish and will publish hopefully relatively soon. They are very close to being published.

We have draft guidance. This is the -- missing pieces here. Here we go. Okay. Draft guidance on calculation of organic ingredients also is complete so that should be published very soon. We will be working on draft guidance on grower groups. Then we will be publishing instructions, interim instructions, on import requirements for certifiers in 2017. That is the plan.

Then also materials used in organic livestock production, draft guidance on that.

Okay. So now moving to control
systems, accreditation, certification and oversight. This is an important topic that I think we need to spend some time with today. It is the accreditation and certification work and the oversight that is done to protect organic integrity.

I was thinking about this a lot last night after the National Organic Coalition meeting. At the NOC meeting there were allegations made concerning imported organic grain from Turkey. We have seen a major increase in organic grain imports from Turkey over the last few years and we've received complaints that the grain isn't organic because there is not enough organic production in Turkey.

We are undertaking an extensive review and investigation of the organic corn imports and we have learned a lot over the last few months. One thing to point out is that in all this work we have not identified any non-organic imports coming into the US. We certainly identified areas for improvement, areas that need strengthening, but we
have not identified any non-organic imports in this review.

We have learned that there is a very comprehensive and a very effective control system that is in place. There are areas for improvement and we have plans to improve the system but organic production in Eastern Europe has increased dramatically.

There are many projects underway to build capacity for organic production in Eastern Europe. There are areas that need improvement but we have not identified any non-organic grain imports at this time. We will continue to review and investigate and take appropriate enforcement action when necessary, while at the same time respecting the farmers, handlers, and certifiers that are involved and their due-process rights.

So organic trade is expanding globally. The US and the EU organic market are over $80 billion in value. Many governments have established organic standards and control systems and this is a good thing. This improves the
integrity of the whole system.

Import requirements can be barriers for farmers and suppliers to access export organic markets. Fraudulent certificates continue to be identified. Alleged violations in foreign countries can be complex and they can be challenging to investigate and enforce. We recognize all those things. There are many things that we're doing to try to improve the system.

In terms of an international framework, we have the CODEX Alimentarius in terms of organic guidelines, in terms of standards. Then the two major standards that because they are the two major organic markets in the world really dominate in terms of standards and those are the European Union Organic Regulations and the USDA Organic Regulations. In terms of reference points for standards, those are the major points; CODEX, the EU Regs and the US Regs.

We also have a very strong and established conformity assessment system in place worldwide through the ISO/IEC standards and this...
is for accreditation bodies like the National Organic Program, as well as certification bodies like the certifiers that do all the verification work and those are ISO Standard 17011 for accreditation bodies and then ISO Standards 17065 and 17021 and others as well for control bodies for the certifiers. We have that context that helps.

It's really a pretty amazing system that's been developed worldwide to protect organic integrity. We have these organic standards. They are very similar. There are differences between the EU and the US and CODEX but most of the standards are equivalent and very, very similar.

We have the standards, mostly agreed worldwide. We have certifiers that verify that organic farmers and handlers comply with those organic standards. We have accreditation bodies that ensure that certifiers are conducting thorough and complete inspections, have qualified personnel, are meeting all aspects of their responsibilities as certifiers.

Certifiers are also involved in
enforcement under their authority to issue notices of noncompliance, issue notices of suspension and revocation and provide those due-process rights to the farmers and handlers. And then the competent authorities, the governments involved, also are involved in enforcement and take their appropriate action under their respective authorities. Lots of different parties involved in this overall organic control system.

In terms of equivalency, there's a lot of things in equivalency that help to protect organic integrity. There are many things that we look at when we look at these equivalency arrangements. First of all, that the standards are equivalent. That does not mean they are identical. I means that they meet equivalent outcomes.

We ensure that the competent authority, that is the foreign government, that they provide effective oversight over the certification bodies, over the certifiers that they are responsible for.

That the control system within that
governing authority, that competent authority, is effective in terms of enforcing and protecting organic integrity. They have civil penalties or stop sales or some way of enforcing the requirements.

The equivalency arrangements all involve ongoing assessments of each other's systems, annual reports of how the systems are being implemented. There are critical variances. Then there's a lot of cooperation on complaint handling and enforcement. When there are complaints that are involved in international trade, we get a lot of assistance and collaboration with our partners.

I would like to specifically talk about Mexico to give you a more specific example of how these trade arrangements can help to protect organic integrity. There are 23 NOP accredited certifiers that are operating in Mexico so we have direct oversight over those certifiers. There are 1,635 currently certified organic operations in Mexico so a large number of certified organic
There is also a lot of organic trade between Mexico and the US. In 2015, $154 million of US organic products were exported to Mexico so Mexico is a fairly large and emerging organic market. Then imports from Mexico were $141 million led by coffee, avocados, and bananas.

One of the things on the numbers is that we don't have complete trade data because there's only certain commodities that there is a harmonized trade code established. We are working to establish more but we do believe that there is quite a bit more product than what is represented here. This is only the numbers that represent those trade codes that have been established.

So in terms of working with Mexico, Mexico is in the process of implementing their organic regulations, the Mexican organic regulations. They have been doing that for a number of years and it is getting to the final phases of their implementation. We've had a lot of technical exchange with SENASICA which is the
competent authority in Mexico.

They have observed audits that we've conducted of certifiers. We've observed agriculture and grower groups. We've done peer review assessments using 17011 criteria for Mexico as a competent authority, as well as 17065 for the certifiers that they accredit.

We have ongoing negotiations to identify and discuss and resolve issues and to create a mutual understanding to create confidence in each other's respective control systems. Recently we established what we call an organic compliance committee which is a proactive strategy to strengthen compliance and enforcement in trade between the US and Mexico.

This includes the requirement for import certificates. Import certificates are part of CODEX guidelines. We require import certificates under most of our equivalency arrangements. For instance, with the European Union with Switzerland, Japan, and Korea import certificates are required but they are not required
outside of these equivalency arrangements.

We are working to require import certificates for all imported organic products. With the establishment of this Organic Compliance Committee with Mexico we will be implementing this requirement for import certificates for all organic imports coming from Mexico. The plan is to implement that in January of 2017.

The Organic Compliance Committee is also doing a number of other things to strengthen oversight; tracking complaints, monitoring trends in noncompliances that are identified, providing training to certifiers, doing some market surveillance residue testing, and supporting certifiers that are working in high-security risk areas. There are some areas in Mexico that need some support in terms of security, in terms of conducting inspections and unannounced inspections so we are working with Mexico on that.

So those are some specific things that we do to work with foreign governments to protect organic integrity on a worldwide basis.
Certifiers have a very important role, not just in conducting their inspections and verification of the operations that they certify, but as they do that verifying that the terms of these equivalency and recognition agreements are met.

They have to verify, for instance, that critical variances are met for exports. They have to review attestation statements for imports and exports that are involved with trade with Canada. They have to verify labeling requirements.

They have to issue certificates for exports to certain countries. They have to verify the authenticity of NOP import certificates when those are required so they have a role to play here.

We provide training and oversight to those certifiers to make sure that they are doing that effectively.

So I provide that with all that background to talk about some of the things that we're looking at in terms of strengthening the control system. I already mentioned a few times this concept of requiring organic import
certificates. It is currently required under equivalency arrangements.

It's included in the CODEX guidelines. They will assist in product tracking, audit trail, and enforcement. We are looking at getting a proposed rule out next year on import certificates for all organic imports.

Also I mentioned requiring certification of importers, brokers, and traders. We feel like that is a very important initiative that we move forward on next year. That will also assist in product tracking, audit trail, and enforcement.

Also clear identification of organic imports. That is something that needs strengthening as well as we move more to electronic records and database tracking and notification and working with the various agencies that are responsible for imports at the port of entry.

And making sure that we have a complete audit trail from farm to market.

And one of the outcomes of this is
hopefully much better data on organic trade. This is an area that we certainly could use some better information on how much trade is actually happening.

So one other thing that we're doing, and I'm almost done here, is we are working with the Inter-American Commission on Organic Agriculture. This is the competent authorities in the Latin American countries that their goal is to strengthen control systems, organic control systems in Latin America, support the development of internal markets in Latin America, providing technical support to organic producers in the trade in Latin America so we are doing a lot of work to support the work of this Inter-American Commission on Organic Agriculture.

The annual assembly on CIAO, which is a Spanish word for Inter-American Commission on Organic Agriculture, will be held in Portland, Oregon this year so we're sponsoring that in July. We also are providing certifier training through CIAO and also training to these competent
authorities to help to strengthen the control systems in Latin America.

In summary, we are doing a lot of work to enhance organic control systems. We also provide a lot of support to farmers, handlers, and others interested in organic production and handling through a sound and sensible initiative through a lot of the work that USDA does through the Organic Working Group, through various agencies at USDA.

There is a very strong support network that has been developed over the last number of years to support all aspects of organic production and marketing. We are also working to clarify and improve organic standards.

A lot of work has been done. There's a lot of work that needs to be done. Appreciate all your work to support our work and your comments so we can continue to make this the best system possible. Thank you very much. I think I went a little bit long but we're on to the next thing.

CHAIR FAVRE: Thank you, Miles.
Does any of the Board have any questions for Miles? Thank you. I know there's --

Yes, Jean.

DR. RICHARDSON: Back in 2012 in the CACS I was lead on doing the calculation the percentage of organic and organic ingredients. You keep telling us it's going to come out. Could you give me any specificity as to where that is right now? Because it's really important.

MR. McEVOY: Yes. We were hoping that would get published before this meeting. It is complete. There have been some things that have distracted the USDA, I guess, over the last few weeks so it hasn't been published yet but should come out any day now.

CHAIR FAVRE: Zea.

MS. SONNABEND: Thank you, Miles. Back to the Organic Integrity Database. I heard you say yesterday that there would be the possibility for growers who produce seed to have seed listed for sourcing in the database if I heard correctly.
I'm wondering if, and I may not be as familiar with the exact structure of the database as I should be, but for a small farm like mine who grows a small amount of seed and wants to sell it to seed companies but not really to individual people who go searching for seed, I would really not want to have my listing reflect -- I mean, I don't want people to be calling me up for a few ounces of seed here and there, you know.

I'm wondering if you distinguish that in the database because already as it is, you know, if I have two mulberry trees certified and then I get calls for a ton of mulberries. That's just from the CCOF database. I think it's really important to think it through an opt-in system like Organic Seed Finder where people choose to have their seed listed seems better than automatically have it listed as a source of seed.

MR. McEVOY: That's a good point. There are a lot of things that -- the Organic Integrity Database has a lot of capacity, a lot of ability to list specific products but it all is
based on the information submitted by the certifier so the certifier is the one that provides that information in the details.

This is something that I think needs to be discussed with the developers of the integrity database and the certifiers of how best to both provide information about what organic seeds are available. The integrity database has some capacity. It is also the seed finder and we have supported that effort as well. I don't know what the exact answer is but we need to keep working on what is the best format for providing as much information as possible.

CHAIR FAVRE: Scott.

MR. RICE: I had a question for you, Miles, on the tree lumber guidance. I'm curious to hear if you would be open to issuing that as another draft as opposed to a final given the number of comments and interest in that.

MR. McEVOY: Certainly that's possible. With guidance we have a lot more flexibility in terms of how we move forward with
that. We haven't reviewed the comments at this point so I can't really respond whether or not we want to come out with the final guidance or another draft.

The other thing to keep in mind is that with guidance we're not -- we are able to continue to talk about guidance documents after the comment period closes. It's not the same ex parte process as a formal notice and comment rulemaking process, so let's keep the conversation alive around treated lumber.

CHAIR FAVRE: Harriet.

MS. BEHAR: So recently there was a meeting of people who got together and discussed personal care products and the labeling of those that are kind of areas that are outside the scope. I'm just kind of wondering what is the interface with the National Organic Program and those questions? And I'm happy to see apiculture is still flying around.

MR. McEVOY: I'm going to let Lisa cover that. I was not able to make that meeting
so I'll have Lisa Brines respond.

DR. BRINES: Sure. Thank you. So,
Yes, this is written in response to the roundtable that FTC and USDA co-hosted on October 20th. FTC had put out a report about consumer expectations as it relates to organic labeling on non-agricultural products. That report is now available to the public. They are accepting written comments on that report until December 1st. So I'd certainly encourage stakeholders to submit comments to the FTC on the content of that report.

The intent of the data gathering was really for products that fall outside of the scope of NOP, so things like some textiles that are processed that are sold as organic. That was the intent but they are accepting comments, so I'd encourage those to get the report and to make comments if you have them. And there's a website set up with that information through FTC.

CHAIR FAVRE: Francis.

MR. THICKE: Miles, you spoke about equivalency with other countries. I'm wondering
if hydroponics continues to grow and gets to become a significant part of our production in the US, how might that affect our equivalency with the European Union where there is virtually no allowance for that?

MR. McEVOY: Yes. I was just over there a few weeks ago and met with a number of the EU officials on -- and we talked about the hydroponics issue. One of the things that my understanding of the EU's perspective on this is that what we call organic hydroponics they may not consider hydroponics.

There are a number of systems in Northern Europe that are bioponic-like systems that are certified organic under the EU regulations. So I think it's partially a language understanding -- or misunderstanding of what we mean by hydroponics, because organic hydroponics are significantly different than the classical hydroponic system.

The EU regs specifically say you can't grow hydroponic crops in an inert substrate. The
bioponic systems -- the organic hydroponic systems -- could be argued that there's no -- it's not an inert substrate that they are produced in.

There are systems in Northern Europe in particular where there are greenhouse operations that are using these bioponic-like systems. Further discussions could occur. There is no critical variance on hydroponics with the European Union at the current time.

There is a critical variance with Canada around hydroponics systems, is that any hydroponically produced products, organic hydroponics produced in the US, can't be exported to Canada but it's not part of the critical variance with the European Union.

CHAIR FAVRE: Thank you, Miles.

Next on our agenda is the NOP Peer Review Update. We are going to have our Board Member Dr. Jean Richardson give us an update on that. She will actually be acting as one of the authors of this report. Hence, she's going to go up and speak just like the regular public does.
DR. RICHARDSON: Do we have slides? Not particularly. That's going to be interesting. Good job, I have them in front of me.

All right. The reason why I'm standing up here is that, although in terms of my position as a volunteer on the NOSB -- that is certainly influenced and had a very useful impact on giving me detail to work on the Peer Review Panel that took place this year -- this report is given in my capacity as a contracted person with the American National Standards Institute. Hence, I'm up here presenting this report to the Board rather than sit there in my capacity as a volunteer.

I have a few slides that I've put together to try to give some background because this, I think, is probably the first time this type of report has been given and hopefully it will be the first of a regular annual report on peer review of the NOP. First, the general background. The peer review is required. The administrator is required to do this under 205.509 and -- in order to determine that it meets its own accreditation
procedures.

The history on this is that back in 2005 and 2014 the ANSI -- American National Standards Institute -- undertook this review at the time and provided detailed information posted on the web in terms of the areas of improvement -- the OFIs as they are called -- were identified with follow-up as to how the NOP then addressed those issues.

Similarly, in 2010 the NOP contracted with NIST.

These reports are on the website but I have to admit -- and looking again this morning, with the rearrangement of the website over the last year or so, it's extremely difficult to find these. I am actually working right now to see if we can get up this report that I have in my hand -- the detailed report -- posted. It has not yet been posted as of this morning, the one that I'm talking about today. Hopefully it will get posted before the end of this week, maybe even today. When it does get posted, I will provide it through Michelle.

We will put up the actual link so that
people in the audience and on the NOSB can be able
to read the full report and not just the review that
I'm doing here today. So it's difficult for the
NOSB, I know, probably even to pose questions on
the things that I'm talking about because they
haven't had the opportunity to read the entire
report.

We should note also that foreign
governments have regularly conducted peer reviews
of the NOP and several are listed there and that
is an ongoing activity that takes place in order
to ensure that the NOP is in compliance with the
governments with which it has memoranda. Some of
this is already covered a little bit with what Miles
was saying earlier.

In terms of their responses, an example
that I have is that in 2014 there were 14
opportunities for improvement and the NOP provided
a response to that which is posted, and so that is
worth looking at. I'll talk a little bit more
about that later when I talk about the methodology
of what we did and how we did it.
So a little bit of history is important here to see the role of the NOSB in helping to move us forward with this extremely important area as the NOP and the organic program has matured over the last few years. NOSB has made strong recommendations to the NOP on peer review in 2001, 2005, 2009. In 2010 the OIG determined that just using third-party organizations to conduct these peer reviews didn't satisfy 205.509. So the steps forward -- it's always slow, isn't it?

By 2014 the NOP asked the NOSB if they would provide some recommendations to establish a repeatable and transparent process. And I think that those are important terms to keep in mind, that whatever we do from here on needs to be both repeatable and transparent. So when I was on the CACS subcommittee, we sought public comment and we did provide a detailed recommendation to the NOP in April of 2015.

The next line on there says that the peer review panel was contracted in 2016. It was -- in effect it was contracted in October 2015, but
nothing really seems to have gone forward with it in terms of its actions until the beginning of this year in 2016.

So this was the group that was assembled. The individuals you see on there and the kind of people that were selected to be on there were based on a combination of the recommendations for the types of people that should be on this repeatable panel by the -- from the document of the NOP in fall of 2014, as well as from the recommendations of the CACS that we submitted in April of 2015.

So we have -- there is a peer lead assessor who would normally be giving this report here rather than me. We did have -- I don't need to go into the details but it became a complex process because the lead auditor that had been identified had some serious health problems so there was a lot of stumbling at the very beginning and Robert Miller came in towards the end of this process to provide the assistance as it related to an analysis of the ISO 17011 standards.
There was a little bit of backwards and forwards with us making slow process initially. The other panel members are myself because of my background on the CACS over the last five years and knowing what's going on right now at NOP. Also because I've been involved in organic certification directly for a long time, etc.

It was great to have Jim Riddle, who has a long association with the organic standards and, in fact, wrote some of those earlier recommendations that I referenced earlier in terms of the history of trying to get this off the ground. He is a very active member of this panel providing some really important opportunities for improvement for the NOP.

The other two members -- sorry, the other member, Susan Rank, is a person trained and works always with ANSI, as well as the two program persons, Elizabeth and Ronaldo at ANSI. It was a very interesting and diverse panel, each of us bringing very different perspectives to analyzing the documents that we had to review.
The methodology here is pretty critical because that is part of the thing that has to be repeatable over time. We should have been provided at the beginning with some sort of a useful checklist. This sort of template should have been in place before we started work because it turned out it really wasn't. So we developed a methodology, sort of a checklist of ways in which we would analyze these materials based on the scope of the contract provided and the information provided by the NOP in the earlier documents by the NOSB.

We had a number of panel meetings where we met both by conference call and face to face. One of the first things to do was to select certifier files to review. This is a highly detailed process and we had provided specific criteria both in the CACS NOSB recommendation and through the NOP. We'd provided specific sets of criteria for the types of files that we wanted to review. There had to be some that were large, some that were small, some that were medium size, some
that were overseas, some where there had been a suspension.

There was a set of specific criteria which were identified and selected and narrowed down from a group of files provided by the NOP that had been dealt with over the previous 12 months -- so they were all fairly recent, some of them, in fact, ongoing -- that would allow us to review those files in great detail. We then undertook a detailed review of five different files -- certifier files -- to find out how things have been going and I can't describe to you the amount of detail you then go into in order to do this. We looked, for example, at a document which had been developed by the NOP in response to previous concerns brought up by previous peer reviews to be more consistent in their checklists.

NOP had developed a document -- which is NOP-2005 if you want to look it up in the handbook -- which is a 102-page document filled with links to every possible policy or quality control document that you can possibly imagine. Sort of
like your ultimate nightmare of looking down into a whole range of documents.

It is absolutely astounding to see the range of things that each of the auditors were supposed to do when they went out to review these various certifiers worldwide. So we did a detailed analysis not only of how they used their own documents but also looking at the documents and comparing them with each other. I was particularly interested from my law background to be able to compare all of the various policies.

So we looked -- if you go to the handbook, there's -- I don't know, whatever it is, 70 or so that relate directly in the handbook of terms of policies to -- policy-type documents to accreditation. We read all of those 70 in great detail and analyzed them and compared them with each other to come up with some of the interesting flaws within them, which was -- not every one of which we'll get into today, of course, obviously. We looked at all of the procedures and anything that should be used in the accreditation process.
We did not review previous reports. This was seen by a couple of us on the board -- on the panel to be a bit of a problem. We would have liked to have had that as part of our purview, but it was not part of our purview to review and compare the previous actions. And we hope that going forward -- once we've got a template that is easily repeatable -- that we will, in fact, each year analyze previous years' areas of opportunities for improvement and see if, in fact, those changes have been put underway, knowing that many of these will take several years, obviously, to be tidied up as we go forward.

Three of us -- me -- myself, Jim Riddle, and Susan Rank, we were the three that analyzed the files in great detail. Bob Miller was the person who was assigned as the lead auditor through ANSI. He was the person assigned to do the analysis of the ISO 17011 analysis.

We each of us prepared individual reports in detail from our different perspectives and then we got together and critically reviewed...
each other's individual reports. I believe that these individual reports together with the consensus report will be part of what is posted for the public record.

We critically reviewed our reports, discussed, and hammered out which would be the main areas of opportunities for improvement that we would put forward. All of our comments as individuals are still there in the individual reports for you to look at to see the broader scope of the areas of concern that we had identified that we believe need to be improved over the next few years even though they don't rise to the level of being of significance.

Then we finished this work in September and submitted the consensus report and all the individual reports to the NOP. There was then communication with the NOP and back to ANSI and minor technical information was modified and the final report is now available for being looked at.

The findings will be considered part of the NOP quality management system and corrective
actions are made as necessary and appropriate. And the findings, we are required to present them to the NOSB, which is what I'm doing now.

So if we can go to the next one, that's the lead report. Michelle talks to herself, you know, while she's up here doing this. Yes, you need it, right. This is the document that was prepared by Bob Miller, the lead auditor in this panel review. We utilized the NOP-1031 which was promulgated on 5/12/16. Next one -- promulgated in May. We'd already started our work at this time and it was a little bit of a frustration for us but, nonetheless, we did work from this document.

It would have been nice to have got it earlier. And we -- it was modified by further information from Miles on 5/19 which limited some of the -- I think one of the things that it included there was that we wouldn't be -- because we had questions, obviously, which had gone back to the NOP and this was a response to our questions about how to get this whole methodology in place. This is one of the ones that said on 5/19/2016 was --
that we were not going to be looking at the previous
reports as part of this initial new peer review
panel.

So the panel was tasked with looking at
all the policies and procedures as I've just
described to you and to review implementation of
the whole accreditation process through the
selected file review which I have described to you,
and then to report them both to the deputy
administrator and to the NOSB.

The key findings were that the -- in
general, the NOP does a good job. A really good
job. I mean, the NOP program worldwide is
incredibly complicated and all of these policies
and procedures which have come up over the last 20
years really just make it -- you have to pay really
great attention to the fine detail and look into
everything to see just what an amazing job they
managed to do despite the limited number that they
look at worldwide and the budget and staff
constraints that they have to deal with. It was
very interesting work to do.
There were a number of opportunities for improvement which are the standard way in which this kind of peer review panel information is then provided and fed back to lead for onward improvement of the NOP. We know that the accreditation body's procedure lacked clarity to verify that the auditors are reviewing the regulatory status of ingredients and processing aids.

In other words, when we looked at the files to see did the inspectors or the auditors, as they are called -- remember, you've got auditors, assessors, inspectors. All these terms are used differently by different agencies and entities worldwide. We found that it wasn't clear whether or not the inspectors, the auditors, had, in fact, verified the ingredients and processing aids being used. And, of course, it comes back actually to my nagging concern that we still don't have the calculating percentage organic, because that's one of the challenges often when these materials are being looked at worldwide.
Another item that we found was during file review there was one case where they weren't following the NOP-200 policy document -- sorry, 2000 policy document. That's the foundation document for accreditation that sort of in theory would be the document in which you would find reference to all the other documents that are being used, although we did identify that there was a failure in one instance to appropriately notify the body of a suspension.

We also found that consistent accreditation records are not being used and retained in order for the NOP to be in full compliance with 205.502, which is application for accreditation. And I think part of the reason for that is that there are too many darn documents. That is a very professional term. There is just an enormous number of documents, a plethora of documents for them to look at and sometimes a lack of concordance between those policy documents. Which I think makes it a challenge, especially if it's an international applicant. Next
key finding -- yes, it's there. NOP-20054. The witness audit checklist we found is not complete. The procedure doesn't provide the necessary control to document the adequacy prior to use.

We also found that the accreditation body does not ensure that there is immediate notification to the NOP for potential changes by certified bodies that could affect compliance. The accreditation body is required to ensure a balanced representation of interested parties with no single party predominating. There is a need for a balanced representation of interested parties, which is not just a requirement in NOP-2012, clause 2 qualifications, but it also ties directly to an analysis of the application to the ISO standards at 4.3.2.

Finally, these were the items from reviewing ISO 17011, clause 4.3.2, as I just said, where conflicts are identified, appropriate action shall be taken, but the procedure in place doesn't identify procedure to determine appropriate action.
Secondly, the ISO clause 5.3 requires that all documents should be controlled. We found that not all documents are adequately controlled.

The NOP indicates it has procedures for identification collection indexing, accessing filing storage maintenance and disposal of the records, but specific procedures are not identified. Finally, just a note, is that the ISO guide 65 has been superseded by the ISO 17065 but some of the documents and procedures scattered through all these many policy documents still refer to Guide 65.

Those are the main findings of the ANSI panel. What I would say is that we believe what we did was we developed a procedure which can be replicated and which needs to have greater transparency. I am concerned that it was not posted before this meeting and that members of the public have not had the opportunity to comment and neither have the NOSB members themselves.

Hopefully next year, when -- because this is supposed to be an annual review. Hopefully
next year when this takes place there would be able
to be more discussion with the NOSB and questions
based on public comment that would have come in so
that we can clearly show that the issues are being
addressed.

I will make one additional comment is
that one of the observations that I had -- and if
you read my individual report, you see I commented
on there quite a bit -- is that there is some
carelessness in the way in which their documents
are handled. Sometimes it will say shall, should,
may in different places, different things.
Legally they mean different words.

We also found there wasn't always
correct dates on things. We also found that there
were an enormous number of documents which are not
sent out to the public but which are used only
internally. Looking at some of these -- including
1031, which is the document we use for the scope
of this review, that is an internal document and
I believe it should be an external document open
to the public. Those are the types of things which
I think we can pay more attention to in order to increase the transparency of the process as this peer review continues to go forward.

What I would like to do at this moment is to now feed it back to Miles and ask if the NOP has had the opportunity to read the entire report and if you have had the opportunity to consider what would be the responses that you have to the ANSI recommendations and areas of improvement -- opportunities for improvement.

MR. McEVOY: Yes, we have reviewed the report and we have preliminary corrective actions that we have developed and we do have some slides that will show those. In terms of 1031, the Internal Peer Review Procedures, that is now available on our website so we put that up yesterday.

There's not really any particular reason why it was an internal document. It was basically the same procedure that was presented to the National Organic Standards Board that we asked for your review and recommendation. For some
reason it was put into our quality manual as an internal document. It is now an external document and available for review. It seems appropriate that it is an external document.

In terms of the ANSI reports themselves, they will be posted later today is my understanding. There were some errors that needed to be corrected and that has delayed our ability to be able to post them but they are ready and they are working on getting those things posted today.

This process of peer review is both in the statute and in the USDA organic regulations. It's been an ongoing challenge, I think, for the program to figure out how to implement this peer review process. There has been multiple recommendations from the National Organic Standards Board on this process.

We also had an OIG audit finding in 2010 that indicated that we had not implemented the peer review requirements as per the regulations and the statute. So this new process is -- as Jean says, this is the first year that we are implementing this
peer review process. It is a process that will be conducted annually.

There is the intent that the peer review process will look at the findings from the previous year to see how the corrective actions have been addressed. Thank you very much to Jean and the whole team for the work that they did on this peer review. I think that will help us tremendously in terms of improvements to the accreditation process.

So -- let's see what we have here. So we did contract with the American National Standards Institute to conduct this particular peer review process, as Jean said, where independent auditors were involved. It's driven by the memo to the NOSB on peer review of NOP accreditation. It's a very important process for our continual commitment to continuous improvement.

Our goal is to align with ISO/IEC 17011 that applies to accreditation bodies like the National Organic Program. We are a small program
serving a large and growing industry. We have a stronger bust accreditation procedures, skilled pool of auditors who receive ongoing training.

Those several are new to the National Organic Program and they go through a rigorous training and review process before they are approved to go out as, first, second auditors and then lead auditors. We also provide annual training to certifiers on a number of different topics. We have regulations, checklist guidelines, procedures, and the NOP handbook as reference documents.

So corrective actions based on the findings. The audit found that not all NOP documents are adequately controlled so we are actively improving processes that will make it more consistent in how the team applies its accreditation procedures and checklists. This will work towards avoiding inconsistencies in the future.

We are planning to inventory where document controls are lacking and in this fiscal
year implement process improvement for document management and control. It's something that we've always done but this year we are putting additional resources into improving our document management and control process.

In 2017 we will make sure that all auditors consistently use the correct version of the checklist. That was one of the findings, is that some auditors were not using the most up-to-date version at times. We recognize the importance of records management. We've made significant progress and will continue to improve in this area.

Additionally, we will update the out-of-date references in terms of replacing ISO/IEC Guide 65 with the correct reference to ISO/IEC 17065. As government employees, NOP staff adhere to strict conflict of interest and ethics laws. These rules and any necessary enforcement steps are detailed in USDA directives but are not included in the NOP's quality manual.

We will continue to strictly follow all
these federal laws related to conflict of interest and ethics. This is part of our oath when we become federal employees and civil servants. We will update our quality manual to explicitly document that these are existing requirements.

Also, in 2017 we will update our procedures to help auditors more clearly document how they perform ingredient and processing aid review when they are auditing certifiers. This is something that is being done, it just needs to be documented more completely that this is being done during the audit of the certifier's process.

Certifiers need to notify the NOP when changes occur that could impact compliance. NOP will provide more examples to certifiers of when this applies and we will -- an example of that is when a certifier adds a satellite office to their organization. So they would need to notify us if they are adding a certain satellite office to their organization that is conducting NOP certification. And we will provide that clarity through training and other ways that we communicate with certifiers.
We appreciate the constructive feedback. We look forward to continuing to refine our records management and continue to work with ANSI and the Peer Review Panel to strengthen our accreditation procedures and support the organic integrity and the organic community. Thank you very much for that.

DR. RICHARDSON: Thank you, Miles, for your response on behalf of NOP. I should just mention to everybody as I do have a copy of the report with me if anyone wants to look at it. I also would be happy to answer questions from the Board as we go through. I'll be here until Friday obviously like all of you.

Same for folks out there that had questions. I was not at the NOC meeting yesterday. If you have specific questions under what we did, how we did it, the idea is that these will be transparent peer panel reviews and I'm happy to answer anyone's questions. Any questions from the Board right now?

CHAIR FAVRE: Harriet.
MS. BEHAR: Not so much a question but, just looking at the audience, I know this is not the most exciting topic for most people but it is an extremely important one. As an organic inspector for many years I know that the importance of this peer review trickles all the way down to the very smallest vegetable grower, that it is very important to them that the program under which their livelihood and their lifestyle depends is also meeting that continuous improvement.

And so to the NOP, I would say any annoyances that you might feel about people being nitpicky or wanting to -- you know, to push that continuous improvement, that is felt all the way down the chain, the certifiers, the inspectors, the operators. This is really an important part of continuous improvement and we are all in this together and we all want to succeed.

CHAIR FAVRE: Tom.

VICE CHAIR CHAPMAN: This is a question for Miles. Can you provide some more details on how the peer review process will continue into
2017? Are there timelines or plans around that?

MR. McEVOY: I don't know the -- I don't
know where we are in the contracting process but
we are certainly planning on contracting with ANSI
again to conduct the peer review process and follow
the same procedures that we followed this year. I
think it will be -- go a little more smoothly this
year because they worked out some of the bugs.
This is the first year that ANSI has done it. So
it is certainly started. It is the new fiscal
year. This one is ending but we plan to follow the
same process in 2017.

CHAIR FAVRE: Scott.

MR. RICE: I heard it mentioned that --
obviously, a continuing process and, Jean, you
mentioned continuing to have that panel. Is that
going to be the same members or do you see that
changing year to year? I didn't catch exactly how
that would work.

MR. McEVOY: The NOP doesn't select the
panel members. The contracted peer review body is
the one that contracts with the assessor. We
review who are the people that are put forward by
ANSI -- and we assume that it will be ANSI again
this year, but it's the peer review assessment body
that chooses those panel members.

CHAIR FAVRE: Emily.

MS. OAKLEY: This is a question for
Jean and Miles, I guess. In terms of reviewing a
metric for how to judge improvement over time in
creating something that would allow future panels
to examine the opportunities for improvement and
measure the extent to which they are improved, is
that in this current report, or how do you plan to
measure that going forward?

DR. RICHARDSON: So you want to say how
we would measure this year's against next year's?
It hasn't been done like that in the past because,
as I understand it, the criteria and the mechanism,
the methodology used in the previous panel reviews
was not the same as the one that we followed.

This one we have now I think is a robust
criteria based on a repeatable sort of checklist
and a transparent document that we will be able to
say, okay, here is how we did it last time. We'll
do it exactly the same way, so to speak, next time.
I don't know for sure exactly who is going to be
on that panel again. I don't know whether it's
going to be exactly the same four people or not,
that -- assuming ANSI is contracted.

But that template would be being used
if it was with ANSI. We would then say, okay, so
let's -- based on what we've come up with this year,
how can we then compare the OFI that were proposed
from last year and see if, in fact, they have made
any progress towards changing those. Some will be
simple to change, you know, because they're sort
of secretarial, like, you know, shape-up. Just
change these documents and get them all tidied up.
Others will be more complex to do, and so we will
be able to hopefully this time next year provide
to the Board an analysis comparing last year's with
this year's report. Perhaps there will be also the
ability to meet with staff.

We didn't meet with staff last time,
that wasn't -- NOP staff. We did it at the ANSI
headquarters and I don't know if that will happen or not. Just stay tuned. I certainly intend staying on top of it regardless of where it goes.

MR. McEVOY: Yes, I would just say that how we handle this with a certifier, for instance, is that when there are findings -- and there almost always are some findings, there is always room for improvement -- then the certifier has to respond with corrective actions. Then we review that corrective action to see whether or not that is acceptable or not based on a number of criteria.

Then the next time that we go in, we verify that those corrective actions have been taken. I would see a similar process here. But we haven't worked out all those details because we don't have that ongoing relationship with the assessment body, with the ANSI at this point. Maybe that is something we can do in the future.

As we finalize those corrective actions, what would usually happen that goes back to the assessment body and then they review that to see that that's adequate to address those
opportunities for improvement. Then they verify that those things have been done in that following cycle.

CHAIR FAVRE: Any other questions from Board members?

Tom.

VICE CHAIR CHAPMAN: Would it be possible in the future to do a multi-year contract with a peer review assessor or is there other reasons why that's prevented?

MR. McEVOY: Yes, I'm not sure. We do multi-year contracts for other things so I don't see why not, but I'm not up on the details on what we're doing here. I can find out for you and report back at the Executive Subcommittee.

VICE CHAIR CHAPMAN: That would be great. Thank you.

CHAIR FAVRE: Thank you very much, Jean, for a great presentation and, Miles, for your response.

Moving on into our agenda, we are going to take a few minutes now, I just want to give you
a little bit of an overview from the NOSB perspective on our work semester. I just want to say that I've been extremely proud of this Board. We've had some pretty controversial issues that have come up this year in the semester and I've been very proud. While we have had some pretty diverse opinions on the Board, well represented in the spectrum, it has been done with great professionalism and respect for each other. I want to thank you all for that as we move through some of these topics.

Little bit of housekeeping today, too. We are going to be starting public comments in a little bit and we'll talk more about it but you'll notice there are some stations set up here. We are going to ask the public to stay on that side of the station. I'll give you some more updates when we start the public comment.

I think it's important for us to note here today during this week we are actually allocating more time for public comments than we are actually allocating for the Board to do its
work. I know there is consternation among people from time to time that the public either doesn't get enough time or in a particular individual comment the three minutes goes really really fast when you're up there at the podium. I understand that.

We only have so many days allocated for the Board meeting. I know there has been some discussion about the opportunity to change that. I think that will be an ongoing discussion. We do value the public comments we get, both here at the meeting and in written form. They do influence our conversations within the Board and we appreciate the time and effort that all -- of those in our organic community take to make sure we hear their voice and I want to thank you for that.

We've had some pretty significant issues that we'll be discussing at this Board meeting. One is carrageenan, which will be brought up in the Handling Subcommittee. We've had lots and lots of wrangling and conversations over this. Me and my four other cohorts on the
Board that came in in 2012, we have the dubious pleasure of this being our second sunset review on carrageenan. I think it has been an interesting detailed conversation for all of us.

We also have some great information coming out of the Materials Subcommittee on excluded methods terminology and definitions. We recognize that some of these documents are not perfect but sometimes perfect is the enemy of good or even complete and there is an opportunity again for continuous improvement but it's important for us to at least sort of stake our claim on some of these topics and recognize that there is additional work that needs to go forward.

Then we have the hydroponics issue which has been widely covered, widely discussed and debated. I think this Board has had some very substantive conversations about it and will have a very robust conversation on the record on Friday when we address it.

On top of all these rather controversial issues, we also have just the general
workhorse work that we have to do. Petitions, technical reviews, sunset reviews and materials which have obviously been significantly less this year than that massive lump of them that we had last fall.

Our intent is that with the reorganization of the presentation of sunset materials going forward, which will be implemented -- actually is already being implemented now -- there is going to be a breakup of that block that came last year.

We are going to have a more manageable workload in future years. But when I say more manageable, you know, when you had 217 or whatever -- 211 last year, something like that -- and we are down to 50, 50 is still a significant number. This Board is still doing some pretty amazing work.

Because we've had so many issues around the topic of our interest policy and conflict of interest, I've asked Miles to give us a primer or reminder both for the public and for our Board members today on exactly what constitutes a
conflict of interest so I'm going to turn that over to Miles now.

MR. McEVOY: Okay. Thank you very much, Tracy.

The National Organic Standards Board is composed of many individuals that represent various interests. It's very important that these interests are represented. It's very similar to many other standards-related boards, that -- the idea is that you have all the interests around the table so that they can all participate and provide their perspective and represent those interests in the development of those standards and those recommendations.

NOSB members represent the interests of particular groups and interest is acceptable if it is carried out on behalf of a represented group and if a Board member receives no disproportionate benefit from expressing the interest.

According to the NOSB Policy and Procedures Manual, true conflicts of interest arise when an interest directly and
disproportionately benefits the member or a person associated with that member, could impair the member's objectivity in representing their group, or has the potential to create an unfair competitive advantage.

There have been specific questions concerning NOSB member Carmela Beck's service on the NOSB and the Board's upcoming deliberations on hydroponics at this meeting. Ms. Beck is employed by Driscoll Strawberry Associates and it's related to her -- whether Driscoll and hydroponic production and the deliberations on this topic.

So Driscoll's crop production occurs in a variety of different ways, including directly in soil. Based on a review of the criteria to address conflict of interest, NOP has concluded such a conflict does not exist from Ms. Beck. Thus, Ms. Beck can fully participate in the NOSB deliberations and any voting of Board recommendations addressing hydroponics.

In a similar manner, those NOSB members that grow crops in the soil may fully participate
in the hydroponic production deliberations and voting. Thank you.

CHAIR FAVRE: Thank you, Miles.

Any questions from the Board members?

Okay. All right. Next on our agenda today is the National Organic Program's Material -- all right. Rightfully so, we discussed yesterday during our administration that we would like to make any disclosures of interest statements and then should there be interest statements disclosed, the Board parliamentarian and deputy administrator will then give us any rulings on whether that starts.

Do we have any disclosures of interest?

Zea?

MS. SONNABEND: Thank you. I believe that it is worthwhile to make -- for transparency to make a disclosure of interest. I'm a small farmer from Watsonville, California with 20 acres of diversified fruit and an acre of vegetables for seed. I hold the scientist seat on the Board because of my long career in evaluating organic
materials.

I work part-time for CCOF, a nonprofit organization with 3,367 certified clients, 1,400 of which are small farmers and 1,000 of those are very small. About 1,300 processors, some of which are also farms, and 600 or so medium size and large farms.

All of the sunset materials may or may not be used by some of the CCOF clients and two of the crop inputs for this meeting of sunset are used on my own farm. I'm a small voice without a big medium machine behind me and I'm also a small farmer, what I do -- doing what I think is right for most farmers, large and small, in my work with NOSB.

Once again, I'm being named in press releases and on the internet by a group seeking their own publicity at my expense. I'm being accused of conflict of interest because my certifier has hydroponic clients, even though I voted against the proposal to allow hydroponics.

My response is in the words of Michelle
Obama. When they go low, we go high. Although neither political party was going very high in the election, I will state here for the record that I have no conflict of interest on hydroponics or any other subject on this agenda. Furthermore, CCOF does not tell me what to say or how to vote and my statements are mine alone and do not represent the position of CCOF when I serve on the NOSB. Thank you.

CHAIR FAVRE: Tom.

VICE CHAIR CHAPMAN: There are materials on the November 2016 NOSB meeting agenda that are in use, or have been considered for use in Clif Bar and Company's supply chain. Clif Bar and Company is not a seller, exclusive buyer, nor do any of these materials directly or disproportionately benefit me or a person associated with me.

They do not impair my objectivity in representing handlers, nor do they have the potential to create an unfair competitive advantage and so they do not mount a conflict of
interest for the 2013 NOP conflict of interest memo and our Policy and Procedures Manual. I have reviewed the conflict of interest materials as prepared and distributed and I do not have a conflict of interest.

CHAIR FAVRE: Carmela.

MS. BECK: Driscoll's independent organic farmers produce both in-ground organic crops and in containers substrate organic crops. Driscoll's independent farmers do not farm conventional or organic hydroponic crops.

CHAIR FAVRE: Ashley.

MS. SWAFFAR: So I would like to declare that I do have an interest in the hydroponic discussion but I do not feel that I have a conflict of interest in the hydroponic discussion. As a certified organic producer that does grow crops in the soil, I just want to completely state that for the record.

CHAIR FAVRE: Okay. And for the record I'd like -- go ahead, Harriet.

MS. BEHAR: For the record, when I
review comments, it's -- everyone's comments are equally viewed whether it's an organization or an individual because everyone should have a voice. I grow actually in containers but not hydroponically and I grow in the ground.

I have bees and I have all kinds of stuff. I talk to thousands of farmers a year and so I hear lots of voices and I really try to give everyone a similar weight. Because whether you are part of a large organization or you are just one person, you should have a voice.

CHAIR FAVRE: Thank you. And, for the record, I would like to say that I am the Director of QAI as of about four weeks ago. While we do have some container operations, we do not certify in hydroponics and I do not feel as though this rises to the level of conflict of interest.

We should have just gone around the room and had everybody say something. Go ahead, Scott.

MR. RICE: As an employee of the organic program that I work for in the certification agency we do, as Zea noted, with CCOF
certify. Quite a number of operations and quite diverse. Some of those may or may not use the materials that we are discussing this week. However, I do not feel that my relationship with our certification agency or the use of those by those that we certify presents a conflict.

CHAIR FAVRE: Anybody else? Okay. Here endeth the discussion. Thank you.

Okay. Now, we are happy to have Dr. Lisa Brines give us the update on the materials update and a summary of new and outstanding petitions.

Dr. Brines.

DR. BRINES: I'm just trying to see what screen I'm going to be able to read from here. I don't know if I can do this all from memory.

Good morning, everybody. Just a quick 15-minute update this morning on the status of materials and the petitions that have come in since our last meeting. I'm not going to be able to read those slides.

We have 12 petition materials that are
on the agenda for today spread over the three
subcommittees that traditionally review
materials, Crops, Livestock, and Handling. In
addition to that, we have 15 materials that are up
for sunset for 2018. There are actually 17
listings that are affected that are on the National
List, but a couple of those materials repeat and
they are both up for sunset for this round.

In terms of the evaluation criteria for
materials, the criteria provided for in the Organic
Foods Production Act. In terms of the review
materials that are associated with this meeting --
that means the petition guidelines, the technical
report, evaluation questions, and the NOSB review
documents -- all of those tools were developed to
align with the criteria that are in the Organic
Foods Production Act. Those provide a tool for the
Board to document its evaluation of these materials
against the OFPA criteria.

There are different criteria for crop
and livestock production materials versus
handling. There are some additional criteria in
the regulations at 205.600(b) that are specific to synthetic materials that are used as processing aids or adjuvants in organic handling.

Okay. So, in terms of what materials the Crops Committee will be looking at at this meeting, we have aluminum sulfate on the agenda, soy wax, which is a carryover from our last meeting, 1-methlycyclopropene, or 1-MCP.

We also have two petitions for chelating agents, ammonium citrate and ammonium glycinate. These two petitions we also had a very late addendum submitted by the petitioner that is now posted as of yesterday on the NOP website. So that's addendum number 3 for both of those petitions. It's the same material for each.

There is also a petition for ammonium cellulose glycolate which is under review. I'm sorry, that's potassium. I can't read the slide from here. Thanks.

All right. And there are several other petitions that are currently under review by the Crops Committee, many of which have technical
reports that are under development. Once those reports are complete and approved by the Board, we'll have them posted on the public for the public's review on our website.

The ones that are currently still under subcommittee review include fatty alcohols, allyl isothiocyanate, sodium citrate, natamycin, ammonium nonanoate is a recent addition, and polyoxin D zinc salt.

Some of you in the audience and on the Board might recognize a few of these materials. A few of them have been petitioned and reviewed by the Board previously and were either withdrawn or had a recommendation against them. Petitioners do have the opportunity when their petition is turned down by the Board to resubmit the petition if they can provide new information. That is incorporated into the NOP procedures on petition evaluation which is in the handbook, I think it's NOP 3011.

In terms of livestock materials that will be considered at this meeting, there is a petition to remove ivermectin from Section 205.603
of the National List which is on the agenda and there are three poultry litter treatments that are under review, so aluminum sulfate, sodium bisulfate, and acid-activated bentonite.

We had a few additional petitions that were submitted for livestock uses since our last meeting. Those include sulfur, hypochlorous acid, and glycolic acid. We do also have the ten aquaculture petitions which are still on the agenda for the Livestock Subcommittee.

Some of you may remember the recent NOSB recommendation to add hypochlorous acid to Section 205.603 of the National List, which was recommended by this Board. And this petition is for expanding the use for other purposes in livestock production, so they are not covered under the scope of the previous NOSB recommendation and they weren't the focus of the previous petition for that material.

Okay. For Handling for this round there is a petition for oat protein concentrate as an agricultural substance petitioned to Section 205.606. The Board will also be considering a
petition for sodium chlorite for generation of chlorine dioxide gas. These petitions, as all the petitions on the agenda, are posted on our website for the public's review.

Three additional petitions that are currently under consideration by the Handling Subcommittee and will be addressed at subsequent meetings. One petition is for L-methionine. That is for fortification purposes. We do have an outstanding recommendation from the Board for L-methionine for fortification of soy-based infant formula. This petition is for uses that go beyond the scope of that original consideration.

There is a petition under consideration for sodium dodecyl benzene sulfonate, or SDBS. I believe a technical report is still being developed for that material. We have a recent petition for short DNA tracers that is available as well.

So in terms of other technical reports, we have had a number of technical report requests that have come from various subcommittees that were not in response specifically to petition materials
or in response to sunset materials that are still under development. Currently we have a couple that are in development. There is a technical report still not available to the public yet on bisphenol A. It will be posted as soon as it is approved by the Board. That's BPA for use in packaging.

There is a report for newspaper and other recycled paper that was requested by the Crop Subcommittee that is a follow-up to the sunset review of that material that was completed for the last round. There is a petition -- I'm sorry, technical report also in development for anaerobic digestate products.

We do have several other technical reports that are now available to the public as well. Some of these were available at the last meeting, too. There is a technical report for xanthan gum regarding a possible reclassification. There was a report developed for a class of phosphates to address their handling uses as ingredients in process products.
We updated the technical reports for peracetic acid for both livestock and handling uses since we were updating the crops report as part of the sunset 2018 just for convenience sake. Those reports are available. And the report for marine plants and algae has also been posted on the website.

In terms of our technical report contractors -- so these are always identified on the first page of any technical report, but we do work with several different organizations and they are listed on the slides. Again, those are always available to the public on the first page of the report.

In terms of voting procedures, for the petitioned substances, the first vote is generally for classification. In general, for materials that have not been previously classified or that are not on the National List with this specific classification, the Board will first vote on a motion to either classify the material as synthetic or nonsynthetic. It is mainly for crop and
livestock materials, and for nonagricultural materials use and handling. For handling substances they may also be classified as agricultural or nonagricultural as appropriate.

The second motion the Board will take for these petition materials is for the action that would take place for this material. So that may be to list the material, to remove it or to amend it as provided in the proposal. In order for either of those motions to pass, OFPA does require a two-thirds majority for any decisive action of the Board. At this meeting with the 14 members that are present, that still takes ten votes for either of those motions to pass.

For the sunset 2018 materials that are on the agenda -- so there are two different sunset dates that might apply depending on when the material was last renewed or amended on the National List. But for convenience sake, we consider all the sunset 2018 materials over the same two meetings.

We did consider these materials at the
last meeting in the spring and the sunset review will conclude at the end of this meeting. All those National List materials and their sunset dates are available in the program handbook at NOP 5611. That includes a comprehensive list of everything on the National List as well as its current sunset dates.

I didn't go through these individually but the Crops Committee has five materials up for sunset for 2018, the Handling has nine materials, and there are no Livestock materials up for sunset for this round.

We were able to meet all of the subcommittees' requests for updated technical reports for sunset 2018, which means we did update the crops peracetic acid technical report. We had four new handling reports that were available at the request of the Handling Committee. That includes carrageenan, cellulose, glucono delta-lactone, and potassium hydroxide. All those reports have been available since the last meeting.
That's it for today. I'm happy to answer any questions you might have.

CHAIR FAVRE: Any questions for Dr. Brines?

Dan.

MR. SEITZ: So when there was a TAP -- a technical advisory panel -- it was very helpful for me to know who the people were, what their background was, and so forth. I know that in the technical review we know which company has been contracted with but we don't know who the actual participants are who have done the research and so forth. I am wondering whether it will ever be reconsidered whether that type of information will be provided just as one more piece of information that is helpful for assessing the completeness or the accuracy or the ability to do the type of analysis that you would want in a report.

DR. BRINES: Thank you. Yes, we have heard that question before. Under our current contract with the contractors, we contract with the organization rather than with any particular
individual. Just as a matter of practice, we have always listed the contracting organization name on the first page of the report rather than a list of individuals who might have participated in its development or review.

We haven't made, I guess, a determination not to include that, other than we just haven't included that information in the past. You will see in some of the old technical advisory panel reports, or TAP reports, from 1995, 1996 that are posted on the website, those typically did not list the individuals that were associated with those.

They wouldn't identify the panelists by name. They might give some information in terms of their background for context, but my understanding is they weren't named individually in the report so it would just be listed as the organization rather than those individuals.

CHAIR FAVRE: Any other questions?

Emily.

MS. OAKLEY: I would just echo Dan's
comment that it is helpful if possible to have the author's name or the participants involved just because it gives us more information in terms of their expertise. Thank you.

DR. BRINES: Thank you.

CHAIR FAVRE: Thank you, Dr. Brines.

Okay. We've come to the point in our agenda where we are going to take about a 15-minute break and then when we start back at 11:30 we will begin public comments.

(Whereupon, the above-entitled matter went off the record at 11:16 a.m. and resumed at 11:31 a.m.)

CHAIR FAVRE: Okay, folks, we're ready to start our public comment, my favorite part of the board meeting, actually. If we'll all take our seats, please.

A couple of housekeeping items. First one is, please silence your phone. Yes, that means you. Please check. Yes, the duck in the background, please silence. If you've got a computer with your volume turned up, please turn
that down, just out of respect for everybody. And yes, I mean you.

    Public comments are limited to three minutes. We've got a super-packed agenda. I ask that you be respectful of that. Michelle will, as she normally does, has a timer with a light, which will indicate green when you're good to go, yellow when you're getting close, and red when it's done. And then a tone will be sounded. Please be respectful of that.

    Some of you may have noticed that we have stanchions set up here with ropes on the side. The room layout is a little bit awkward with these pillars here in the front.

    We don't want to limit access for the public back here during the breaks, but while the board is in session, no public will be permitted beyond the stanchions please. It's distracting to the board, and I think it's distracting to the audience as well.

    This is a public meeting and photos and video could potentially be taken. I will ask that
if you do it, you do it in as least disruptive method as possible. We're going to ask for your forbearance on that.

And if you become disruptive during the public comments, you will be given a warning, and then you will be asked to leave if we cannot get you to comply with that, out of respect for those that have taken the time to be here and make our public comments.

Okay, also, we are going to have a remote for those of you that have PowerPoint presentations during your comment period. The remote will be up there, and you will be able to advance your own slides. Michelle will be happy to give you a brief instruction on that as you get ready for your comments. And we look forward to hearing everybody's thoughts and opinions.

So with that, we'll go ahead and get started with our first speaker today. Our first, excuse me, first presenter, commenter, will be Davey Miskell. Davey Miskell, are you here?

MR. MISKELL: Yes. Yes, run it. So
after all this past, we're going to liven it up a little bit, show you some video that was suppressed, and we'll go forward. So if you want to go ahead, Michelle, and Michelle's been great helping on this with trying to figure out how we do all this properly, and thank you. It's all set? Okay.

I am Davey Miskell, I'm a Vermont certified organic greenhouse soil-grown greens and basil grower. I farmed organically for 40 years, and have been testifying against the USDA organic certification of soilless hydroponics since 2001.

The rally that you're seeing here, Dave Chapman, in Stowe, Vermont, and I organized it October 30. We wanted to show NOSB and NOP that Vermont congressional delegation and the organic farmers from, some organic farmers, mostly from Vermont but also from Maine and Massachusetts, have extreme opposition to organic hydroponic certification.

I was very upset when NOP refused to allow us to show the video unless it was soundless.
Everybody here, do go to keepthesoilinorganic.org. You can watch, listen to the video. You can also buy these tremendously great t-shirts.

Today, here, watch Senator Leahy, who's the father of NOSB, NOP, and OFPA, be muted. I'm ashamed that that is happening. Yet such a refusal is a symbol of NOP's silencing of the opposition and letting organic hydroponic certification continue its merry way with no regarding the soil requirements of OFPA and with no rulemaking by NOP.

The legacy of the 2010 NOSB will always be applauded for listening to the public for their 2010 recommendations to prohibit soilless organics. So will the 2-16 NOSB crops committee vote recently on the same prohibition. I ask NOSB the following: to concur with the crops committee and prohibit organic hydroponics that have substrates without soil. And to do it now, in St. Louis.

There's a rule adopted by NOP without thorough public review. The usual NOP delaying tactics must stop immediately. Such delay makes
the present too big to fail for organic hydroponics
even worse.

   In the meantime, I and other longtime
organic farmers are seriously investigating
forming a new label with presupps of soil grown and
proper animal welfare standards, as well as other
true organic presupps. We can't wait another ten
years for a NOP rule. We don't want to do this.
Surprise me.

   I have two quick questions. I'm
wondering what actions --

CHAIR FAVRE: I'm sorry, I'm sorry,
your time is elapsed. Maybe we can answer it and
address it during questions if any of the board
members have questions for you. Are there any
questions for Davey? Zea?

MS. SONNABEND: My question may not be
what you wanted to pose. But I'm very interested
in what Senator Leahy might have said about his
vision for when he first implemented or wrote the
OFPA, if you can summarize that briefly.

MR. MISKELL: I can't, because I was
told that -- the goal of what we did here was to have a sound so you could hear Senator Leahy --

MS. SONNABEND: But didn't you hear him? Weren't you there?

MR. MISKELL: I heard him, but I was told that I couldn't -- since I was told that I could not explain or talk about what he said, because he would not be here to answer questions from the NOSB.

CHAIR FAVRE: I'm sorry, let me clarify. There is a misunderstanding here. The reason that the decision was made that the audio portion of this video could not be presented is it would constitute a proxy testimony, which is prohibited under our policies and procedures manual.

We very much appreciate the passion and effort that went into producing this video and wanted to give you an opportunity to show it. And I highly encourage anybody in the audience or any of the board members to seek you out during breaks.

MR. MISKELL: All they have to do is they can go to --
CHAIR FAVRE: And furthermore --

MS. SONNABEND: But it's inappropriate to ask for a summary?

CHAIR FAVRE: Furthermore, you are allowed to relay what Senator Leahy said. You just are not allowed to have him speak without the opportunity for us to provide questions.

MR. MISKELL: It would have been real nice to have that explained when I got the emails. Because I could have had a transcript of exactly what he said. But I would recommend that anybody here, it's all right on our website keepthesoilinorganic.org.

CHAIR FAVRE: You are allowed, and you can even speak to answer Zea's question if you choose to now.

MS. SONNABEND: Or maybe a future commenter who was there would summarize.

MR. MISKELL: He said, just off the top of my memory, which these days seems to get worse and worse, but he talked about his commitment and the problems that he had to go through in the Senate.
and in the legislature to get the original OFPA passed.

And basically he said that he would not -- that soil at that point was critical, and soil at this point is critical. And he would do everything that he could to make certain that soil is the key part of organic farming.

MS. SONNABEND: Thank you.

CHAIR FAVRE: And other questions for Davey? Thank you very much.

MR. MISKELL: Thank you. And I thought the process was was that you were getting a warning bell and then --

UNIDENTIFIED SPEAKER: A warning light, so if you don't --

UNIDENTIFIED SPEAKER: That's being an amateur.

CHAIR FAVRE: Okay, our next speaker is Mark Girardin. And we've got Pete Overgaag on deck.

MR. GIRARDIN: Good morning, my name's Mark Girardin, and I'm speaking as a small grower
and also as the president of North Bay Produce. As NOP certified growers in both ground and soil-filled containers, the direction taken in certifying container systems should be broken into two categories: soil and soilless.

The following comments are in consideration for the certification of soil-based bioponic container systems. Soil would include the standard in-ground system approach, plus container systems where the organic matter closely resembles what would be found in the in-ground approach. These two organic systems have more in alignment than in any other approach in discussion.

The NOSB 2010 discussion provides emphasis that the core principle of organic farming is the concept of fostering soil biology to create symbiotic relationships with the plant. And since all typical soil-dwelling organisms, such as earthworms, protozoa, fungi, bacteria, etc., can thrive in a properly designed compost-based growing media, producing the beneficial symbiotic ecological relationships found in soil.
Such growing media should be rightfully considered soil, and therefore should be certified without labeling. Additionally, in a proper bioponic container growing system, there are many advantages.

Water conservation, which can use up to 80% less than in field-grown situation. Food safety, disease, and weed suppression, and soil conservation. Think of the areas where there is no arable land that exists.

In conclusion, organic farming relates to the fostering the soil, whether that soil is contiguous with the bedrock or in a container, as long as it meets the requirements of the Act and the organic systems plant.

As to the soilless systems, there is agreement with the 2010 NOSB recommendation, observing the framework of organic farming based on its foundation of sound management of soil biology and ecology. It becomes clear that systems of production that eliminate soil from the system, such as hydroponics or aeropics, cannot be
considered as examples of acceptable organic farming practices.

However, there can be an organic path, but proper labeling and rules are a must so as not to confuse the retail consumer.

CHAIR FAVRE: Thank you. Any questions?

MR. GIRARDIN: Thank you.

CHAIR FAVRE: Thank you very much. Next up is Pete Overgaag, and Dave Chapman is on deck.

MR. OVERGAAG: Hi, I'm Pete Overgaag from Hollandia Produce. We're an efficient hydroponic grower in drought-stricken southern California. For those who missed it at the last hearing in DC, I brought another head of lettuce all the way with me to show as a visual.

This lettuce was grown with all OMRI approved inputs. No pesticides, no fungicides, no chemicals of any kind. Yes, it was grown in water, which I think we all agree is natural as well. So we have clean, healthy products for consumers.
Why would we even think of arguing about what the roots are in while it is growing? If it is all natural, it should not matter.

Stepping back and thinking about it, it's very odd to expect the USDA to start trying to control how much growing media the roots are in or how much water the roots are in. What's next, how tall each crop is allowed to grow? And what do we do about crops like watercress that in nature grow only in water?

My point today is simplicity. The understanding of the word organic in consumers' minds are products that are free of synthetic and chemical inputs so they are confident that they are receiving a healthy product. This is what they expect and this is what they receive when they buy certified organic produce that is grown hydroponically or in containers.

So in this spirit of simplicity, what certified hydroponic and container growers are doing is already covered under the current regulations. As we heard in the opening
presentation today, the USDA and NOP already have plenty to monitor and regulate. They should not be pushed into adding another thick book of rules by creating another designation and layers of regulation.

I'm surprised this debate has come this far. However, now that it has come to this point, it's clear that the complaint is not about where the roots are, but it is about a small, vocal group that is not happy about larger companies producing organic product. So they're trying to turn back the clock and keep organics from becoming mainstream.

My answer to this is, the ship has sailed. It's too late to scale it back. Organics is mainstream, and yes, there are larger companies growing organic products to help fulfill the ever-increasing demand. Our company is one of them.

We have about 150 employees. Since we are an employee-owned company, you could say we are owned by 150 farmers.
The decision allowed hydroponics and container growing to be certified. To disallow hydroponics and container growing to be certified organic would negatively affect our 150 farmers and their families.

CHAIR FAVRE: I'm sorry, we're going to have to stop you there. Appreciate it. Any questions? Emily.

MS. OAKLEY: Hi, thank you. I was wondering how frequently nutrients are delivered to the plants in your system?

MR. OVERGAAG: Continuously. So we have biological activity in the water, and we add the nutrients to the water, and there's beneficial bacteria breaking them down and converting them to be available for the plants. It's the same process that happens in the soil.

CHAIR FAVRE: Harriet.

MS. BEHAR: If your production was not certified organic, would your operation be economically viable?

MR. OVERGAAG: It would be tougher, and
we've invested a lot of money, and our whole
transformation is to go in the organic direction.
We're not 100% yet, some of our production's still
cconventional.

CHAIR FAVRE: Thank you very much.

MR. OVERGAAG: Thank you.

CHAIR FAVRE: Next up is Dave Chapman.

We've got Ashley Buhler on deck.

VICE CHAIR CHAPMAN: Good morning, I'm
Dave Chapman. I'm an organic grower for last 36
years. I grow greenhouse tomatoes, in the soil of
course. I served on the USDA hydroponic task force
as the sole representative of commercial soil
growers.

I feel it's necessary to adjust my
comments today based on the New York Times article
that came out last night. Once again there was a
personal attack on me and those who work with me
to keep the organic standards firmly rooted in the
soil.

A leading hydroponic spokesperson
said, Hydroponics have, quote, put competition on
farmers, specifically in Vermont, and so what this really is about is market protection, unquote.

This is wrong on so many levels. First, it wrongly states that this conversation is just about Vermont farmers, but 540 organic farmers from all over the country signed the first soil petition. Vermont was strongly represented, but 52 organic farmers from California signed that petition, including two CCOF board members.

We had farmers from 40 states sign it, and I would add that the thousands of consumers who have signed one the following petitions are from all over the country. Furthermore, the 41 organizations and 58 organic leaders who signed the moratorium letter came from all over the world.

To say that this only an issue of a few malcontented farmers from Vermont is either wishful thinking or an outright lie.

Secondly, it suggests that the soil proponents want to use the organic standards to protect their markets, while hydro growers are solely motivated by an altruistic desire to spread
the good word. Really, I mean.

Finally, and most upsetting to me, is the assertion that I personally am only using this issue to make more money off the back of organic certification.

Aside from the crazy talk that I got into organic cause it looked so profitable, because it did not look very profitable 36 years ago, this ignores the reality that if I really wanted to make more money off the organic label, I would just go hydroponic myself.

I would see an immediate boost in yield of 30-40%. This is well known. I learned from the task force that my hydroponic brothers and sisters are in fact getting those yields. And it's what conventional growers get when they go from the soil to hydroponic also.

I am not a Luddite, and I'm not intimidated by the simple technologies required for a hydroponic setup. Do you have any idea of how profitable hydro would be for me if I called it organic? Why wouldn't I do that? Because I
think it would be fraud. I actually believe that organic must be based in the soil. Thank you.

CHAIR FAVRE: Any questions?

Francis?

MR. THICKE: Thank you for your comments, Dave. There seems to be a lot of confusion between container growing and hydroponics. And from your experience on the task force, can you give us some perspective on that?

VICE CHAIR CHAPMAN: Yes, there's actually a lot of misunderstanding about this. And from my experience, not just on the task force but from many years being pretty immersed in the hydroponic community, because my Dutch consultant, I was the only organic grower that he ever worked with.

Everybody else was hydroponic. I have good friends who run large, 75-acre hydroponic glass greenhouses growing vegetables.

In the world of tomatoes, cucumbers, and peppers, hydroponics is all container growing. It's not grown in a little trough of water, it is
grown in some kind of a container, and usually the
growing medium in that container is either rockwool
or coconut coir.

In the world of organic hydroponic, as
such, it's mostly grown in coconut coir and peat
moss. Peat moss was abandoned as being not as
good, they certainly tried that in conventional
hydro.

I wanted to give you an example. Pete
brought his head of lettuce, so I brought some
coconut coir. This is a welcome mat for your
house, and it says, Dash away all, which is
unfortunately what I think is happening to the
organic standards right now.

It is made of 100% coconut coir,
untreated, and it lasts very well as a welcome mat.
You wipe your feet on it, and the soil it will ever
get is what comes off your boots.

The reason that coconut coir is so
popular in conventional hydroponics is because it
doesn't break down. So it doesn't provide any
nutrition. That's what makes a good substrate.
It keeps its texture so that when they dry it out, air comes in, and when they wet it and give the nutrients, all the nutrients come from the liquid.

If you had a pot of this and you threw in a couple of handfuls of compost, still, 99% of the nutrients for a long crop like tomatoes are going to come from the substrate. It is a hydroponic setup.

So just because you're growing in a container rather than in a tube of water does not mean in any way that it's not hydroponic. And only in this room do we seem to hold that to be some sort of confusing issue. In the world, the rest of the world, in conventional hydro, of course they talk about container growing as hydroponic.

There was one last thing about that, there was another statement in the New York Times that said, Soil to me as a farmer -- this must come from a hydroponic grower -- means a nutrient-rich medium that contains biological processes.

And that doesn't have to be dirt. So to that person, this is soil. But I think you need
a very special perspective to embrace that idea. This is not soil.

MR. THICKE: Could I follow up?

CHAIR FAVRE: Follow up Francis, and then Zea.

MR. THICKE: Yes, follow up is also, there seems to be confusion around the European standards regarding container growing and hydroponics, and you look at that quite a bit in the task force. Can you tell us what you learned there?

VICE CHAIR CHAPMAN: Yes, yes, there seems to be confusion coming in in the comments that I've written about. In the EU, the way the standards currently are, 96% of the population, those countries require organic growing to be in the ground, without a container, with the exceptions of transplants and ornamentals and herbs. But otherwise, it must be in the ground.

It's been said that throughout Europe they're allowing something like what we're allowing. That's not true. They're not allowing
any kind of container growing. In the three northern countries, Sweden, Finland, and Denmark, they do allow substrate growing, which is hydroponic. And it's actually going to come up for a vote in December.

Whether the EU commission will continue to permit that or not, there's considerable motion that they will not continue to permit it. In which case, I assume we will have to renegotiate our trade agreement with them. There's been a lot of push to keep organic organic.

CHAIR FAVRE: I believe Zea was next.

MS. SONNABEND: Thank you, Dave. Do you have anything further to add to the question that I asked the previous commenter, about Senator Leahy's vision in passing the OFPA?

VICE CHAIR CHAPMAN: Yes, the senator was pretty strong, pretty clear. He said that ever since they passed OFPA, there have been attempts to undermine the standards. He said this was one of them. He said, Look, we all know what organic is, we know what growing in the soil is, we know
what hydroponic is.

And he was very clear, and it's one of the great disservices of this argument that somehow it's besmirching hydro, he was very clear that hydroponic is a great way to grow, but that it's not organic. And his sort of famous line was, Let organic be organic. Organic must be organic must be organic.

So he said he was committed to seeing this through. And he just got reelected, so I guess he'll be around for a few more years to help us. Does that give a --

CHAIR FAVRE: Dan, you had a question.

MR. SEITZ: Has anyone done research on the nutritional profile of vegetables grown in-ground versus those that are grown hydroponically, comparing like types of vegetables?

VICE CHAIR CHAPMAN: There have been tests done comparing conventional hydro to conventional soil-grown. And conventional hydro did great, you know. It tested well on the basic
nutrients, as it should. They're very good at that.

Of course, one of the things that we've learned is we don't know what we're testing for. We only know what we know, we don't know what we don't know. They're learning stuff all the time. The latest stuff that I assume a lot of us have seen is that a little bit of dirt is good for you, you know.

A little bit in your diet, maybe instead of salt we'll be sprinkling a little bit of soil. It's good for preventing cancer, it's good for mood disorder. So who knew that, right? Who knew that? There's so much that we don't know.

I think that the whole organic movement was based on what we don't know. And based on a respect and a reverence for that $350 million co-evolution of plants and soil. It's a pretty magical process that we do not understand.

So the tests -- nobody's tested organic hydro that I'm aware of, and I've never seen it compared nutritionally. I did see one interesting
test some years back where they fed chickens
conventional tomatoes and biodynamic tomatoes and
the chickens always ate the biodynamic tomatoes
first. So that's a pretty good test.

CHAIR FAVRE: Thank you very much.
I'm sorry, we're going to have to move on. We're
already about 20 minutes behind schedule with, you
know, four people into --

VICE CHAIR CHAPMAN: Okay. Thank you
very much.

CHAIR FAVRE: Thank you very much, Dave. Next up is Ashley Buhler, and then we've got
Paige Tomaselli on deck.

MS. BUHLER: My name is Ashley Buhler,
I am a broiler technician and organic coordinator
for Miller Poultry. Our poultry company is a
small, family-owned company in northern Indiana
and southern Michigan. We serve mostly Amish and
Mennonite farm families who take care of our birds.

I'm talking about sodium bisulfate and
the other alternatives that are out there. Barn
Fresh is an alternative that is OMRI approved, but
as you can see in this graph, it does not do a good enough job of reducing the ammonia. The red line is the 25 parts per million that OSHA recommends for employees and for the birds, to not have ammonia over those levels.

It doesn't do a good enough job. There's still ammonia in there, even after days of heat and ventilation for those birds. It also has not been effective in reducing the bacteria loads. The Amish growers must run their generators 24 hours a day, seven days a week, to keep the fresh air going to be able to get rid of the ammonia that's in the barn.

As the birds grow, they produce more ammonia, and it's causing the birds to have all sorts of respiratory issues because the ammonia cannot be reduced with simply applying the Barn Fresh and ventilating.

The sodium bisulfate could be placed in the barn at any age of the birds. As the birds grow, you can put more sodium bisulfate in. You could also reduce the environmental impact of
having to ventilate and having to heat additional resources if the sodium bisulfate could be put in. If it takes the ammonia down below those levels, the barn could be run as normal.

Whereas now, with the Barn Fresh, the heat and the fans have to keep running constantly to try and get that out. And it could be used by all organic producers and not just dependent on certifier.

I know there have been different certifiers who've come up with a different alternative to Barn Fresh or different options. But if a certifier doesn't approve that other product that's not Barn Fresh, they can't go with that option.

The bacteria and the health challenges, it reduces clostridium, e-coli, salmonella, the dermatitis, and it also lowers the pH. Barn Fresh claims to do that, but in my experience, it hasn't done that. We've had challenges of bacterial and fungal and viral in our barns.

So we talked about the levels. This is
the comparison. We have barns that are able to put
the sodium bisulfate in it. About 75% of our barns
are conventional ABF, and then 25% are organic. Of
the barns that are on the top data points there,
those were all Barn Fresh barns. Upwards of 100,
120 parts per million ammonia.

CHAIR FAVRE: Thank you. Ashley, you
had a question.

MS. SWAFFAR: Sorry, I have several
questions actually. Can you please go back to your
first slide that showed ammonia levels in barns
after Barn Fresh application.

MS. BUHLER: Yes.

MS. SWAFFAR: I'd like to get a little
better look at that. So the Barn Fresh ones are
which? It's kind of hard to see.

MS. BUHLER: They're all Barn Fresh.
All of those are Barn Fresh. So the Barn Fresh was
applied two days prior to bird placement, and the
measurements were taken. There are several
measurements taken, so, that correspond, like the
red squares are one grower that I took on certain
days.

So the day the chicks were placed, a few days in to the placement, and before the chicks were placed. So you can see that at any time, even within a week of constant ventilation to the barn, that it never reduced the ammonia below that level.

MS. SWAFFAR: So you're telling me that those levels that you had showed PPM, parts per million of ammonia.

MS. BUHLER: Yes, parts per million.

MS. SWAFFAR: Sixty, 80, and 100 parts per million of ammonia?

MS. BUHLER: Yes, and I've seen it as high as 200 in a barn when chicks were supposed to be coming to that barn within hours.

MS. SWAFFAR: How are your birds surviving?

MS. BUHLER: It's been a challenge. You know, the birds have, you know, sores in their eyes. You know, they're blinded, they're to the point where they can't breathe, they can't move around. You know, we've gone to MOSES, we've gone
to our own certifier and said, Give us something else. What else can we use?

And we haven't been able to find something that OMRI certified or even that our certifier would let us allow long-term to be able to do this, to keep that ammonia down and keep those birds healthy.

MS. SWAFFAR: Okay, sorry, Tracy. I have some more questions.

CHAIR FAVRE: Let's do Francis first, and then we'll come back to you, Ashley.

MR. THICKE: Are you aware of the difference between Barn Fresh and Activated Barn Fresh?

MS. BUHLER: Yes. And we've tried the different types.

MR. THICKE: Okay. The data that I've seen submitted replicated research showed that the difference is that the Activated Barn Fresh, and I don't have any stock in Barn Fresh, but the data -- it has citric acid in it, and it lowers the pH actually lower than does sodium bisulfate.
Sodium bisulfate takes it down to about pH 4. And the Barn Fresh Activated takes it down to about 2.7, over a tenfold decrease in pH.

And so I don't think -- and also the data that was submitted with that showed that there was zero PPM ammonia, because if you have that low pH, as you probably know, you're going to take that gaseous ammonia, NH₃, and make it into NH₄⁺, the cation will be not gaseous.

And so that was a completely different, I'm wondering if, I guess you really probably to need to look at apples to apples and have an acidic form versus the sodium bisulfate.

CHAIR FAVRE: Ashley then Jean then Zea.

MS. SWAFFAR: Okay, so one of your things here on why you said ventilation does not work is because you work with a lot of Amish farms that would have to run their generator 24/7.

So, I've spent a lot of time on Amish farms in northern Indiana myself, and you know, best I can tell, generators have to run 24/7 because
your fans are probably on cycle timers and things like that. So, and I'm not sure where that argument's coming from, because they should be running anyways, correct?

MS. BUHLER: Well, if the growers want to run, you know, just use curtain ventilation to use fresh air coming in from the curtains, then they don't have to use the generator. But they have to increase their fan cycle time in order to get rid of the ammonia.

You know, it's normally, you know, if they would have a fan cycle time of out of a total of 300 seconds, you know maybe 90 seconds for the small chicks. They would have to go up to 150-200 out of 300 seconds, which is a lot air on those small birds to be able to get the ammonia out.

You know, the only place we've had success with removing the ammonia once the Barn Fresh has been applied is to get that fan cycle running, you know, almost 300 seconds out of that cycle time. And that's too much air on those birds, and they're suffering there as well because
they have too much air going across them, and that creates respiratory issues, different respiratory issues than the ammonia.

CHAIR FAVRE: Okay, let me see if I can remember. It was Zea then Jean -- no Jean and then Zea.

MS. RICHARDON: Yes, like most inspectors, I've been in quite a few poultry farms, including Amish ones. Some of the times, these are very small barns that have a very limited number of broilers, for example, rather than a large number.

Do you see, what's the range of sizes of number of birds you have per building that they're in, and do you see any difference in the ability to manage for the ammonia in the small-scale ones as opposed to the large-scale ones?

MS. BUHLER: I would say it's a challenge in both. Our barns, we've tried to reduce the densities to try and help with that. You know, we've gone from a .9 square foot per bird
to even upwards of close to a foot and half per square foot for each bird.

But the number of birds in the house range from 23,000 to 42,000 in some of our newer houses. And that's, even with the reduced numbers, it isn't enough to get that ammonia decreased.

CHAIR FAVRE: Okay Zea and then Emily.

MS. SONNABEND: Thank you. I'm far from a livestock expert but, so this may be an oversimplified question. But if you're having ammonia build up the barns, why aren't you cleaning out the waste more often?

MS. BUHLER: Good, that is an excellent question. We've tried complete clean outs. We've had barns that were upwards of 400 birds dead in, you know, a day, consistently, so we tried to completely clean out the litter and then put in new litter that very next block.

We had the exact same reaction. So they still had the necrotic enteritis.

MS. SONNABEND: How quickly after you?
MS. BUHLER: The next block. So they cleaned it out, you know, they had a two-week period. And then the birds were placed and three weeks in, you know, about day 18, those birds reacted with necrotic enteritis.

MS. SONNABEND: You couldn't clean it every week for some reason?

MS. BUHLER: It's inches. So the poultry house has four to six inches of shavings, sawdust, and so in order to clean that out, you have to remove, you know, four to six inches, you know, in a 42 x 560 foot house. That's going to be a significant cost to get that out of there every single time you had birds.

You know, it takes these growers even they compost it in windrows, it takes them, you know, a good part of a day to even take out the center windrow to try and reduce the amount that builds up between flocks. So to clean out each time wouldn't be economically, it wouldn't be possible without a large burden. And it also wouldn't help, because the ones we've completely
cleaned out have still broken with necrotic enteritis the next block.

CHAIR FAVRE: Emily, and then we get one more question on Ashley's part.

MS. OAKLEY: Thank you. How many square feet would you need to allot to each bird to bring the ammonia levels to healthy levels without a form of intervention?

MS. BUHLER: I mean, we've seen it up to a foot and half square foot and there's still ammonia in there. But if you start taking birds away from the barn, you're also taking away a heat source. And so you're going to have to add more heaters, you're going to have to add more ways to heat the barn, because they're on this litter, and so you may have to make it deeper.

But as you make it deeper, and if you want to keep the litter in there, it's going to build up bacteria over levels. So I don't think that stocking density reductions are the way to go, because it's going to create other undue burdens on keeping the barn ecology consistent within the
systems it's working under now.

CHAIR FAVRE: Ashley.

MS. SWAFFAR: So I understand the principles of litter build-up and why it's required in a broiler barn. So you didn't really hit Zea's question on applying litter build-up to ammonia levels. My question would be really, on this slide here that you show us those high ammonia levels, how old is that litter?

MS. BUHLER: It would probably be somewhere in the three to four year range. We haven't had organic broilers for more than four years. So the oldest operation I think is four years. So four years would probably be the most, but I know that they at least take out a wind row probably every other flock to change the levels.

So within that, you know, four to six inches, it's changed probably every six to eight weeks when they remove a portion of it. And they top dress every flock. So even with that, those numbers, that is a barn that has been composted, put into windrows, heated to a 145 degrees, leveled
back out, Barn Fresh has been applied on top of new shavings.

So those birds are not -- they're starting on new shavings with Barn Fresh applied on top of that new shaving. So they're not actually even contacting the old litter when they start. And that's still the level of ammonia. I mean, it's fresh shavings with Barn Fresh put on top of that and you're still getting those high levels.

CHAIR FAVRE: Thank you, Ashley, we appreciate it. Next up is Paige Tomaselli, and we've got Sarah Taber on deck.

MS. TOMASELLI: Good morning, I'm Paige Tomaselli, senior attorney for the Center for Food Safety. I'm going to cover two topics today, strengthening organic seed requirements, and conflicts of interest.

Last week, I traveled from California to Washington, DC, where I chaired a meeting on sustainable animal agriculture. At dinner, I was speaking with several environmental and animal
advocates about different aspects of the organic program.

As I explained the history of the organic program, the unique nature of the NOSB, and the function of the National List to my colleagues, it became clear to me that these informed organic consumers and environmental advocates were unaware that there is an exception for synthetics in organic, and that an exception even applies to seeds when organic seeds are unavailable.

Organic seed is critical to the integrity of organic food. Conventional seed production uses highly toxic chemicals, so their use in organic farming is antithetical to the principles of organic agriculture. While the supply of organic seed in the United States is increasing, significant improvement is still necessary if the organic program is going to be truly independent.

Most organic farmers still use some conventional seed, with the largest farmers using relatively little. In order to drive further
increases in organic seed production, the NOP must provide a clear framework for what continuous improvement looks like for organic seed.

This includes encouraging producers that do not demonstrate improvement to consult extra sources, at least five, before turning to conventional seed; requiring producers to list organic seed sourcing strategies in their organic systems plans; including handlers in the requirements; and improving inspector and certifier training.

Every sector of the organic program must work together toward 100% organic seed in organic. This will bring organic in line with the consumer protection and desire.

Another aspect of the organic program that consumers, even the most educated consumers, are unaware of is the incredible amount of public participation, comment, and testimony that goes into the organic program. For example, the recent changes to the PPM are a response to the public's desire for an open docket in a NOSB. We really
appreciate that.

That allows public input on key issues throughout the year. Public participation, however, cannot exist in a vacuum. There must also be transparency. This is why CFS requests that the PPM provide procedures by which the public can formally raise concerns about NOSB member conflicts of interest.

Congress designed the 15-member NOSB to bring a diverse collection of ideas and experiences to the table. Many members of the board will inherently have some conflicts of interest at some time during their tenure.

Transparency about these conflicts is not meant to undermine a member's ability to vote, but instead shine a light on each member's unique experience to further inform the rest of the board and the public why each member is voting the way he or she is.

Creating a forum by which members of the public can raise potential conflicts of interest will incentivize members to disclose conflicts of
interest themselves and allow the public to bring forward relevant concerns --

CHAIR FAVRE: Thank you. Any questions? Zea?

MS. SONNABEND: Thank you, Paige. Sorry to change the subject, but since I know that you have been the author of many of the Center for Food Safety's comments on excluded methods, I need to ask you a question about that.

Throughout the comment period on these issues, which has been going on for three or more years now, you have stated that, Any clarification of the excluded methods definition should be in guidance and not regulation. And yet this latest comment implies that it should proceed to regulation as quickly as possible, and I'm wondering why you changed your position?

MS. TOMASELLI: Can you -- do you have the comments in front of you? Does it specifically state that?

MS. SONNABEND: Yes, something to that effect.
MS. TOMASELLI: All right.

MS. SONNABEND: Proceed into regulation as soon as possible.

MS. TOMASELLI: All right, that's not our position, so that was -- I didn't write that set of comments. But our position is still that this should be dealt with through guidance and not through regulation.

MS. SONNABEND: Okay, thank you.

MS. TOMASELLI: You're welcome.

CHAIR FAVRE: Thank you very much.

MS. TOMASELLI: You're welcome.

CHAIR FAVRE: Next up is Sarah Taber, and we've got David Harris on deck.

DR. TABER: Good afternoon everyone. Real quick show of hands -- who, perhaps in a previous job in conventional ag, has been gassed by methyl bromide? Anyone? Okay, so I like to say I understand the hazards of conventional agriculture better than anyone in this room. Let me tell you, it's not fun.

So, again, my name is Dr. Sarah Taber,
I'm with the Aquaponics Association. Real quick, so the idea that soil flora is mysterious and unknowable and can't be understood and can't happen anywhere else was born at the turn of the last century. And at the time, with the tools that we had, it was true.

In the century and more that has passed since then, we've learned a whole lot. We know what lives in soil, we know what lives in compost. We know who makes up a really key component, which is the rhizobacteria living in that sheath around the root, interacting with the host plant and affecting a lot about its health. And we also know that those same organisms also live in the same numbers in hydroponics.

NOSB has repeatedly requested data to support banning hydroponics and aquaponics from organic certification and received none. Instead it's gotten only platitudes and philosophical musings from soft-core twentieth century eugenicists like Rudolph Steiner.

Board, I bring you some data. This
comes from a comprehensive survey of scientific literature that I did for the Aquaponics Association to learn how we could do our due diligence on food safety and grow food responsibly for our customers.

To meet this high standard, we had to learn everything there is to know about what lives in the water in a hydroponic and in an aquaponic setting. One of the many things that we learned was everyone was saying that hydroponics is sterile, and different from soil. And when I was doing that review, we never found one piece of evidence to support that.

What we did find instead was this. All right. We got Berkleman, et al., 1994, Florida hydroponics reaches soil level density, ten to the fifth to ten to the eight CFU per mil within 20 hours of putting it in the plants. Milnard, et al., 1992 and Egido, et al., 2011.

Mycorrhizae grow great in hydroponics, they grow in hydroponics so well that that inoculum, that people buy for their organic farms to bring
mycorrhizae to their farm is grown in hydroponics. Flora in rockwool is plentiful and beneficial and it exists, and it fights disease very, very effectively. Post, middle of 2004, Tu et al., 1995. Daniel et al., 2004, El Gahoof, et al., 1994.

Vonns, et al., 2011 is a review of 80 papers showing that. Van Os, et al., 2000. That's really all I've got to say. Dr. Taber out. Thank you. Any questions?

CHAIR FAVRE: Any questions for Dr. Taber? Thank you very much.

DR. TABER: Thank you.

CHAIR FAVRE: I appreciate the thump on the podium to make sure we're all awake, too.

DR. TABER: You've got to keep them lively.

(Laughter.)

It's a long day, very long.

CHAIR FAVRE: Okay, next up is David Harris, and on deck is Madison Monty.

MR. HARRIS: Yes, hello, everyone, my
name is David Harris, I'm president of Insight & Measurement. We do survey research, among other things. I'm trying to go forward -- thank you.

This was a survey about general attitudes towards organic produce and container growing. We went to 500 people in the United States, ages 25-64, and these were people who at least purchased some organic produce. This survey was done in late August, early September.

We found, when we asked people, Why do you purchase organic produce, it really centers on, I want something that's healthier for me and my family, I want to reduce the amount of pesticides. Issues like they taste better, they build healthier soils, comes in a lot later in terms of a rationale or a reason why I purchase organic produce.

We asked people about six priorities for improving the farming of organic produce, and what comes to the top, and this is true from other research we've done, reducing pesticides and making organic produce more affordable.

We then asked if they favor or oppose
allowing container growing to be certified organic, and 91% of people favor a policy that allows organic farmers to grow organic produce in containers.

We also asked people what would happen to your feelings about the integrity of the USDA if they banned container growing, and the majority of people, 54%, felt like the integrity would be decreased. Only seven percent thought the integrity would be increased if banning container growing was required for organic certification.

And then we simply asked people, this is just attitudinally, do you feel organics is more about healthier products for me and my family, or about improving the condition of the soil, and the majority of people are selecting this is healthier product for me and my family. And that basically summarizes some of the things that we found.

CHAIR FAVRE: Thank you, any questions? Harriet.

MS. BEHAR: So organic is much more than just input substitution, it's not just only about the input. So can you talk about how a container
1 growing operation improves the general ecosystem of
2 the land that you're on, or biodiversity for
3 wildlife?

4 MR. HARRIS: No, I really can't. There
5 are probably 100 people behind me who can.

6 MS. SONNABEND: How did you choose the
7 people -- oh, he called on me.

8 CHAIR FAVRE: Zea.

9 MS. SONNABEND: How did you choose the
10 people that you surveyed and how many of them were
11 there?

12 MR. HARRIS: Yes, we went to a sample of
13 500. And so we do a lot of things, you know, there
14 are algorithms to balance that the people are
15 representative across the United States by
16 geographic region.

17 And the only thing we really selected
18 for was that you had to be, I forget what the slide
19 was, 25-64, that they had a household income of at
20 least $25,000. And we wanted to measure the
21 attitudes of people who are in the organic game, if
22 you know what I mean.
So they had to at least buy some organic produce. They weren't people that completely rejected organic produce.

MS. SONNABEND: But did you walk up to them on the street, or call them on the phone?

MR. HARRIS: Oh, I'm sorry, no. This survey was administered over the internet.

MS. SONNABEND: So you asked for people who wanted to comment.

MR. HARRIS: Yes, there are, oh, I don't know, there are many dozens of different panels of people who take surveys, and so we use an algorithm that involves a balanced panel to get a representative view of the United States. And so we went to, I believe there were five different panels.

MS. SONNABEND: Thank you.

CHAIR FAVRE: Tom and then Harold.

VICE CHAIR CHAPMAN: Has your survey been provided to us in previous written comment, or is it available for us to review the data?

MR. HARRIS: Yes, happy to have you
review it, just let me know what the process is for that. And I assume I'll talk with you about that.

CHAIR FAVRE: Harold.

MR. AUSTIN: This part of your survey, did you happen to ask any of those responding to your survey whether or not they had a preference whether the organic products that they purchased were soil-born, came from soil production, or from hydroponically? I mean, did it matter to them? Did you get a response, or did you ask that question?

MR. HARRIS: Well, I can tell you, no, we didn't ask that particular question. But the majority of people really don't know a lot about the term hydroponic. So, yes.

CHAIR FAVRE: I have a question for you. You indicated in your graphic that 91% said that they felt like the integrity might be damaged by not allowing containers, did you have any background information on why they felt that was the case?

MR. HARRIS: Well, let me just correct that. The 91% was, you know, the question was, The USDA currently allows organic farmers to grow
organic produce in containers. Do you favor or oppose this policy? And that was the 91%.

CHAIR FAVRE: Okay.

MR. HARRIS: And so 91% favored that policy.

CHAIR FAVRE: Okay, thank you for clearing that up.

MR. HARRIS: Yes, that's all.

CHAIR FAVRE: Harriet, last question.

MS. BEHAR: Did you ask people about how they felt about crops being grown under continuous artificial lighting versus in sunlight?

MR. HARRIS: No, we've never asked that, no. And not in any other work about continuous lighting I haven't.

CHAIR FAVRE: Thank you very much, and, yes, if you'll make sure we get copies of that survey, that'd be helpful.

MR. HARRIS: Sure, okay.

CHAIR FAVRE: Next up is Madison Monty, followed by Theojary Crisantes.

MS. MONTY: Hi, okay. Good afternoon,
my name is Madison Monty, I am policy advisor for the Northeast Organic Farming Association of Vermont. NOFA Vermont is one of the oldest organic farming associations in the country, with around 1200 members.

I appreciate the opportunity to comment today, and I would like to address the board, as you've heard so much already, on the subject of hydroponics.

In these discussions, the term bioponic has been used to refer to hydroponic, aquaponic, and aeroponic systems. And with regard to their inclusion in organic, I want to point out that the principles of hydroponic and other so-called bioponic systems are the same.

What sets these systems apart, and what should disqualify them from organic certification, is their reliance on liquid feeding systems rather than biologically active soil to supply crops with the nutrients they need. It is clearly an exaggeration to claim that coconut coir and rockwool mimic the biological activity inherent in
These inert substrates do not supply sufficient nutrients on their own. It's true that bacteria are present in these systems, but they are also present literally just about everywhere. To compare the biological activity that occurs in these substrates to that found in a health soil ecosystem is a fallacy.

Beyond what an earlier commenter proposed, we believe consumers' expectations for organic go beyond the absence of synthetic fertilizers and pesticides to a positive expectation that organic supports biodiversity, something hydroponics do not and cannot accomplish.

Hydroponic and other bioponic systems, by purporting to know exactly what nutrients the plants need and supplying them through liquid feeding solutions, represent the conventional model.

It has been said, and I agree, that to accept these systems as organic is analogous to suggesting that a cow can live its entire life in
a factory and still be considered organic as long
as it is only fed organic grain and treated with
approved medications.

To accept this way of thinking would be
a disservice to those who have worked for so long
as stewards of the complex soil ecology that is
critical to organic farming. This morning you
heard two of Vermont's dedicated organic farmers
who, like many others, have worked for decades
developing and maintaining healthy, biologically
active soils to provide nutrition for their crops
and to the people they feed.

To them, to me, and to so many others,
caring for the soil is what it means to be organic.
I ask you to take these farmers' comments to heart
in your decision this week, and know there are
legions of farmers and consumers behind them asking
you not to redefine what it means to be organic.

Please concur with the vote of the crop
subcommittee and exclude hydroponics from organic
production.

CHAIR FAVRE: Harold.
MR. AUSTIN: In your presentation, you made a comment about the claims about the hydroponics being a fallacy. Was that based on personal opinion, or is that based on scientific data?

MS. MONTY: I just, well, mostly personal opinions, to be honest. I just have a hard time seeing how a system that uses an inert substrate that provides physical support but that can't supply the majority of the nutrients itself can be compared fairly to the very complex soil ecology that's present in a healthy soil ecosystem.

I just don't think that the two are comparable, and I think that that is proven by the fact that those systems require constant feedings of nutrient solutions. Whereas soil-based systems only require, you know, occasional supplementation and not constant nutrient additions.

CHAIR FAVRE: Thank you, Madison.

MS. MONTY: Thank you.

CHAIR FAVRE: Next up is Theojary Crisantes, followed by Michael Sligh on deck.
MR. CRISANTES: Good afternoon, board members, ladies and gentlemen. My name is Theojary Crisantes from Wholesome Harvest. Today I would like to talk to you about our certified organic container production and the nutrient cycling process we follow to feed our vegetables grown in containers.

The process starts by making compost. Following the NOP guidelines, and assuring that the final product is mature with high end C/N ratio. The same compost we brew -- with same post we brew compost tea.

As you can see in the lab analysis shown here, the compost tea has plenty of beneficial microbial activity. The tea is then carefully applied to the container to inoculate the cocoa husk, creating ideal conditions for the beneficial microbes to establish themselves in the root zone of the growing crops.

As you can see on the following lab analysis from one of our containers, the microbial activity is above the suggested ranges, creating an
environment suitable for high cycling of nutrients. All of this biology activity is then translated to plant nutrition through the cycling process.

We perform plant tissue analysis, and nitrogen levels are correct for the plants to grow. Through observation of the plant itself, we can confirm that the plant is growing healthy as well. But when we perform traditional media nutrient lab analysis, the nitrogen levels of the plants are -- not the plants, of just the immediate self, are below the requireds for the plants to grow healthy. So we know that our current cycling process is working correctly in feeding our plants.

So I wanted to take this time to present to you a study performed by the Department of Agriculture and Ecology of the University of Copenhagen, published in April of 2012 in the Journal of Biogeoscience, titled, Interactions between Uptake of Amino Acids in Inorganic Nitrogen and Wheat Plants.

The conclusion was, and I quote, It is concluded that amino acids can constitute a
significant nitrogen source for wheat plants. And there is an interaction between the uptake of inorganic and organic nitrogen. The lysine uptake is not down regulated in the presence of nitrates, while nitrates uptake is reduce in the presence of lysine, end quote.

There is more significant data describing similar process in which plants uptake nutrients in organic form. We wrote a comment to the NOSB board, which includes a detailed description of our growing practices and scientific data references which support our field observations. We urge the NOSB board to take this scientific data and observations to continue to allow for the use of organic containers.

CHAIR FAVRE: Thank you, any questions?

MR. CRISANTES: Yes.

CHAIR FAVRE: Harriet.

MS. BEHAR: I will ask the same question I asked before, so on your larger operation where -- now, first, are you growing in high tunnels, or indoors, under artificial light?
MR. CRISANTES: No, no, just a regular greenhouse with sunlight coming in.

MS. BEHAR: Okay, so it's a greenhouse. So in the larger aspect, how is your operation promoting the overall health of the greater ecosystem where it's located, and maintaining or enhancing biodiversity?

MR. CRISANTES: For example, you know, after we're done with the coco coir, we take it out of the greenhouse, we have the field next to our greenhouse where we introduce that coco husk. We incorporate it into the soil, and that soil then we grow Sudangrass throughout the summer.

And then we have a local farmer that comes and harvests that Sudangrass and takes that Sudangrass and feeds it to his cows. He comes and harvests that Sudangrass throughout the summer.

And you know, we do like a cooperation between the part of our production that we can't do anything with, and then he does something with, you know, organic matter that is, let's say, not sellable. And so we do that cooperation. In other
farms where we grow other crops, we incorporate it into the soil, and then we grow crops such as zucchini.

So you think that just because it's inside a greenhouse, that there's no use for that material that we're using inside the greenhouse. But there is, there's tons of uses for it. And that's how we promote the cycling of nutrients and the biodiversity.

And the biodiversity is not only, let's say, it's more than just outside of the greenhouse. It's inside, where all the microbes that live inside. So if you look at the analysis that I showed before, there's tons of biological activity going on.

If you saw the numbers that I showed you there, they're not just tiny little things that are there. The numbers are greatly exaggerated, you know. Because it's not a little bit.

Yes, sir.

CHAIR FAVRE: Harold.

MR. AUSTIN: Your greenhouse
construction, is it planted on ground that could be farmable, or is this non-farmable ground that it's constructed on?

MR. CRISANTES: So it's in Arizona. So imagine, you know, it's pretty dry, Arizona. It's desert, so, you know, the dirt there, it's pretty alkaline. So it's pretty rocky. If you throw a tomato seed outside of our ground, it will not grow.

CHAIR FAVRE: Thank you very much. Next up is Michael Sligh, with Jim Garrison on deck.

MR. SLIGH: Good morning, I am Michael Sligh with RAFI. Welcome to the new board members, and to those of you who are retiring, congratulations and thank you for your service.

I rise today to summarize my written comments and to make three areas of comment. First, new genetic techniques. I support the committee recommendations and strongly urge the NOSB to adopt the principles, the criteria, and the list of techniques as the current NOSB position. There is broad support for this.

As we see, this is a critical moment as
we move into a new administration to enter in with clarity, precaution, and policy signals that can preserve consumer confidence and protect the rights of farmers and plant breeders.

Secondly, fairness. In mean times, it is critical that we more comprehensively embrace fairness as a principle in our organic claim. While fairness is a key pillar of our international principles for organic, we have not managed to formally include this into our regulations. We cannot get to sustainability without fairness, workers cannot have justice if farmers do not have justice.

That said, for those who have volunteered to followed this rule, our promise is a level playing field. You play by the rules, you can compete on fair terms.

Here are few examples where we can improve on our promise. GMOs, organic farmers deserve protection. The NOSB and the NOP should not shy away from continuing to urge and voice guidance and policies to embrace fairness as a key
way to resolve GMO contamination.

Secondly, imports. Organic equivalency is based on ensuring a level playing field. We cannot allow the U.S. to become a low bar dumping ground for organic products that do not meet the U.S. standard. I strongly urge immediate action to address the comments of OFARM. I support USDA's adoption of import transaction certificates and the establishment of a high risk regions import policy that requires greater scrutiny for such imports.

Hyrdoponics. It's my understanding that currently hydroponics can be imported from other countries that do not allow organic hydroponics in their own country, and they can come into our country without any additional clarification. I support the NOSB and those who call on urgently to take a vote of the growing problem of hydroponics allowance into organic. The original NOSB position has been misrepresented.

And finally, I think now is a critical time for us as a community to recommit to our shared
vision and common support for organic integrity. We are heading into uncharted waters that require greater unity of purpose and focus. Let us call on our better selves, as this will serve us as we move forward. Thank you.

CHAIR FAVRE: Thank you, any questions?

MR. SLIGH: Thank you.

CHAIR FAVRE: Thank you very much. Next up is Jim Gerritsen, and we've got Nicole Dehne on deck.

MR. GERRITSEN: Hi, I'm Jim Gerritsen. I've been an organic farmer for 40 years, certified organic by MOFGA for 34 years. And in disclosure, I make my living from farming, from raising organic seed crops primarily.

In addition to farming, I've served the organic community extensively. I worked as a volunteer on MOFGA's Certification Committee for almost 25 years. I served for three years as president of Organic Seed Alliance, based in Washington. And I'm currently the president of Organic Seed Growers and Trade Association, based
in the State of Maine.

OSGATA is farmer-controlled trade group focused on trying to be a steward for the organic community and developing the integrity and expansion of organic seed supplies for the organic community.

So one issue I want to talk about, OSGATA supports the excluded methods technology proposal that's coming up. We support all three, and we believe that it needs to be voted in at this meeting.

And in fact, at yesterday's National Organic Coalition pre-meeting, there was a general consensus by I think probably everyone in that room, including Organic Trade Association. And you might want to ask them, because they had some hesitancy about supporting the vote now, but after a discussion there, I came away thinking that they support voting on that at this meeting.

Okay, another issue I want to talk about is hydroponics. In addition to farming, I'm a member of a group called The Agrarian Elders, and we have previously submitted two letters on this
hydroponics issue to the NOSB.

The Agrarian Elders is a group of experienced organic farmers which total over a thousand years of organic farming production, and we're unanimous in our view that in order to be organic, production must be soil-based.

And what that means is that it has to be in the soil, in the ground. And we have a hundred years' worth of experience from the very beginnings of organic farming. This is what organic meant. It has to be soil-based. One of the important reasons is that we have soil, we have climate change to face and the carbon sequestration is important.

The final thing I wanted to say is this question that Davey Miskell tried to ask. I'd like to address this question to Mr. McEvoy. Please clarify for the audience and the NOSB what actions the NOP will take if the proposal to approve hydroponics fails.

CHAIR FAVRE: Thank you, Jim. Hold on just a minute. Yes, you can, go ahead. Might as well.
MR. MCEVOY: Yes, we're going to get into this a bit on Friday, and I think that's the best time. When the crops subcommittee is discussing the hydroponics proposal, we can talk about specifically what it means in terms of different outcomes.

MR. GERRITSEN: Okay. From my perspective, I think a lot of the audience members were confused as to what this was going to be. So to try to move this ahead so that the comments can be more valuable to the NOSB, I think it would be helpful.

When we say we don't want hydroponics, we think that the NOSB should be making a advisement in the strongest possible terms to the NOP that hydroponic certification should end immediately.

MR. MCEVOY: Yes, I don't know what the outcome of the NOSB will be in terms of recommendations to AMS. But any recommendation we'll take seriously, we'll work towards implementation, we'll have to do some kind of action in terms of further regulatory work, notice and
comment rulemaking.

It's unknown, it depends upon what that recommendation is going to be. So remember that the NOSB is an advisory committee, it provides recommendations to AMS. AMS is the one that sets the standard, sets the regulatory framework. So some kind of action would have to be taken by AMS to change the current status.

MR. GERRITSEN: Okay, and I was on, part of my work on MOFGA's certification committee was in the late 1980s, and we provided input to Senator Leahy and the Organic Foods Production Act.

The NOSB was created as a compromise so that the organic community would have representation with the government. It would be that interface. So the fact is NOSB created a clear statement in 2010 on hydroponics, and NOP has ignored it. They've allowed hundreds of millions of dollars of hydroponic production to go on.

And so this status quo can't remain. That's what I want to get some action, so that we can get justice.
CHAIR FAVRE: I appreciate your passion, but we do have to stick with the question and answer format if you would please. Ashley, you had a question.

MS. SWAFFAR: I have a question for you as a potato farmer, not as all your other stuff. Where do grow bags fit into all this hydroponic container and all that? Do you -- what do you think about grow bags?

MR. GERRITSEN: I think it's fine if you're a backyard person living in a city and you've got a balcony and no other access to land. I've got no problem with hydroponics. But it is not organic, and it is fraudulent to allow hydroponic operations that are not in the soil, in the ground, to call their stuff organic.

CHAIR FAVRE: Tom, you had a question.

VICE CHAIR CHAPMAN: Yes, you just said in the soil, in the ground for the second time, so I just want to clarify your position. Any amount of soil and any size of container is not allowable under organics from your --
MR. GERRITSEN: In the soil, in the ground. That's the European definition, and I think that's the correct one.

VICE CHAIR CHAPMAN: You would apply that to transplants and seeds as well?

MR. GERRITSEN: It's a soil-based system. The transplants are used as a temporary measure before they go into a soil-centric system for the growth of the majority of their life.

VICE CHAIR CHAPMAN: So OFPA states that for seeds, seedlings, planting practices, for a farm to be certified under this title, producers of such farms should not apply materials to, or engage in practices on, seeds or seedlings that are contrary or inconsistent with applicable organic certification.

So stating that if it's not in the ground, in the soil, and that's required, wouldn't that exclude seeds and seedlings?

MR. GERRITSEN: Well, we grow tomato seed is one of the organic seed crops that we raise. We start the tomatoes inside because it's cold in
Maine and you can't start them outside. So, they are started inside.

As you say, it's in the OFPA to allow that. But for the majority of the life of that plant, it's in the soil, in the ground.

VICE CHAIR CHAPMAN: No, OFPA does not allow that if you can't grow in containers.

MR. GERRITSEN: I guess I'm not following what you're saying.

CHAIR FAVRE: I think this is a discussion left for the debate on Friday. Thank you very much. Thank you very much, Jim. Next up is Nicole Dehne, followed by Jo Ann Baumgartner -- you know, actually, hold on.

Nicole, we're going to, I apologize to Jo Ann, but we're going to go ahead, and we're running about half an hour behind schedule, so I'm going to call an audible, as I am prone to do. We are going to shorten lunch from 75 minutes to 60 in an effort to try to make up about 15 minutes off our schedule. And we're going to go ahead and let Nicole be our last speaker, and then Jo Ann, you'll
come back after lunch and get us started.

MS. DEHNE: All right, got right in under the wire, great. Go ahead?

Okay, so good afternoon, my name is Nicole Dehne. I'm the certification director for NOFA Vermont's organic certification program. It's called Vermont Organic Farmers. VOF, as we call it, has been certifying organic farmers and processors since 1985, and we currently certify over 600 organic producers in the state.

I'd like to thank the NOSB members for the hard work they do on this board, for their dedication, and also for the opportunity to address the board today.

There is, to me, a concerning lack of farmer voice and participation in the national conversation about organic production. You heard today from two of our certified producers who've traveled across the country to address the board on the issue of hydroponics.

I urge you to listen to their testimony and to remember there are many more farmers like
them in Vermont, I can attest to that, and elsewhere, that are unable to be here today but share their views on this issue.

Please consider how the decision made today by this board affects those farmers and their businesses.

So we applaud the NOSB for their diligence in carefully working through the gaps and holes from the 2010 NOSB recommendation on production standards for terrestrial plants in containers and enclosures. We agree that this recommendation allows container growing in principle.

However, we do disagree that the 2010 recommendation implies that plants should be grown in containers to maturity, or that crops should be harvested from plants grown in containers.

The 2010 recommendation clearly discusses container growing and greenhouse production as allowed practices, but it is reasonable to conclude that the intent of that container growing discussion was to acknowledge
that transplant starts and bedding plants should be allowed to be sold as organic.

We strongly encourage the NOSB to limit container growing to transplants and plants sold in pots. We believe the NOSB should adopt the model used by the vast majority of the European Union, which prohibits any harvested crop from being grown in a container. The EU limits organic certification to what's grown in the ground with the exception of transplants, ornamentals, and herbs sold in pots.

It is true that three small member states in the EU all permit substrate growing and none of those substrates are required to be soil. And this demonstrates the import and that the NOSB has to clarify that crops grown in biodegradable substrate that's fed using plant nutrient solution still represent an out-of-soil system which is essentially hydroponic cultivation.

So we feel this approach of requiring plants to be grown in the soil with the limited exceptions would be clear and verifiable. And it
would prevent inconsistent application and verification among certifiers. It would also prevent the industry from the difficult task from having to define how much soil is sufficient in order to ensure that the plant is soil grown.

And drawing a line in the sand to determine how much soil is sufficient, how much compost is required, how much fertilization is allowed post planting creates amongst growers a feeling that the standards are arbitrary. So we prefer the EU's simple approach that reflects the principles of the organic movement. Thank you.

CHAIR FAVRE: Any questions? Thank you very much for your comments.

MS. DEHNE: Everybody wants to go to lunch, I get it.

CHAIR FAVRE: By my official timekeeping clock, it's 12:54 right now. And we will start back here at two o'clock.

(Whereupon, the above-entitled matter went off the record at 12:54 p.m. and resumed at 2:00 p.m.)
CHAIR FAVRE: Board members, if you could take your seats, please. We're going to get started back. Just as a reminder to everybody, we're limited to three minutes. Silence your phones, yes, I'm talking to you, every single one of you, and silence your computers too, if you would, we're still hearing some stuff from time to time.

The duck left the room to seek some outdoor access. Yes. Okay. Thank you for coming back and joining us in a timely manner. We're going to get started back with our public comments and we've got Jo Ann Baumgartner up first. And we've got Carl Freund on deck.

MS. BAUMGARTNER: Yes? Oh, okay, thank you. Yes. I'm Jo Ann Baumgartner with the Wild Farm Alliance. We recently published this document to support the NOP's Natural Resource and Biodiversity Conservation guidance, because the NOP didn't address the issue of prohibiting the conversion of high conservation value area into organic production with the new guidance.
We urge the NOSB to recommend a rule change to do that. Currently, native ecosystems can be converted overnight to organic, while conventional land must be transitioned over three years. It's useful to consider arguments for and against this rule change.

Argument: transitioning land is expensive. But NRCS transition program and companies like General Mills support producers as they transition to organic and OTA and NSAC are working on future farm bill support.

Argument: it would be hard for organic operations to adjust to the rule. But areas previously converted could be grandfathered in and many countries already prohibit conversion.

Argument: organic producers cannot find land to expand their operations. But 99 percent of the agricultural land in the world is farmed conventionally, let's transition that instead.

As part of an effort to find out how much conversion is occurring, we reached out to inspectors. One said that he witnessed the tilling
of native shortgrass prairie in Colorado plains to grow grains. Rare species, like these prairie dogs and burrowing owls, live or lived in this habitat. He estimated 1,000 acres were converted.

Several inspectors reported conversion of sagebrush steppe in the Northwest. One person estimated 1,000 acres converted. This is or was habitat for the rare sage grouse.

It's a moral issue. A sixth wave of species extinction is occurring. We are now losing 1,000 to 10,000 times the historic natural background rate. We need to change our role from conqueror of the Earth to plain member and citizen of it.

And it's a marketplace issue. Palm oil is the world's number one vegetable oil. It used to be -- it's used in many organic foods and it's likely causing the destruction of orangutan habitat. The integrity of the organic label is at stake. Let's change that. The NOSB should make a recommendation that the NOP can adopt. Thank you.
and then Emily.

MR. THICKE: Thank you, Jo Ann. Are you opposed to all CRP conversion to organic?

MS. BAUMGARTNER: No.

MR. THICKE: Okay.

MS. BAUMGARTNER: In fact, probably a lot of CRP could be converted. What we are concerned about is lands that have high conservation value.

MR. THICKE: Okay. Good. I appreciate that, because I know, like, in Iowa, a lot of CRP land gets converted to grow corn for ethanol. And if they can do it in organic, like, converted to managed pasture or something, we can do a step-up, I think.

MS. BAUMGARTNER: The CRP land is in CRP because it has some environmental problems. So, often it has high erosion rates, so we wouldn't want to put it back into organic if that's an issue. And then, if there's rare species or sensitive habitats, we'd want to protect those too.

CHAIR FAVRE: Emily?

MS. OAKLEY: Yes, I probably couldn't
care more about this issue. I feel really, really strongly about it and wanted to know if any of the other certifying entities could provide a background or a framework that we might use and if there are any that you can pinpoint to us, either now or later?

MS. BAUMGARTNER: Yes. Well, in one of my slides, I had listed some of the organic certifiers around the world that already address this. And in some earlier comments I made, I think it was -- it was back when we were trying to get the NOP to include this in the Natural Resource and Biodiversity Guidance.

We had this huge spreadsheet that showed what all these certifying agents are doing, or actually, it's not all of them, we need to update that, but in any case, there's a big spreadsheet that shows who's doing what for what kind of crops and how they verify that. So, yes, I'm happy to update that and share that with you all.

CHAIR FAVRE: Lisa?

MS. DE LIMA: On the palm oil issue, have
you guys submitted any comments more specific as to what you'd like to see happen with palm oil in organics? Are you calling for it to just not be included at all or including some level of RSPO certification on top of the organic or what are you guys --

MS. BAUMGARTNER: Well, what we are concerned about is high conservation value areas. So, if a proposed operation wants to become organic, the certifier ideally would go and look at that land that they want to convert. And if there's orangutans there, I doubt it's going to get converted, or we would hope that it wouldn't, because most of the orangutan habitat now is gone and that's where a lot of palm oil production is occurring.

So, it just depends on how sensitive the habitat is. It's not that we're opposed to converting lands that -- especially, there could be lands that have had some earlier grazing and it's really not good for much else than farming at this point, the species that might have been important
there are already gone.

CHAIR FAVRE: Harriet, and then Dan, and then we need to wrap it up.

MS. BEHAR: So, I have a question about whether or not, I know that many of the other certifications around the world actually prohibit the conversion to organic and from these high conservation, basically lands that have not been previously farmed or have endangered, threatened, or at-risk species of all types.

So, are you leaning more towards a discouragement by having, perhaps, a longer conversion time or prohibition? And would that put -- do you feel you have support in the organic community for a complete prohibition?

MS. BAUMGARTNER: Well, that's the question. Because a complete prohibition would help to support many species that are in decline worldwide and it would be a bigger blanket, but I think we need to hear -- we need to get a discussion document and hear from the public what they feel is doable.
There's three possibilities: complete prohibition; going back, having a waiting period instead of, like, three years for conventional transition, five years is what the IFOAM recommends; and then, some other certification agencies pick a date, like, say 2010, anything after that, you can't do. So, those are the options as I see them.

CHAIR FAVRE: Okay. And final question from Dan.

MR. SEITZ: Do any agencies provide support to farmers who want to transition land that's not high value land, so that there isn't an incentive to seek the native habitat or virgin land?

MS. BAUMGARTNER: USDA Natural Resources Conservation Service does have a program for transitioning farmers. They help them fill out the organic system plan and they help them address conservation issues that are there on the land.

And then, OTA and NSAC, National Sustainable Act Coalition, are trying to put or are putting together a proposal where we would get Farm
Bill money to pay for a mentoring program and some actual funds to help the farmers transition. Plus, there's businesses that are helping with that, because they need more organic farmers.

CHAIR FAVRE: Thank you, Jo Ann.

MS. BAUMGARTNER: Thank you.

CHAIR FAVRE: Next up is Carl Freund.

And we've got Susan Finn on deck.

MR. FREUND: Hi, my name is Carl Freund, I'm president of Unistraw North America. And what we are is we're a company that makes probiotic straws and essentially attaches them to different ready-to-drink products, such as milk, protein shakes, so on and so forth.

I'm here to speak on behalf of carrageenan. And in the development of a lot of our products, what we have found is we have found that carrageenan, whether it's with protein, with fiber, and with the interaction with probiotics, that we find it essential to have a formulation that actually works and works extremely well.

One of the things we do is we do a great
deal of work with b-to-b. So, what we do is work
with other branded companies or other manufacturers
who are actually trying to produce innovation. And
so, we've done a number of formulas that we've
developed.

In looking at the whole issue of
carrageenan from a standpoint of trying not to use
it, we've looked at Clean Label and we've been able
to do that on some of our products, but for the most
part, what we really are focused on is how do we give
the best product to the consumer and make sure that
it stays stable and together?

And one of the things that we've found
is we haven't found any real good substitute at this
point in time. And nor do we believe there should
be substitute based on the science and the data
that's backing it, and also some of the things that
we're learning from a sustainability perspective.

If you look at organic products across
the U.S. right now, there's about 473 that have
carrageenan in them. That doesn't include sizes or
different SKUs, so it's a substantial number if you
multiply it by the number of SKUs. And if you look at where the bulk of that is, about 54 percent reside in beverages, which is the key area where we actually are operating.

Furthermore, if you look at things that are being kind of determined as alternatives, such as gellan gum and xanthan, number one is we aren't finding that they do as well with complex formulas. And we're also finding that, as I speak to other manufacturers and retailers, that you don't see it as a preferred solution.

But what they are finding is they're finding that there is some backlash out there from social media that's kind of pushing them to look at different alternatives, but there's many formulations that actually can't be substituted at this time.

On another piece, it's cell viability. With the probiotic area, which I've been in for a number of years, cell viability is absolutely critical. You got to make sure that they remain alive and viable. And in some of our studies, we
see different survivability with some formulations versus others.

We've seen some degradation within the gellan formulations, we're not exactly sure how to assess that, but we also see almost a protective state with some of the carrageenan. So, it's something that we need to look into further. There's some independent data out there that also shows some of that. From a cytotoxicity perspective, there's some deterioration of the cells. So, I think it should remain on the list at this time.

CHAIR FAVRE: Three minutes goes really fast, doesn't it?

MR. FREUND: It does.

(Laughter.)

CHAIR FAVRE: Harriet, you had a question?

MS. BEHAR: So, the carrageenan is used in the straw with the probiotics?

MR. FREUND: No, our carrageenan, what we do is we develop combination formulas. So, the
straw, one of the things that's important from a stability standpoint is, we attach it to the straw in beads that are actually attached to the ready-to-drink.

But what we design is the formulations that also are in the Tetra Pack or the ready-to-drink type of product, which would include combinations of protein, fiber, and other functional ingredients. So, it's a combination, kind of a symbiotic product that goes together.

MS. BEHAR: So, are those --

MR. FREUND: We can't put the probiotic actually directly into the liquid of a aseptic product, we can do that --

MS. BEHAR: Sure.

MR. FREUND: -- on a cold chain product.

MS. BEHAR: Right. So, I'm still just confused. So, the use of carrageenan, is it in the larger package or is it --

MR. FREUND: It's in the larger --

MS. BEHAR: -- in your straw?

MR. FREUND: -- package. We do not have
it in the straw. So, it is in the larger package, but that's part of our total -- we do the straw, but we also do the formulations and the development and some of our own b-to-c products that are the actual total package.

MS. BEHAR: And so, the function of the carrageenan in the larger product is when the consumer would put the probiotic in, right, because this is separate --

MR. FREUND: Right.

MS. BEHAR: -- right?

MR. FREUND: Yes.

MS. BEHAR: This is a consumer --

MR. FREUND: Right.

MS. BEHAR: -- puts that -- I'm just still not sure if the consumer consumes that product immediately, why would there be a lessening of the probiotic?

MR. FREUND: Well, one of the things that we look at when we're looking at it, when it rinses over the product and actually take -- the probiotic goes into your system, it looks like it's fine. But
in our testing, what we have to do is plan for at least 72 hours within the gut.

So, what we do is, when we're testing survivability, we're actually flowing the liquid over the straw to get it into one solution and then we're shocking it in order to give it an environment such as the gut and then we're monitoring survivability in the gut, not just outside of the product.

If you look at it -- if you just washed it over the beads, yes, it would be fine at that point in time, it's whether or not the solution longer term for a 72 hour period at time would have some deterioration.

MS. BEHAR: So, you're saying the carrageenan is used as an extender of the activity of the probiotic once it's in the human body?

MR. FREUND: Right. There's two things that we're saying. We think it can be a protective state, but the other thing that we find is that the formulations that we're delivering in the ready-to-drink pack, if they separate, if they
aren't functioning well, we have a lot of clogging, a lot of issues with the straw itself. So, it's a combination.

One, we believe that carrageenan needs to be in the actual ready-to-drink product, and that helps stabilizes that and keep it together, the main function of the carrageenan. And we think there's some symbiotic potential, just with some of the things that we've been looking at on survivability.

But it's more keeping that original formulation together, not separated, not having the consumer worrying about shaking it, and making sure that the flavor profile works well with the straw itself.

CHAIR FAVRE: Okay. Jesse, then Harold, then Ashley. And then we need to move on.

MR. BUIE: Yes. Is there any difference in cell viability in the refrigerated versus non-refrigerated?

MR. FREUND: Well, in the refrigerated ones where we're actually putting the probiotic in the product, it's interesting, we haven't broken
that down.

MR. BUIE: Yes.

MR. FREUND: We've seen definitely different variations, but I don't think we've done a gellan formulation to compare it to.

CHAIR FAVRE: Harold?

MR. AUSTIN: If we were to vote to delist carrageenan during these deliberations, what impact would that have on your business?

MR. FREUND: It would hurt our business, especially from a development standpoint, because one of our key differentiation points when we're dealing with some of our co-manufacturers and branded companies is bringing new ideas to them. And we do have difficulty developing different breakfast, different workout, different other formulations on the organic side and bringing them forth without having the carrageenan. And we've also spent a fair amount of work developing the products, so we'd have to go back and see what else we can do to try to redo it.

CHAIR FAVRE: Ashley?
MS. SWAFFAR: So, you said in your public comment, there are formulas where carrageenan cannot be substituted. Can you give specific examples of those products?

MR. FREUN: Well, a couple of the -- as it gets more and more complex with water, fiber, proteins, we have found separation where the product actually doesn't stay together well.

These have been on some of our branded companies information, so I can't give you a specific brand, because they don't want to have that as a public piece, but it's really the combination of those types of ingredients and/or other functional ingredients.

MS. SWAFFAR: A specific product, like chocolate milk or --

MR. FREUN: Well, chocolate, yes --

MS. SWAFFAR: -- are you just saying --

MR. FREUN: -- I mean, chocolate milk is one of the factors that's a challenge, but if you're looking at a protein shake that we actually have designed, a protein shake is a combination of
flavor, it's a combination of protein, it also has a different fiber in it, and it also has some other sport nutritional ingredients in there. And we find separation and settling.

CHAIR FAVRE: Thank you very much.

MR. FREUND: Okay. Thank you.

CHAIR FAVRE: Okay. Next up is Susan Finn. And then we've got Robert Hoffman on deck.

DR. FINN: Thank you very much. It's a great opportunity to be here today. I'm Susan Finn. I have a PhD in nutrition science and I'm a registered dietician. I am here as director of United 4 Food Science and I've testified before you in April and I'm happy to have another opportunity to speak to you today.

Since I saw you last, many of the leading voices in my profession have submitted comments in support of our very firm belief that carrageenan must remain on the list of approved ingredients. And here are three reasons.

One is the NOSB's Handling Subcommittee reached the conclusion that carrageenan is safe,
specifically stating in its preliminary report, and I quote, we find that the body of scientific evidence does not support claims of widespread negative human health impact from consumption of carrageenan in processed foods.

The second reason it must remain is that it is emulsifying, thickening, and stabilizing additives that are essential for the production of organic products. You see, without these additives, sediment can accumulate in the product and may not resuspend completely, even with very vigorous shaking, resulting in concentrations that do not deliver the nutrients listed on the product label.

This malfunction can lead to dangerous nutritional deficiencies, particularly for babies and those at high risk for malnutrition. In addition, additives that emulsify, thicken, and stabilize it are also essential for a desirable sensory profile, which allows consumers to choose organic products without sacrificing taste.

If organic products cannot contain the
same additives that non-organic foods do, they will be at a distinct disadvantage in the marketplace. The NOSB should not set a precedent that makes it difficult for organic foods to compete with non-organic foods in nutrient delivery and sensory profile.

And third, organic food manufacturers should have the option to use different additives in products, and they need carrageenan to be one of those options. Variety allows manufacturers to select the optimal additives in the lowest concentrations possible for a particular food. Carrageenan is not only effective in small amounts, but does not require additional additives to fulfill its function.

So, in conclusion, my colleagues in nutrition science and I agree, there is no legitimate rationale for delisting carrageenan. Options for formulating organic products that meet consumer demands are limited as it is. Consumers who prefer a certain additive, have a sensitive to a particular
additive, or simply want to choose a product without the additive are free to consult the ingredient label and select the products they want.

Delisting carrageenan will diminish the acceptability of certain organic products, which may lead to consumers turning away from organic foods altogether, a consequence that certainly runs counter to NOSB's objectives and the National Organic Program mission. Thank you very much.

CHAIR FAVRE: Gold star.

(Laughter.)

CHAIR FAVRE: Good job.

DR. FINN: I did this in April.

CHAIR FAVRE: I guess she's practiced that a time or two.

DR. FINN: I didn't.

CHAIR FAVRE: Do we have any questions? Zee?

MS. SONNABEND: Thank you. Could you comment on the possibility of gellan gum as an alternative or a combination of gellan gum with other gums?
DR. FINN: Well, carrageenan has a unique taste and it -- taste rules when you start talking about products. We can all talk about nutritional value and cost and health, taste is absolutely key. And there's nothing that produces, in my view, the same taste and the same smoothness and the same mouth feel.

And so, it is that -- now, again, different products react slightly differently. There are -- obviously, it's the complexity of food science, but taste rules. And as my colleague in food science says, it's fatal not to have foods taste good. And so, that's true if they're organic or non-organic. So, it is the taste factor and the smoothness, the mouth texture, that's very unique to carrageenan in lots of different products, like dairy and beverages.

CHAIR FAVRE: Tom?

VICE CHAIR CHAPMAN: You raised the point of medical foods for infants, enteral feeding type products. Are you aware of organic enteral feeding products on the market today? Can you give me an
example?

DR. FINN: Well, I'm not exactly aware of it, the organic version of them. I worked for years and years in the medical nutritional delivery system and in products with that product. But they're probably powdered. Powdered is a whole different deal.

But to stay in suspension and to have a product that's tube fed or given to a patient that's malnourished or is ill, it requires an enormous skill set and requires taste and requires it to be able to flow if it's being tube fed, and it has to stay in suspension. And there is certainly nothing more effective in that capacity than carrageenan.

VICE CHAIR CHAPMAN: So, for a product being enterally fed into the stomach, taste is important?

DR. FINN: Well, flow is and delivery of nutrients. What you don't want is watered down nutrients, you want that to flow uniformly so every unit that's given to that patient is the same nutritional value that that whole product has.
VICE CHAIR CHAPMAN: Thank you.

CHAIR FAVRE: Thank you very much.

DR. FINN: Thank you.

CHAIR FAVRE: Next up is Robert Hoffman.

And then we've got Matthew Thompson on deck.

MR. HOFFMAN: Hi, I'm Bob Hoffman, chief science officer of Shenandoah Growers. Shenandoah Growers has a true organic system in every pot. We specially blend our soil mix with NOP compliant elements to achieve the proper balance between water holding capacity, drainage, aeration, nutrition, and biological diversity, to produce health and nutritious plants for our consumers.

This biologically active, living organic soil is home to beneficial bacteria and fungi. This micro-flora and micro-fauna help to release the nutrients present in our soil, which allows our plants to thrive in our controlled environment greenhouse and nurseries. Our liquid organic nitrogen fertilizer is produced from vegetative waste.

This fertilizer is diluted in water and
a bio-filter, where it's digested by beneficial bacteria into nitrite and then into nitrate. This nitrified water is then blended with other NOP compliant inputs to produce a balanced organic nutrient solution to supplement our soil nutrition. Although this is not an easy process, over the years, Shenandoah Growers has learned to manage this biological process well.

We use well water and rain water that is collected from the greenhouse roofs to irrigate our plants. Our irrigation nutrient solution is recycled through a filter and reused continuously, conserving our precious water resources. No nutrients are discharged into the environment.

We use only NOP compliant integrated pest management practices, such as scouting, trapping, exclusion, beneficial insect releases, and environmental control to help control our insect and disease pests. This provides for healthier and cleaner produce for our consumers.

We utilize cutting edge technology, such as moving gutter growing systems, energy
curtains, LED lighting, to name a few, in our controlled environments to efficiently and sustainably produce our organic culinary herbs.

As growers of both field-grown and container-grown crops, we know that it would take approximately 180 acres of land in our climate to produce the same amount of herbs that we can produce in our six acres of greenhouse and nursery rooms. This conserves soil and wildlife habitat, while producing quality food, safe organic herbs year round for a growing population.

The demand for our food safe, consistently high quality organic produce is growing rapidly. We can produce quality crops year round in our controlled environments despite the changes in weather and the severity of climatic changes.

Since 2007, we have built a productive business while using only NOP compliant organic inputs in a sustainable manner while preserving the environment for generations to come. We respectfully urge you to continue to certified
containerized growing practices. Thank you.

CHAIR FAVRE: Questions? Harold?

MR. AUSTIN: Okay. So, you talk about containerized growing in the greenhouse, but that you've also got other acreage. Is your other acreage also certified as organic?

MR. HOFFMAN: Yes.

MR. AUSTIN: How long has it been?

MR. HOFFMAN: At least ten years, if not -- the farm has been there for 20 years and I believe parts of it were certified before that. Now the complete farm is certified organic. We have a total of 150 acres available to us, we choose to grow in the greenhouse in containers and also field production. We only take up approximately 12 acres of that land, the rest is left as wildlife habitat.

CHAIR FAVRE: Harriet?

MS. BEHAR: So, I hear a lot of hydroponic growers speak about the food safety aspect and I'm just wondering if we look at this as, like this is the way we should go, do you think we should abandon soil-based agriculture altogether and just look at
hydroponic as the way we should feed the world?

MR. HOFFMAN: Not as long as that food, that field-grown production should -- as long as that is deemed food safe. So, as long as it's tested and you know that it is food safe, I think it's great. We do both.

As far as the ease of keeping it food safe, the greenhouse growing environment is by far easier to keep it food safe. We eliminate bird populations, deer, runoff from the fields above us, we're on a slope. We eliminate soil erosion. So, for us, it's much easier to keep it food safe in the greenhouse than it is in the field.

CHAIR FAVRE: Thank you very much. All right. Next up is Matthew Thompson, followed by Maria Ignosh.

MR. THOMPSON: Hi. My name is Matt Thompson. I'm an aquaculture project lead at the Anderson Cabot Center for Ocean Life at the New England Aquarium in Boston, Massachusetts. My area of expertise is in sustainable aquaculture.

My comment is, removing carrageenan
from the National List of Approved Substances could potentially reduce the market incentive for farmers to engage in environmentally responsible and socially beneficial seaweed farming.

Without this incentive, farmers may switch back from seaweed farming to environmentally destructive fishing practices, including dynamite and cyanide fishing in critical habitats, such as coral reefs.

To explain that further, carrageenan is a thickening agent added to food. The primary source for carrageenan is farm-raised seaweeds and the majority of those seaweeds are raised on small-scale subsistence-level family farms in Southeast Asia. Seaweed farming provides additional income, which directly improves living standards for both farmers and their families.

It's also an important source of employment for women. Eighty-one percent of the global aquaculture production workforce is male, but in places like Zanzibar, females actually make up the majority of the seaweed farming industry.
It's important to highlight these because these benefits reflect the FAO, Food Agricultural Organization's Blue Growth Initiative, which is to promote sustainable livelihoods, especially in the case of women and youth, and to support small-scale aquaculture development.

Environmentally speaking, seaweed farming is relatively benign, especially compared to other species like farmed shrimp or Atlantic salmon. For example, seaweed farming does not use feed, which means it doesn't contribute to pollution, it doesn't place additional pressure on fisheries that are used for fish meal and fish oil ingredients in feeds, and it doesn't use chemicals, such as antibiotics.

Seaweed farming also provides an alternative livelihood for fishing on coral reefs. This allows the stocks, the reef fish stocks, to recover and it minimizes destructive dynamite and cyanide fishing on coral reef, which further protects the habitat that these reef fish need to
survive. It also creates new habitats for herbivorous reef fish, which increases their stocks and potentially gives more access to food.

Despite all of these social and environmental positives, seaweed farmers are opportunistic and they may switch back to these destructive fishing practices if market demand for seaweed decreases. Removing carrageenan from the National List may have such a market impact.

So, in summary, it's important for the Committee to be aware of the potential social and environmental consequences of removing carrageenan from the National List. Thank you.

CHAIR FAVRE: Jean, and then Tom.

MS. RICHARDSON: Yes, a comment and then a question. There is certainly -- we got inundated by a large amount of public comment on marine materials, as you're probably aware. And some of them made assertions that the conditions of the people that are on these farms in the Philippines and other parts of the world generating the needed carrageenan harvests, it wasn't exactly great
living standards, et cetera, and there were a lot of negative aspects of it.

I don't necessarily want you to go into that, but to say, well, if it can be -- most of the carrageenan is coming from cultivated beds nowadays, why not just have them all go organic and then you wouldn't be sort of worried about having to get this on or off the list, so to speak, because obviously it could be done organically, if they can be cultivated the way they are now.

MR. THOMPSON: Okay. Well, let's -- if I can address your question. The first is the comment about the social conditions. I believe the paper that was cited in there is essentially highlighting some issues, which is it's a lot of hard work to farm seaweed.

But that paper was trying to encourage better practices on the farms, rather than removing the market demand for seaweed. And that's something that can be done. When we talk about the potential for them to become organically certified, I think it's really important to remember that these
are -- when we say small-scale, we mean an individual that has maybe a hundred square foot of seaweed lines.

Each one of these seaweed lines, there may be many hundreds in an area, are individually managed. So, the potential for an individual farmer to become certified is, it's impossible. You're talking about a $5,000 audit cost for a general aquaculture certification, I'm not sure about organics.

There's also -- because they're individually managed, there's no -- they're not in a position right now to have a central management system, which is really what you'd need in order to ensure that each one of those farmers are operating in the same way, so you have a quality management system.

So, at the moment, they're disorganized and they're not in a position to -- that certification or traditional certification makes sense. If you want to make those improvements, the best way to do it would be to go through one of these
major buying companies to try to consolidate and try
to form central management groups, try to raise
practices and awareness of where potential impacts
are occurring, and make changes that way.

But I think those issues are occurring.

In fact, New England Aquarium has a partnership with
a company called FMC, where they are developing
better management practices through an independent
technical committee of experts to really highlight
that -- what those better practices are.

And we're trying to find ways that we can
have those individuals consolidate and form these
central management systems so that then we can
affect change. But, again, I think it's really
important to highlight that seaweed farming -- if
you look at something very closely, you're always
going to see cracks, but if we take a step back, it's
still nowhere near the level that you might find on
an Atlantic salmon farm or a shrimp farm in
Thailand.

So, we also need to be conscious, I
think, of the degree of impact and the weight and
the tools that we sort of pressurize these people into. Does that answer your question?

MS. RICHARDSON: Yes. Just a quick follow-up, there are grow group certification systems that could be used. So, just for your -- to follow-up. But I know that someone else has a question.

CHAIR FAVRE: Tom?

VICE CHAIR CHAPMAN: So, you spoke to your concern of, if carrageenan was removed from the National List, the market impact it would have, can you speak to what percent of the carrageenan industry is being used in organic products?

MR. THOMPSON: I do not buy and sell carrageenan, so I'm not equipped to answer that question. I believe other speakers, including Erick Ask from FMC, might be able to answer your question later.

But I guess I'm more concerned about the precedent than the potential of this group to drop carrageenan. Because of the debate in the science about its effects, the problem could be a knock-on
effect if this group makes a decision early on such an issue.

CHAIR FAVRE: Thank you very much.

MR. THOMPSON: Thank you.

CHAIR FAVRE: Okay. Next up is Maria Ignosh, followed by Suzanne McMillan.

MS. IGNOSH: Good afternoon. My name is Maria Ignosh and I'm the director of regulatory compliance at Shenandoah Growers. I've been at the company for over eight years and have been involved in the development of our organic system plan and food safety plan for the duration of that time.

Shenandoah Growers would like to ask the NOSB to further examine the issue of containerized growing methods. We strive to stay on the cutting edge of innovation and have spent years developing a living organic herbs product line, first certified organic in 2007, based on the regulations set forth by the NOP.

The system we have developed ensures the availability of healthy, fresh organic produce for our customers. Our model allows for the production
of healthy organic herbs, using a minimum of space, and greatly increased conservation of water and nutrients, water being a precious natural resource in many of our locations.

Our closed organic system uses a substrate mix, which also allows us to eliminate runoff of excess nutrients into the environment. The Shenandoah Growers' model of controlled environment agriculture employs improvements in transportation efficiency, further improving the sustainability of the system by creating a more distributed food system.

Growing is not limited to arable land or favorable climates and can be located nearer to where the product is consumed. This allows us to deliver high quality fresh organic product year round with a minimized carbon footprint.

The innovative system we've created does not rely on weather or climate and allows us to produce a consistently high quality product. It will, thus, be less susceptible to the changes predicted as part of global climate change and helps
to safeguard against disruptions in the food system.

Our controlled environment agriculture system enables us to reach new heights in food safety, which is an absolute imperative in our industry. The controlled environment gives us better control over water and animal intrusion, two of the major contributing factors of produce contamination events.

Finding this delicate balance between organic regulation and food safety regulation, without compromising the integrity of either, is a major component of the success of our system. Shenandoah Growers has over 400 employees and has invested over $20 million in our certified organic growing system to build a future for our company and the individuals it supports.

Before expanding, we explored many new innovative technologies, finding ways to make them work within our system without compromising organic integrity. We work with our organic certifying agent to make sure that the technologies that we
employ are in line with the regulations set forth by the NOP.

It is with this approved organic system plan that we have moved forward, providing an eight year average of four million pounds of fresh organic culinary herbs into the marketplace, herbs which are sold still potted and which are accepted by our customers as organic.

We would like to move forward with this approved organic system plan, providing sustainable food safe organic products to our customers. Given the impact of the decision of the Board, we respectfully request that you give this decision the careful consideration that it deserves. Thank you.

CHAIR FAVRE: Way to soldier on with the lights out, I appreciate that.

(Laughter.)

CHAIR FAVRE: I apologize for that. There you go. Any questions? Harriet?

MS. BEHAR: If you could no longer sell your herbs under the organic label, would your
operation be still economically viable?

MS. IGNOSH: It's hard to say. It's hard to say which of our customers would drop us completely. I lean towards no, I don't think -- I think large portions of the business at least would have to shut down, whole farms.

CHAIR FAVRE: Harold?

MR. AUSTIN: Two part question, one, how long have you been certified organic and what prompted you to seek organic certification?

MS. IGNOSH: Bob Hoffman was up here before me and I think he said the farm was 20 plus years of our in-ground production. The greenhouses have been certified since 2007. It was part of the original plan for those greenhouses and why they were built, to grow organic container grown crops. So, it was that way from the very inception.

CHAIR FAVRE: Thank you very much.

MS. IGNOSH: Thank you.

CHAIR FAVRE: Next up is Suzanne McMillan, followed by Lee Frankel on deck.

MS. MCMILLAN: Hi, I'm Suzanne McMillan
with the ASPCA's Farm Animal Welfare Department. And I'm here today on behalf of our over 2.5 million supporters around the U.S. and the public that we and others continue to poll and find a strong mandate from to ensure high animal welfare standards in the organic system.

And before the lunch break, I know we heard some testimony from someone associated with a poultry facility discussing challenges around ammonia control, necrotic enteritis, mortality, all those problems.

And this, I think, really is a perfect segue into what I came to discuss today, which is a request to please continue to address animal welfare in the organic system, really from a holistic vantage point, focusing on more of the upstream prevention tactics as opposed to downstream sort of Band-Aids that we're attempting to put on discrete outcomes.

And we're not here today to take a position on the particular litter amendments that are being discussed, but there is very much a
connection between ammonia and welfare that I wanted to highlight for you. There is sort of a two-fold interaction there.

The first being that ammonia rates are worsened by poor welfare. So, in other words, when you have poor space allowance, poor ventilation, lack of outdoor access, lack of indoor enrichment, that sort of thing, you tend to get higher ammonia rates.

Similarly, but in reverse, poor welfare also tends to make birds more susceptible to the effects of high ammonia. And we tend to see that nexus particularly around the genetic factors at play with meat birds.

So, with broiler chickens and with turkeys, we tend to be using conventionally sourced genetics, which means very fast growing and disproportionate birds who reach heavy weights in a short amount of time and tend to be in pain, they have low stamina, they have a hard time moving, they also tend to be immunocompromised.

And so, all of this then makes them more
susceptible to the effects of the ammonia, partly because they tend to spend more time in direct contact with their litter over a greater percentage of their body. And so, you have a greater likelihood of the litter, the ammonia burns that we see that can ultimately lead to open wounds and then, of course, disease, pathogens working their way in.

And we see that -- the European Food Safety Authority has put out white papers on this topic and they offer flow charts, essentially, that look almost like spider webs.

CHAIR FAVRE: Thank you. Any questions? Emily?

MS. OAKLEY: I want to ask the same question that I asked with the previous speaker. In terms of space requirements that would lead to healthy ammonia levels for the birds and houses and assuming, of course, outdoor access.

MS. MCMILLAN: Right. So, a couple of things. One is that we tend to look to the private animal welfare certification labels as a guide for
at least minimum standards. The very minimum we tend to see is about six pounds per square foot, which works out to roughly one square foot per bird, if you're talking about broilers.

But the point I was starting to make there about these flow charts that you see that are incredibly intricate and almost present a spider web is that all of these factors interrelate with one another and it ultimately is about the aggregate effect.

So, things like enrichment very much play in. And space lends itself towards more activity from the birds, but that's not enough, you also need other inputs. And when you have enrichment, what happens is they're more motivated to move, which means that they aerate the litter naturally and so, that helps somewhat to address ammonia.

So, everything sort of works together at some level. And, of course, no matter how much space you give them and how many other inputs like enrichment, if they're in pain and have a hard time
even breathing, they’re not going to be motivated to move to be able to make use of that space and to be able to aerate the litter. So, it all sort of is one giant cycle.

CHAIR FAVRE: Okay. Last question, from Francis.

MR. THICKE: You were talking about genetics, is it true that some of the conventional growers, like Perdue, are actually changing genetics for slower growth? And are those genetics -- how do they compare with the organic growers' genetics, do you know?

MS. MCMILLAN: Yes. Perdue just came out in the last few months with a commitment to take a look at genetics and to try to move towards slower growth. So, thank you, that was another point I meant to make and ran out of time.

Yes, and I think it's important -- so, we don't know yet what genetics they're going to be instituting, but we do know that there are already genetics out there in the marketplace ready to go for slower growth.
And I think it's important to distinguish between slow growth, which is heritage generally, and then, slower growth, which is what we term intermediate growth, and that really tends to be just an extra two to three weeks per broiler.

So we're not talking about a really extensive life span, we're talking about a few more weeks, and so, I would imagine that they would probably go somewhere in that direction.

CHAIR FAVRE: Thank you very much.

MS. MCMILLAN: Thank you.

CHAIR FAVRE: All right. Next up is Lee Frankel, followed by Anais Beddard.

MR. FRANKEL: Good afternoon. My name is Lee Frankel and I'm the executive director for the Coalition for Sustainable Organics. The Coalition for Sustainable Organics is a group of environmentally and socially responsible growers committed to maintaining the USDA's current high standards for certifying organic produce.

Comprised of growers big and small, we advocate for the continued allowance of
containerized production methods under the National Organic Program, while enabling growers to select the most appropriate production systems for their site-specific and commodity needs.

We applaud the continued efforts of the Crops Subcommittee and the full National Organic Standards Board to bring clarity to the role of containers and growing media in organic production. Nonetheless, please remember that the decision of the NOSB will create enormous impacts on current growers, workers, and consumers.

Any decision requires the most careful and deliberate evaluation by the Board and only after a full, fair, and open airing of all the relevant issues should a decision be considered. I encourage the NOSB to first define the principles that should guide a more comprehensive and cohesive set of recommendations to update the current USDA policy.

The members of the CSO believe that organics is defined by the inputs used and not used and by the biology necessary to have a functioning
nutrient cycle. The very name organics in English refers to a natural and previously living origin of inputs, while the name biologic used in the French and German speaking countries for organics refers to the biology inherent in organic production systems to make those inputs available to the plants.

Organic productions in containers does meet the very spirit of organics by using the same inputs and the same biological methods as used in soil systems to produce healthy and sustainable crops.

We encourage the NOSB to affirm those foundational principles of organics and then give freedom to growers to figure out the most sustainable production techniques and methods that meet their site-specific requirements.

If the NOSB believes that organics means something entirely different, it should clearly state what those other guiding principles is or should be. We also believe it's an affirmation of the organic movement that consumers can find
organic fresh produce in their regular grocery stores, without needing to make a special trip to find the products that are important for them and their families.

Organic container production systems that have fed the growth of the organic market would drastically reduce supplies and increase prices, putting organics out of the reach of many current consumers.

We stand ready to support the NOSB through data, research, and farm tours to make sure that you have accurate information so that the Board can carefully analyze and thoughtfully deliberate on this topic before making any decisions. Thank you for your time and attention.

CHAIR FAVRE: Thank you. Any questions? Thank you very much. Next up is Anais Beddard, followed by Thomas Beddard on deck.

MS. BEDDARD: Hi. My name is Anais Beddard and I represent the second generation at Lady Moon Farms. We're the largest organic vegetable grower east of the Mississippi, with
farms in Florida, Georgia, and Pennsylvania.

My parents started farming organically 30 years ago, because they felt strongly about growing healthy, delicious, good for you food, food that was grown in the soil. In the last 30 years, agriculture has changed a lot due to new innovation.

Hydroponics is one of these innovations that allows food to be grown sustainably in a less than ideal climate. This is a valuable development as it opens up more routes to cultivate nutritious food for the growing population. And as growers, we applaud this production system for what it is.

However, what concerns us is that this new technology is masquerading as something it is not. Hydroponic growers are currently being allowed to piggyback on a well-defined holistic growing approach, also known as organic.

This approach is much more than just growing plants. It's about creating healthy ecosystems and promoting biodiversity in rural communities all over the world. I've read many comments and articles over the last few months,
stressing that we soil farmers want to limit access
to healthy, pesticide free food to maintain market
share.

Nothing could be further from the truth.
Rather, this is about maintaining the spirit of OFPA
when it was forged 26 years ago through a long,
arduous process by people committed to the
longstanding principle of feeding the soil, which
then feeds the plants.

And I quote, an organic plan shall
contain provisions designed to foster soil
fertility primarily through the management of the
organic content of the soil through proper tillage,
crop rotation, and manuring.

We embrace farmers of every persuasion
in every locale, because farming, no matter what
production system, is not easy. We just feel
passionately about what is involved in an organic
production system and it is much more than is
proposed in any hydroponic or container system.

No matter the outcome, let's not fool
ourselves that hydroponics is different from
aquaponics, from bioponics, from container growing. They rely on the same foundations to grow plants and should be treated as such. Anyone in the conventional hydroponic world understands this to be a simple truth.

I urge you all not to take the easy route in front of us. It would be easy to continue to allow these operations to be certified organically, something that is questionably illegal under OFPA. It will be much more difficult to maintain the integrity of the organic label, but without its integrity, it means nothing.

It's important that a decision is made as soon as possible, as large business is pushing forward without many regulations. Thank you so much for your time on this very important issue.

CHAIR FAVRE: Thank you. Any questions? Thank you. Let's hold it for the next one, thanks. Next up is Thomas Beddard, followed by Jason Whitcher on deck.

MR. BEDDARD: Good afternoon, everyone. My name is Tom Beddard. I am the founder and
president of Lady Moon Farms and I would like to begin my three minutes by offering my heartfelt thanks to all the current volunteers that give of their time to serve on the NOSB.

It is your service that allows us all to protect the integrity of the USDA Organic Seal. It is the integrity of this Organic Seal that has brought me here today to testify to what I know to be the heart and soul of organic farming. And that can be summed up in one word, soil.

I was born and raised in Pittsburgh, Pennsylvania and from an early age, I learned the joys that come from putting one's hands in the soil, of putting hands full of soil under your nose and breathing in the life affirming smell of rich, organically managed soils.

From that time as a ten year old boy to today, as a man in his sixth decade and now farming more than 2,500 acres on nine farms in three states in many different climates with many different soil types, I want you all to know from me, the soil is simply a miraculous substance.
It is in fact the living skin of the Earth, truly the interface between biology and geology. And to this day, one of my absolutely favorite smells in this world is a handful of healthy soil brought to life through the management practices commonly known as organic.

In many ways, I've always believed that we organic farmers grow soil and it's that living organism called soil that then grows our plants. And I truly believe it is this mindset that has caused this movement to flourish.

So, how do we find ourselves here today trying to define what is meant by soil? How do we find ourselves attempting to coin new terms to try to fit a well-respected production system known variously as hydroponic, aquaponic, bioponic, or container grown into another well-respected production system known as organic?

Simply put, they are two different systems of production and to attempt to merge them into one is a cause for concern by almost all certified organic soil growers, as well as 40 public
interest groups with a membership of more than 2.2 million.

So, as those of us that attempt to understand the complex relationships between soil, water, plants, and animals, our appreciation of this dynamic interplay is why organic soil growers have always believed that growing organic is about much more than allowable inputs, it's about growing healthy soils that then grow healthy plants that grow healthy people, helping us all to live on a healthy planet.

It is because of this passion for the soil felt by the vast majority of organic producers that I respectfully ask the NOSB to reaffirm its position that the USDA Organic Seal belongs on foods that are grown in the soil, that sits atop the subsoil, that sits on the bedrock of the Earth. Thank you all so much.

CHAIR FAVRE: Harriet?

MS. BEHAR: So, I asked the hydroponic folks about the economic impact if they lost the organic label. What would be the economic impact
if hydroponics was, on you, a soil-based grower, if hydroponics was allowed to continue the organic label? I know it would probably have quite a bit of growth due to its somewhat efficiency and food safety and all the things that they're saying that are the benefits of it. Would there be an economic impact to you?

MR. BEDDARD: For our business, personally, because we are of a certain scale and because we are year round with multiple locations, and because of our crop mix, really I don't, I honestly don't know, but I don't think so. I can tell you, up to this point, no, it hasn't affected us in a financial way at all.

But, like, if you were more specialized in just, say, greenhouse tomatoes that were grown in the soil, I could see where that would have a pretty strong impact on you, just because of the efficiencies. But for us, no.

For me, it's the passion. I mean, when I got in this in 1986, it was the soil. That's why you were organic, because you believed the soil was
a living organism and it had to be fed and then everything went from there.

So, I kind of got into this late, because it didn't affect me financially, and that will usually get you going quicker than other things, but I started to say, wait a minute, that's not organic, rockwool nutrient systems, no. It's a wonderful system, I love hydroponics, I support hydroponics, but it's not organic, it's hydroponic.

CHAIR FAVRE: Thank you very much.

MR. BEDDARD: Thank you all very much.

CHAIR FAVRE: Next up is Jason Whitcher, followed by David Auner on deck.

MR. WHITCHER: Good afternoon. My name is Jason Whitcher. I stand before you today to further comment on the issue of organic containerized farming, or rather the opposition to organic containerized farming.

The first thing I did ask myself, why the opposition? There's no scientific evidence to support their claims, actually there's quite a bit of scientific evidence that supports the contrary,
so it's not science.

Then I thought it was possibly an environmental concern. However, containerized growing uses less natural resources, does not contribute to soil erosion, has no fertilizer runoff, and is actually better for the environment than conventional open field organic farming. So, that can't be it.

Maybe it's the inputs. No, the rules are the same, the same products, fertilizer, et cetera, are used in both production methods. I found myself scratching my head as to why all the noise and opposition to a type of farming that uses the same inputs, consumes fewer natural resources, is better for the environment, and leaves me to question, what exactly is the motivation?

The only conclusion I could come up with is financial motivation. So, what are some of the things that have led to this conclusion? For one, the manner in which the opposition has tried to go about this, trying to circumvent the normal procedures in government institutions, such as the
This can be evidenced in bullying tactics applied with recent legal actions filed through the Cornucopia Institute, misleading letters that were sent to retailers, trying to lead them to believe that they're breaking the law or doing something wrong.

To quote one of these letters, I was very disturbed to see that you were selling hydroponically grown grape tomatoes labeled as organic. The term organic is a legal term controlled by the USDA and according to the 2010 recommendation of the National Organic Standards Board, hydroponically grown produce are not organic and should not be labeled as such.

This is a disservice to your consumers and calls into question the credibility of all labeling at, I will leave the retailer's name out. I suggest you remove these mislabeled items from your stores and discontinue until properly labeled.

While there's nothing really untrue in this statement, it was very carefully crafted to be
misleading and designed to fool the retailer into believing they were doing something illegal. Then there's my personal favorite.

In a telephone conversation where the opposition was invited to come and see one of the operations in California, so a producer could show them their system and explain how it's truly organic, their response was, what do you grow? When the response to this was, micro-greens, basil, leaf lettuce, and some other items, the opposition responded with, don't worry about it, just don't grow tomatoes. Really?

What about the numbers and availability of organics? According to the Nielsen data, organic tomatoes and peppers and cucumbers account for a $276 million industry. This industry is growing at a rate of 19 percent, or $43 million, a year.

Greenhouse production accounts for 30 percent of the total and 47 percent of the growth. Organic greenhouses are growing at much faster rate, 33 percent versus 13 percent in the field.
With these numbers, it's not hard to see the financial windfall that would result from the remaining producers with 30 percent of a growing market disappearing overnight.

Where will all the families eating healthy organic produce from greenhouses get their organics if containerized growing was not permitted? This supply and demand issue would make organics affordable only to the financial elite.

Again, I must ask, based on what consumers are looking for, science, and common sense, what is the real motivation here? Based on the testimony today --

CHAIR FAVRE: Excuse me, I'm sorry, I'm going to have to ask you to stop.

MR. WHITCHER: That's fine.

CHAIR FAVRE: Any questions? Thank you very much. Next up is David Auner, followed by Fried De Schouwer on deck.

MR. AUNER: Thank you. I'm David Auner, retired family physician, chemist, philanthropist, and currently trying to build up a depleted fescue
desert on my grandfather's Ozark 40 acres. A
family member of mine works in a quality hydroponics
outfit.

I support the work and the positions of
Cornucopia and think organic means more than just
nonpoisonous. Improving soil health sequesters
carbon and leads to more nutritious food.

I am too old to see which food industry
ideas will win the next round, but I predict
hydroponics, in greenhouses and in the high-rise
versions that Des Palmiers designs, with their LED
lights, will dominate and be controlled by a few
multinational corporations producing whatever
quality food is allowed after profits have been
maximized. Organic regulations are totally
inappropriate in this circumstance.

And like fracker's proprietary
information, which is not shared with the EPA or
health authorities, the USDA and this Board will
never again be able to withdraw the organic seal of
approval, even if like GM alfalfa fields, which the
cows now won't eat, the nutrition is lacking.
USDA succeeded in Missouri's NRCS soil and water conservation activities, but has failed miserably at food in the face of corporate corruption and a compliant Congress.

There is little reason to be optimistic, but I urge this Board and the USDA to regulate hydroponics through a different USDA Board and separate organic from hydroponic. I thank those of you who volunteer your time away from your operations to improve American food. Thank you.

CHAIR FAVRE: Thank you very much. Any questions? Thank you for your comments. Next up is Fried De Schouwer, with Emily Brown Rosen on deck.

MR. DE SCHOUWER: My name is Fried De Schouwer. I represent Greenhouse Produce Company, a U.S. based marketing company of premium vegetables for over ten years. I've been selling and marketing produce for over 30 years in Europe and the United States.

We annually market one million pounds of organic tomatoes, one-third of the total volume...
that we market on an annual basis. As a Belgian native, I keep close ties with Europe and follow market developments continuously.

I see a large difference between the demand from the broad market in the United States versus the current flat-line status of organics that occupy in Europe. In my opinion, one of the main reasons are the stringent EU government regulations on conventional vegetable and fruit production that inspire consumer trust in both organic and non-organic offerings.

Greenhouse production has played a big role in establishing this trust, by reducing the use of pesticides and fungicides, which has been the main drivers of consumer demand for organics in the United States.

By contrast, in the United States, use of GMOs is mounting and the use of pesticides and fungicides is still rampant. Organic demand is up by double digits according to USDA and industry sources. The use of protected culture in North America in the production of organic fruits and
vegetables has been driving this growing demand and supply.

Consumers benefit from the expanded offering of organic produce in more retail outlets on a year round basis. We should embrace the use of containers as one of the organic production methods so that we do not return to the dark days where organics were available only to the privileged few consumers.

The U.S. standards for organic production should be based on the need to serve the demand of U.S. consumers for healthier, sustainable produce, rather than the desire to copy the EU mishmash of standards.

I've seen it firsthand in Europe, that the variable restrictions of the use of containers is not a matter of organic production method or philosophy, rather the standards have been pushed as economic protectionist mechanism to stop the expansion of the supply base for the economic protection of a few small growers, who believe that they are entitled to bigger premiums for their
limited and seasonal production. Let us never lose sight of this issue from a consumer's perspective.

Unless we can show there is a measurable difference in nutrition, beneficial health, or the genetics of the plant, we undermine our own credibility in the industry by placing arbitrary restrictions of supply of organics.

I do live in Florida and when I open my eyes, I observe, I see orchids growing in trees, mushrooms on barks, and lilies growing in ponds. Who is to say that we must grow only in soil when Mother Nature intended differently? Thank you for your attention.

CHAIR FAVRE: Thank you. Questions? Thank you very much for your comments. Next up is Emily Brown Rosen, with Wil Hemker on deck. Emily, it's nice to see you and you look more rested than when you worked with us.

(Laughter.)

MS. ROSEN: Thank you very much. It's a pleasure to be here on this side of the podium, it's wonderful. I want to start off thanking all of you.
Board members for the excellent work you have done this semester and especially congratulate the class of 2017 for graduating or about to graduate, once you get through one more meeting of your five years, which is a tremendous commitment and we all appreciate it.

It was a privilege to work with you when I was at that NOP. I want to also mention the outstanding job that was done on Sunset 2017. I think this is the most thorough sunset review the NOSB has ever done and I have seen them all, so I was very pleased.

It included also the additional attention to follow-up, when you found an issue that couldn't be resolved in that time frame, you put it back on the table and you dealt with it. So, I think that's a really good standard for everyone to follow and be supportive of.

I also support the excellent proposal to divide up the future sunset work in reasonable batches for the next round, so you don't ever have to do 200, or whatever it was, 195, at one meeting.
That was ridiculous. So, great job.

On hydroponics, I just want to say briefly, I'm old school, I'm with the crowd that originally -- we all thought organic means organic matter in the soil, that's what the founders wrote into the law, that's what organic farmers -- you've heard from so many passionate farmers, it's wonderful.

But it is a tough decision. And one thing I want to point out to you, when you're reviewing new production systems, in addition to, of course, using the criteria of OFPA and the regulations, you have another valuable tool, which is in your policy and procedures manual, which is the 2001 NOSB Recommendation on principles of organic production.

And so, I just want to draw your attention again that number one was an organic production system is designed to optimize soil biological activity, maintain long-term fertility, and minimize soil erosion. Organic production systems strive to achieve agroecosystems that are
So, whatever you do decide to do, I think some of these comments about, what are your principles, are really important to come back to and that you might want to consider in the future an addition to these principles to include the goal of carbon sequestration, because climate change, we all know, is one of the biggest environmental challenges facing us and organic can do its part to mitigate.

And so, it would be nice to have that in your criteria as one of the many things you consider going forward. Stepping back, I have a few more general comments to the community at large here.

We all have some bigger fish to fry, I have to say, with the changing administration. We don't really know what's going to happen in the next five years, but it's really important that we can all keep the momentum on organic going and support for organic going.

So, one thing that's really disheartening to me, which Miles mentioned this
morning, the large number of FOIAs and lawsuits against USDA and I think we can do better than that.

I think we can work together, NOP I know is open for people to come in and call, make appointments, present your case. A lot of things can be solved through direct, ordinary conversations, and I'd like to urge everyone to do that. Thanks. That's it.

CHAIR FAVRE: Thanks.

MS. ROSEN: Any questions?

CHAIR FAVRE: Zea, question?

MS. SONNABEND: Emily, could you please let us know, us on the Board and Miles know, your opinion on the continued work on changing the inert annotation.

MS. ROSEN: I think that's a very important piece that needs to happen. I know there's -- basically, what you all recommended was that we revise the annotation of the National List so that there is a better system for this, more modernized, to look at the inerts for List 4 and List 3.
It needs to get -- there's many important things on the list, it needs to get revised before the next sunset comes around, and we need to kind of keep the momentum going on that project if possible.

CHAIR FAVRE: Harold?

MR. AUSTIN: So, when you coming back out of retirement?

(Laughter.)

MR. AUSTIN: No, seriously, I have this idea. I do have a serious question. Didn't you provide us with some written comments on tocopherols?

MS. ROSEN: I did.

MR. AUSTIN: Could you clarify, just let us know what your thoughts were on that?

MS. ROSEN: Well, my thoughts were that I was -- it was kind of technical, I mean, I don't know if you want me -- I can't go into whole details now, we can talk about it more later, but the idea was that you indicated that you felt there were some non-synthetic tocopherols as well synthetic and you
were going to list both of them on the National List. But it was not clear to me from your proposal which forms you were considering non-synthetic, and I think that's important to identify as you go forward, so that if you ever want to take the synthetics off, so that everybody knows which is which. And that's why I suggested you try and follow the decision tree and so we have a record of your opinion. Thanks.

CHAIR FAVRE: Thank you very much.

MS. ROSEN: Good luck.

CHAIR FAVRE: We've missed you. Next up is Wil Hemker, followed by Aish Balasubramanian. Sorry about that.

MR. HEMKER: Good afternoon. My name is Wil Hemker, fellow at the University of Akron Research Foundation in Akron, Ohio. My work is in applied research in the sustainable food and environmental technologies venue, which brings me here today.

I'm in support of retaining certification of container and hydroponic indoor
farming, following the Organic Foods Production Act that enables organic certification to be between the organic farmer and the certifying agent.

The essence of organic growing is in the intersection of the stewardship of the Earth's agriculture resources and managing plant vitality by nurturing the root zone ecology.

The organic greenhouse and indoor farmer is a valid grower. Why? Because they farm at this intersection, where essential biological symbiosis happens in the root zone, soil or none.

Today's world faces severe challenges in farming and food production. The average age of the U.S. farmer is nearly 60 years. Clean water, productive land, and favorable weather patterns all are decreasing. Demand for locally grown, fresh organic food crops is increasing.

Who is going to grow our food? Our youth, if we give them an opportunity and clear guidelines to become farmers. Young artisan growers to engineering students are engaged in controlled environment agriculture. They are
passionate and ask our schools and universities, like mine, to guide them in education, mentoring, and entrepreneurship in indoor farming.

The young demand transparency in their lives, authentic food grown safe, wholesome, and using methods to conserve the Earth's resources. Sustainable hydroponic and container organic growing offers a viable opportunity for the millennial farmers of the future.

Where and how will the demand for quality food be grown? Well, appropriate technologies allow indoor urban and peri-urban local growing 365 days a year. For example, leafy greens grow 25 times more productive per acre and use up to 30 times less water compared to field growing.

This subcommittee must recommend, based on sound science and valid practices, responsiveness to the food supply needs and opening pathways for young talented farmers. Greatly restricting appropriate technology is counterproductive to the organic movement.
Twenty-first century technologies enable organic farming to be more productive and excites American youths to be engaged. More young, tech-savvy farmers are needed to grow clean, safe, healthy, and local food. The NOSB must step up to our country's need for quality food, jobs for young farmers, and sound ecological practices in agriculture. Thank you very much for your time.

CHAIR FAVRE: Thank you. Questions?

Harriet?

MS. BEHAR: Have there been any studies on, like, the energy use? Like for lights and pumps and all -- I know there's a lot of energy use in a hydroponic as compared to -- because of the controlled environment that you're talking about, heat and all that, in comparison to growing food out in a natural system.

MR. HEMKER: The closest that has been done is a study done at Carnegie Mellon about six, seven years ago, on the carbon footprint. And they did find that, even coming from California out to the East, if you grew locally hydroponically, it is
a greater carbon footprint than even shipping it.

So, yes, there is an energy use. But the counter to it, which I'm heavily involved in, are renewable energies, smart energy design systems for these houses that reduces that energy burden. So, I think it's yet to come, but it is carbon negative versus even shipping from California.

CHAIR FAVRE: Emily?

MS. OAKLEY: You mentioned young farmers getting into agriculture, and I'm wondering, do you work with students who then go on to become farmers?

MR. HEMKER: Yes, we do. We're not an agriculture school, but right down the road is the largest agriculture research center in the United States, at the Ohio State University campus in Wooster, Ohio.

We work very closely with them and with many other land grant universities. But we are a materials science technology school and I have electrical engineers now making sensors for water quality that can very much impact farms.

MS. OAKLEY: I'm no longer a young or
beginning farmer, but I was not very long ago and
am still very much in touch with that community and
I can say from my anecdotal experience that I don't
see very many young and beginning farmers getting
into hydroponics, because there's a very high
up-front equipment investment, capital investment,
that isn't necessarily there with land based
farming. So, I'm wondering if you are seeing a
different trend that I'm not seeing?

MR. HEMKER: Well, that's an assumption,
Emily, that I think is incorrect. We have
contrasting technologies based on the economies of
scale and the developments of the country.
Presently, we are working with systems that are very
expensive that are robotic, for this in North
America.

But at the same time, I've got a project
going in Haiti that's very low-tech and it actually
can turn better crops and do it quicker on
non-arable land down there. And we know what the
devastation is in many of our developing countries
and these students are responding with some very
interesting designs that bring it within the means of small farmers.

CHAIR FAVRE: Thank you very much.

MR. HEMKER: Thank you very much.

CHAIR FAVRE: Next up is Balasubramanian. On deck is David Hiltz.

MS. BALASUBRAMANIAN: Good afternoon.

My name is Aish and the last name is Balasubramanian. Thank you. Thank you all for your time and consideration. I'm here on the behalf of the organic apple growers.

They have asked AgroFresh, that's us, to support them as they believe in 1-methylcyclopropene, or 1-MCP as we call it, and they say with the access to 1-MCP, they would have a tool to manage their supply and provide quality apples to consumer, while reducing waste and minimizing carbon footprint.

Our goal at AgroFresh has always been to help apple growers have a peace of mind that the apples they grow reach the consumers. And we have been doing this for 15 years and we have been doing
this safely and successfully with our SmartFresh technology for non-organic apples.

Being here is very important to me on a personal level. I'm a vegetarian born and raised, I'm passionate about food and as a scientist in AgroFresh, I do what I do everyday is because I get to see firsthand how science benefits people. And I think that is very important to know and I'm proud to be a part of it as a scientist.

SmartFresh is proven and it's a time-tested technology. It has been reviewed and approved for use in over 40 countries. In all cases, it was found to be safe to consumers, workers, environment, and it's effective in maintaining the quality of apples.

So, there is so much effort being put into growing organic apples. You have from land, water, equipment, energy, transportation, it is imperative that we realize the value for this investment and the only way to make sure is that apple that the organic farmers grow is consumed.

SmartFresh can make that possible by
ensuring this apple quality from farm to table. It means less waste and more locally grown organic apples available.

Yes, you may say there is -- you can import apples, apples come from other Southern Hemispheres, but we need to think of the carbon footprint associated with this, and SmartFresh can really help minimize the carbon footprint, and we have proved that over 15 years with non-organic apples.

SmartFresh is also successful in reducing energy requirements, so apples need not be stored at as cool of temperatures. It is effective even in the cold storage, or in some case regular storage, which is very important for small organic growers. Having SmartFresh as a tool will pave the way for more small farmers to transition.

There is controlled atmosphere, there is dynamic controlled atmosphere, all these are great as a storage means, but they are not enough, because once you take that apple out of the storage, perfection ceases to exist. That means apple
starts to rot a lot faster, they will start getting softer, and they don't last that long after that.

Without SmartFresh, you lose the eating quality of these apples. Moreover, these apple storage methods have high energy consumption, high infrastructure, which are all expensive and may not be an option for a small grower. Thank you for your time. And just wanted to conclude by saying, there is no greener technology than SmartFresh, in our opinion. Thanks.

CHAIR FAVRE: Thank you. Questions? Harold?

MR. AUSTIN: I think one of the challenges that the subcommittee had when we were looking at SmartFresh was where we could actually categorically try to fit it onto the National List. And I think that was the biggest challenge. Issues -- technically what would you classify it as? A growth regulator or what?

MS. BALASUBRAMANIAN: It is an ethylene activity inhibitor and it's used in storage. Because apple is a biennial bearing crop, one year
you have a bumper crop, the next year, you won't. It is a great tool to manage supply that you get and it does a great job at minimizing the ethylene activity for the fruit.

So, it is just like ethylene, but opposite to it. It degrades, biodegrades into carbon dioxide and water and it exists only as a gas form, has a half-life of only 4.4 hours.

MR. AUSTIN: Okay. I guess I -- just for a comment for clarification for you. On the subcommittee, I did vote to not allow this on the material and I've since -- and I'm quite familiar with SmartFresh with 1-MCP on the conventional side.

I've heard from numerous organic growers growing apples in the Pacific Northwest that have asked me to change my vote, to support 1-MCP, and I will be doing that when we bring it up in the subcommittee.

MS. BALASUBRAMANIAN: Thank you.

MR. AUSTIN: Just wanted to share that with you.
MS. BALASUBRAMANIAN: Thank you.

CHAIR FAVRE: Thank you very much.

MS. BALASUBRAMANIAN: Thanks.

CHAIR FAVRE: Next up is David Hiltz, followed by Jake Gutzwiler on deck.

MR. HILTZ: Good afternoon and thanks for the opportunity to speak to the NOSB regarding the topic of marine plants and algae. My name is David Hiltz, I'm a research director with the company Acadian Seaplants.

We're a private company who has been harvesting and manufacturing marine plants and marine plant products for about 35 years. Our company roots are in the maritime provinces of Canada, but more recently, we've expanded our activities into Maine and Ireland as well.

We appreciate the NOSB interest in the sustainability of marine plant harvesting, but we're deeply concerned with the theme of the discussion document that was published, which seems to imply that there's wide acceptance of the position that the species ascophyllum nodosum is
commercially over-harvested.

My colleague, Dr. Raul Ugarte, has been studying the ecology of ascophyllum nodosum for more than 20 years and he has published numerous peer-reviewed papers on the growth patterns and effect of the commercial harvest of this species, many in collaboration with government scientists and renowned phycologists worldwide.

Dr. Ugarte submitted comments to the Board, which I hope you've had a chance to consider. The comments outline the commercial landings of ascophyllum and compare them to the scientific estimates of the standing biomass of the areas where ascophyllum grows at a density which would allow commercial harvesting.

And you can see from that data that only a small fraction of the total biomass is actually harvested annually. And given that the peer-reviewed publications also show that the annual regrowth of ascophyllum can approach 35 percent of the actual biomass, it's clear that the commercial harvesting activities remove less than
the annual turnover of the plant itself.

If it's not clear to the Board, the commercial harvest of ascophyllum is actually a highly regulated industry, subject to regulations and scrutiny. As summarized in the technical review, the current state of the commercial ascophyllum harvest is actually -- has resulted in favorable observations by both researchers and industry.

In Atlantic Canada, for example, the ascophyllum resource is owned by the government and access is granted through a licensing agreement to companies that can demonstrate a sustainable harvesting plan.

Harvesting methods have evolved through science-based innovation and now focus on cutting the top of the plant as they stand in the water column. This technique will leave the holdfast attached to the rocks and it will also leave the lower section of the plant intact, which will allow for rapid regrowth without requiring new recruitment.
Commercial landings of ascophyllum are monitored both by industry itself and by government inspectors for the quantity that we bring in, as well as the presence of these holdfasts. And by doing that, it ensures that damaging harvesting practices are not occurring.

When ASL began harvesting ascophyllum, we were typically given license with annual renewals, but as we have developed a good credibility and gathered scientific information, the leases that are now awarded to us are much more long-term and it demonstrates the scientific credibility that we've obtained. Thanks for your time to comment. There was one comment in public comment that suggested that companies were --

CHAIR FAVRE: I'm really sorry, we have to cut you off.

MR. HILTZ: Okay. That's fine.

CHAIR FAVRE: We're almost an hour behind schedule now, I apologize.

MR. HILTZ: That's fine.

CHAIR FAVRE: Any questions?
MR. HILTZ: Thanks very much for your time.

CHAIR FAVRE: One question.

MR. HILTZ: Oops, sorry.

MS. RICHARDSON: I get one question. So, you may have noted that we got probably thousands of pages of comments, plus the research articles. And so, we have read all of those and they do cover a cross-spectrum and some of them support the statements that you've made and some of them suggest over-harvesting in certain geographical areas.

What I want to just do is just make a comment to you and then for others that are going to be commenting on this, is that out of this meeting, the first thing we'll be trying to look for to get clarification of the species listed on the National List.

So, anything that you can do to help us to know the right Latin names that will go with the common names, that will enormously helpful to us, because that's what we'll do first. We're not
going to be proposing any specific standards at this point that are going to change them and we really value this whole cross-section of data that we've been getting.

And I'm saying this for all of you who are also going to be commenting on this subject during these two days. So, we really appreciate the detail of information that you're providing us with. Thank you.

MR. HILTZ: Thanks, Jean, and just quickly to say, some of the statement, the idea, or some of the history of the ascophyllum harvest, a lot of the reports of over-harvesting were done at a time before the commercial licensing system that has come into place now. And since that system has come into place, we see a much better regulation and a much better sustainability, I believe. So, thank you all.

CHAIR FAVRE: Thank you very much. Next up is Jake Gutzwiler. And we've got Carl Knueven on deck.

MR. GUTZWILER: Hi, I'm Jake Gutzwiler.
I'm here to support the approval of 1-MCP for organic apple production or application to organic apples. The relatively innocuous product that's applied post-harvest, doesn't affect any of the sustainability of the soil or the land and definitely adds a lot to apple sustainability post-harvest.

I am a fourth generation orchardist from Wenatchee, Washington and I'm the quality control manager at Sternilt Growers in Wenatchee also. My responsibility is to store apples, whether they're conventional or organic, and also to store cherries and pears.

I represent in my own organization more than 50 individual organic growers, all of whom support the use of 1-MCP if we could get it, simply because we know that we are going to see a dramatic proliferation of organic apples within the next two years, a number of orchards are in transition from conventional to organic, which is fantastic for consumers. Availability of more organic product to the consumers, potentially for a longer period
throughout the season.

One thing that is a negative to all that though, is that history shows us that in apple production, we see periods of dramatic increase in production of apples immediately followed by that increase going out to the marketplace and then a mass availability of fruit at the warehouse level.

We have dramatic demand and then we have supply that reaches that demand and then we start having to store the fruit a little bit longer throughout the season. Which is okay, because that allows the consumer to eat organic apples longer throughout the year. Instead of just four months, we have enough to store for five months, six months, seven months.

But at some point, the quality starts to decline. We start seeing rot, we start seeing superficial scald, we start seeing general degradation of the product, just the integrity of the fruit starts to decline, so it becomes unpackable, unshippable, unavailable to consumers at that point.
And at that point, although we're still going to pack, we're still able to ship, we lose a certain amount of the fruit that we can pack at the production level. Once we lose that pack-out, once that pack-out drops, then growers start losing money.

And once growers start losing money, then they have to make the decision, do I stay organic and have lower pack-outs or do I go back to conventional, have higher pack-outs, able to sell the entire crop, because they can store it longer?

1-MCP would be one more tool to help us store that fruit a little longer and sell the entire organic crop and keep more fruit in organic, more fruit organic for the consumers. Any questions?

CHAIR FAVRE: Jean, and then Dan.

MS. RICHARDSON: So, how often do you have to -- would you have to use 1-MCP? We heard that it has a life of about four and a half hours, I think the earlier speaker said, and that it's an ethylene inhibitor. So let's suppose that you notice that the fruit is going downhill, doesn't
store as well, what do you then do?

MR. GUTZWILER: You apply 1-MCP at the beginning of the season. The closer to harvest you apply it, the better off you are. If you apply it later in the season -- what it does, 1-MCP is essentially the same shape as ethylene.

Ethylene is the ripening hormone in fruit. And so, it's this self-proliferating process, where once it starts to ripen, it produces ethylene and then it absorbs that ethylene. And when it absorbs the ethylene, it gets riper faster.

So, it essentially blocks the ability for the fruit to absorb more ethylene. And when it blocks that ability to absorb the ethylene, it doesn't ripen as fast. So, once you start down this path in apples, it ripens a heck of a lot faster.

So if we can stop it early, then we can store it longer. If we can store it longer, then we have more delight for consumers later. Because, I heard someone talk about how important flavor is when you're eating fruit, or when you're eating food, excuse me, tons and tons of sensory work on
apples has shown that the most important component to consumers in apple consumption is crunch.

So, we can draw more consumers to buy that organic apple if we can keep the crunch there, plus we don't lose the integrity of the product, so we lose pack-out, so we lose organic growers.

MS. RICHARDSON: So, you only use it once?

MR. GUTZWILER: One time.

MS. RICHARDSON: Okay.

CHAIR FAVRE: Dan?

MR. SEITZ: What's the maximum length of time you can keep an apple when you've treated it shortly after picking it?

MR. GUTZWILER: That is dependent on variety of apple. But there are people who hold apples as long as 14 months. Typically, what you see, the real solid shelf-life of an apple, if you put it in controlled atmosphere, reduced oxygen, you put the apple to sleep, you can hold it for 12 months.

Now, you can do that at some -- if you
have a perfect year, if you have the perfect fruit, if you have perfect conditions, you can do that sometimes without applying any kind of a product to it and just dropping the oxygen low, but that's rare that it occurs. Typically, you see degradation in pack-out, which means degradation to the return to the grower.

CHAIR FAVRE: Harold?

MR. AUSTIN: Jake, I'm going to assume, since I come from the apple communities myself, that you're talking on the 14 month, conventional fruit. What's the longevity of organic fruit compared to conventional fruit storage regimes?

MR. GUTZWILER: I only count on storing organic red delicious for five months, because I know beyond that, it's a ticking time bomb. You've lit the fuse and it's going to rot.

I know that I can store organic granny smith at ultra-low oxygen levels most years, at the most, nine months before I start developing superficial scald. But that's only on good years, some you just start seeing that superficial scald
even earlier than that. So, you've got a range of five months to nine months, at best.

CHAIR FAVRE: Thank you very much.

MR. GUTZWILER: Thank you.

CHAIR FAVRE: Next up is Carl Knueven, with Mark Kastel on deck.

MR. KNUEVEN: Good afternoon. My name is Carl Knueven. I'm the R&D director for Jones-Hamilton Company. Sodium bisulfate is a safe, dry granular acid salt. It's approved for food by FDA, World Health Organization, and USDA, and for animal feed in the U.S. and Europe. It's a common ingredient in products such as soups, sauces, salad dressings, and beverages.

It lowers pH to help control salmonella, listeria, and e coli. Of the three products being petitioned, sodium bisulfate is safe and environmentally friendly. It's on EPA's Safer Choice list as both an antimicrobial and a processing aid. It received a full green circle, verifying it to be of low concern.

When added to poultry litter, sodium
bisulfate breaks down into sodium, hydrogen, and sulfate, all of which are naturally found in the litter. The hydrogen lowers pH, which controls ammonia and salmonella.

Sodium bisulfate has unique characteristics that make it ideal for use in broiler houses. Broiler houses are dry environments. In this dry environment, sodium bisulfate absorbs water from the air when the relative humidity is above 45 percent.

At 40 percent humidity, the hydrogen is locked in the dry crystal form. At 45 percent humidity, the crystals will absorb water, turn liquid, releasing the hydrogen, which lowers pH.

There is no approved material for use in or on organic poultry that functions this way, including Activated Barn Fresh that contains citric acid. Citric acid absorbs water and turns liquid only when the humidity is above 73 percent. In the dry crystal form, citric acid cannot lower pH or control ammonia.

The National Poultry Technology Center
recommends relative humidities between 50 and 70 percent to keep litter moisture at acceptable levels. Humidities above 70 percent cause condensation on walls and ceilings and wet litter. Wet litter contributes to health problems and increased ammonia production.

Therefore, approved materials for use on or in organic poultry that contain citric acid cannot control ammonia or reduce pH under recommended farm conditions, which differ from test tubes where water is added.

The University of Toledo conducted a life cycle analysis on sodium bisulfate following international guidelines. The results indicate that the production and distribution of one ton of sodium bisulfate generates 700 pounds of greenhouse gas emissions.

That same one ton of sodium bisulfate applied in a poultry house reduced CO2 emissions by 16,200 pounds during winter months and 3,100 pounds during summer. In addition to reducing greenhouse gases, sodium bisulfate reduces ammonia emissions,
which are an environmental concern and a worker safety issue.

The general public purchases organic products because they believe they are safer, healthier, and better for the environment. Sodium bisulfate makes products safer, healthier, and better for the environment.

CHAIR FAVRE: Thank you.

MR. KNUEVEN: I also have a bunch of letters from organic growers stating that there's no organic product out there that works and to please approve sodium bisulfate --

CHAIR FAVRE: Thank --

MR. KNUEVEN: -- for the health and welfare of the bird.

CHAIR FAVRE: Thank you. Ashley, question? Followed by Jean.

MS. SWAFFAR: Can we see those letters that say individual --

MR. KNUEVEN: Yes, I have them all --

MS. SWAFFAR: -- companies --

MR. KNUEVEN: I have them all right here.
MS. SWAFFAR: Yes. I'd love to get those

--

MR. KNUEVEN: Okay.

MS. SWAFFAR: -- because I just saw on

mainly poultry veterinarians.

MR. KNUEVEN: All right.

CHAIR FAVRE: Jean?

MS. RICHARDSON: So, when the sodium

bisulfate degrades --

MR. KNUEVEN: Yes.

MS. RICHARDSON: -- you've scattered it, it's in use, what does it degrade into in the litter?

MR. KNUEVEN: Yes. It's a very simple compound. It's made up of sodium, hydrogen, and sulfate. So when it gets into the litter, it's going to break down into the those three products, which are already found naturally in the litter.

The sodium -- there's a lot of sodium in litter anyway, because it's in the diet. And sulfate is already in the litter too, because it comes through from the sulphur containing amino acids. So, it's just the hydrogen ion which will
be additionally there and that hydrogen will react with the ammonia, which is NH₃, and make it NH₄, ammonium.

So, it's really -- you can't tell a difference between product treated with sodium bisulfate or litter treated with sodium bisulfate and litter not treated with sodium bisulfate, other than a little bit higher in nitrogen levels, when you look at the chemistry.

CHAIR FAVRE: Thank you very much.

MR. KNUEVEN: You're welcome.

CHAIR FAVRE: Next up is Mark Kastel, with Nicholas Gardner on deck.

MR. KASTEL: Okay. My name is Mark Kastel, I'm the co-director of the Cornucopia Institute and I act as our senior farm policy analyst. Our membership consists of about 10,000 individuals, including an important percentage of the nation's certified organic farmers.

I want to formally deliver the 1,400 individually signed proxies, again, with a high percentage of certified organic farmers from over
40 states and Canada, not just in Vermont. They are all making it very clear that hydroponic and container growing, whether it is with the roots in liquid or in a non-nutritive substance in a container, is not consistent with the spirit and letter of the organic law.

Why should you listen to these stakeholders? Why should you listen to the veteran experts who will be testifying this week, like Dr. Michael Hansen and Charlotte Vallaeys of the Consumers Union, Dr. Terry Shistar of Beyond Pesticides, Dr. Linley Dixon with the Cornucopia Institute?

Please allow me to make this clear: all these organizations, with long legacies of monitoring organic policymaking, are all tax exempt, public interest groups. The voting record of this panel indicates, in contested votes, many members universally reject the advice and counsel of these learned public representatives.

A sizeable percentage of this body, in contested votes, stand almost 100 percent in
consort with the Organic Trade Association and its corporate members. And what is the OTA? Let me first tell you what the OTA is not. It is not a public interest group.

It is a trade association mandated by its charter to lobby on behalf of business interests in the organic industry. Although they might want to say they represent farmers, they represent businesses that buy commodities from farmers. They might want to say they represent consumers, but they represent the businesses that sell organic products to consumers.

And so, who should you be listening to in the organic community? Maybe the FMC Corporation, originally Food Machinery and Chemicals, that are here to talk about carrageenan. One reason that they are funding the agribusiness kind of AstroTurf campaign to convince you folks that carrageenan in organic food is essential, why? Profit.

How about the -- likewise, the reasons that multinational corporations like Driscoll's,
who's vast preponderance of business is conventional, yes, container growing is hydroponic, or Wholesome Harvest, who you've heard from, a multinational corporation, they funded this phony grassroots group, the Coalition for Sustainable Organics. Why would they invest in that? Profit. I have one last sentence. Profit is not a dirty --

CHAIR FAVRE: Mark --

MR. KASTEL: -- word, but suggesting that --

CHAIR FAVRE: Mark --

MR. KASTEL: -- labeling organic and growing without soil is legal is --

CHAIR FAVRE: Mark --

MR. KASTEL: -- flatly wrong, but it appears to be highly profitable. Thank you very much.

CHAIR FAVRE: Thank you. Any questions? Thank you very much.

MR. KASTEL: Thank you, Madam Chair.

CHAIR FAVRE: Next up is Nicholas
Gardner, with Jose Zertuche on deck.

MR. GARDNER: Good afternoon. My name is Nicholas Gardner and I'm the general manager of Marinalg International, a trade association representation companies that produce seaweed derived hydrocolloids, including carrageenan. Marinalg strongly supports the continued listing of carrageenan on the National List.

Carrageenan meets OFPA criteria as a safe and essential food ingredient. Carrageenan has been used in foods for hundreds of years, because of its unique functionality, which is unmatched by alternatives.

Carrageenan is commonly used to stabilize and thicken foods, to bind water, to promote gel formation, and to reduce or substitute fat. Carrageenan is generally found in dairy products, although it is also present in processed meat and fish products, beverages, condiments, desert gels, and infant formula.

Although non-organic alternatives do exist for some applications, alternatives are not
available for many. Formulators who have tried to replace carrageenan have found that these non-organic alternatives do not perform as well as carrageenan, leading to product discontinuations.

In other cases, formulators have been forced to use more non-organic ingredients to achieve the same functionality as a small amount of carrageenan. To demonstrate these points, I would like to note the results of a recent dairy food producer survey, which was published by dairyfoods.com on November 9.

While I'm not going to read the quote that I have here on the slides, I want to note that carrageenan alternatives identified by the Handling Subcommittee were evaluated in the survey and dairy producers responded that carrageenan was superior in terms of performance and functional characteristics.

I appreciate the priority that the NOSB has placed on ensuring that only safe ingredients are used in organic foods. However, there can be no question when it comes to carrageenan. It is
safe. Extensive scientific research, including literature published since the spring NOSB meeting, demonstrate that carrageenan does not cause adverse health impacts when consumed in food.

The Handling Subcommittee has also thoroughly investigated carrageenan's safety, including reviewing the results of a limited scope TR on the subject. Their conclusion was that the scientific evidence does not support claims of widespread health impacts from carrageenan. Like the Handling Subcommittee, regulatory bodies all over the world, including USDA, have come to the same conclusion.

To summarize, Marinalg continues to believe that carrageenan is safe and compatible with organic principles. Seaweed cultivation for carrageenan production, as noted by other commenters, actually has positive impact on environment and socioeconomic development.

However, because the decision before the NOSB rests on whether carrageenan is essential, I would like to spend my remaining time posing some
points for the Board's further consideration. It is clear that wholly organic alternatives do not exist for carrageenan. And I will conclude there.

VICE CHAIR CHAPMAN: Thank you. Any questions? I have one. You were starting to talk about criteria by which we evaluate substances, one of which is compatibility with organic handling system, it's a quite vague term, but we have guidance in terms of a proposal that was accepted in 2001.

And in that, there's a question posed, does the substance satisfy expectations of organic consumers regarding authenticity and integrity of organic products? Can you help us in answering that question?

MR. GARDNER: Sure. And, Tom, would you like me to sort of reflect on that from the production side or from the use side in foods themselves?

VICE CHAIR CHAPMAN: I mean, we're talking about the expectations of organic consumers --
MR. GARDNER: Sure.

VICE CHAIR CHAPMAN: -- and not -- so, authenticity and integrity of the product --

MR. GARDNER: Yes.

VICE CHAIR CHAPMAN: -- so I'd imagine on the finished product side.

MR. GARDNER: Okay. Sure. Well, I think that one of the things that carrageenan provides, as you've heard from many formulators, is an option that allows them to deliver a consistent product that has unique characteristics compared with other ingredients.

I think when organic consumers, particularly new organic consumers, who are emerging into this market, like younger people, who want new and innovative products, they are looking to an ingredient like carrageenan to satisfy that technical need for a very functional, very consistent product, while also having the integrity of coming from a natural source, seaweed, and used at an extremely low level as compared to some of the alternative ingredients that would be used to
substitute carrageenan.

VICE CHAIR CHAPMAN: Any other questions? Thank you.

MR. GARDNER: Thank you.

VICE CHAIR CHAPMAN: Up next is Jose Zertuche, followed by Erin Silva on deck.

DR. ZERTUCHE: Yes. Good afternoon. My name is Jose Zertuche, I'm a professor at the State University de Baja California in Mexico. I obtained my PhD in SUNY Stony Brook in coastal oceanography and marine botany.

I have 30 years of research experience on the ecophysiology and sustainable use of commercial seaweeds. I also have been an FAO consultant and I belong to the Latin American Consortium for Sustainable Seaweed Industry.

I want to inform you that seaweed harvesting has proved to be a successful sustainable fishery in many regions of the world. Presently, it's practiced in more than 30 countries. Over 55 percent of the biomass harvest from natural populations comes from Latin America.
Chile is by far the largest producer, but seaweed natural beds are also harvest in Mexico, Argentina, Peru, and Brazil. In Chile, which is one of the first agar producers in the world, seaweed represents a significant source of income for rural coastal communities.

In Mexico, seaweed harvesting has been practiced since the early 1960s and provides without a doubt the best record of sustainable fishery in the country. The Mexican seaweed industry consists mainly as a source of raw material, exporting seaweeds to the U.S. for agar, alginate, and carrageenan production.

Seaweed exports to the United States have been a significant income for fishermen along the coast of Baja California, promoting roots in local communities. Seaweed harvesting also provides an additional alternative for commercial fisheries, helping to reduce the fishing effort on over-exploited species.

Several reasons explain the success. First of all, seaweed harvesting is regulated by the
government through permits and concessions, which outline specific harvesting methods based on scientific studies according to a life history of different seaweeds.

Additionally, seaweeds need to be present in high densities in order to make a profitable harvest, which makes it, to some extent, self-regulated. Although seaweed population can be drastically reduced by natural events, such as El Nino, global warming, have shown to have a high capacity for recovery.

Regarding the recommendation to substitute carrageenan by other gums, consider that seaweeds is the raw material for gums, with a lower ecological footprint, because they do not require fresh water, farmland, or fertilizers. Replacing carrageenan with other gums would have a greater environmental impact.

In summary, programs for sustainable harvesting of seaweeds have proved to be successful and relatively easy to implement, providing a complementary source of income in rural coastal
VICE CHAIR CHAPMAN: Thank you. Any questions? Thank you.

DR. ZERTUCHE: Thank you.

VICE CHAIR CHAPMAN: Up next is Erin Silva. And Abigail Youngblood is on deck.

MS. SILVA: Good afternoon, everyone. I'm Erin Silva. I'm an assistant professor at the University of Wisconsin Madison, specializing in organic agriculture and the State Extension Specialist for Wisconsin. I'm here before you today to provide an update on the work of the celery powder working group, which is a subgroup housed under the Organic Trade Association's National List Innovation Working Group.

The celery powder working group was formed to explore organic alternatives to conventional celery powder, which is used as an organic curing agent for organic meat products, which is scheduled to sunset as of 2022. And this was also listed as a research priority by the NOSB.
As a quick update to our work, to date, we have established a strong partnership of industry representatives, university researchers, including myself and a meat scientist at the University of Wisconsin Madison, and farmers to evaluate the current state of the industry and to identify bottlenecks and opportunities for the development of alternatives to the conventional celery powder that's allowed today.

To support these activities, we have applied for and received a USDA Organic Research and Extension Initiative Planning Grant, which funds some staff time and travel to support the activities of the celery powder working group.

Additionally, we have begun some small-scale research, replicated evaluations on the University of Wisconsin certified organic research land, and using samples from organic farms across Wisconsin and California to evaluate the nitrite and nitrate levels of organic celery as a potential alternative to conventional powder,
measuring both the nitrate concentrations and the related nitrite conversion from these crops.

We're also looking at alternative crops as well that might serve as an alternative to celery, such as Swiss chard and beets and also some cover crops, such as oat. All of this work is done using certified organic land, using good, solid organic management practices and fertility approaches with organic cultivars available as organic seed.

This preliminary data will support future work involving not only the agronomics of the system, but also economics and consumer acceptance. A schematic of our approach can be seen in the Organic Trade Association's Resource Booklet on Pages 35 and 36.

On this schematic, we have already progressed to the point of receiving, again, this OREI Planning Grant and are working towards moving to the next steps of getting larger funding to move the research on to a larger scale, to provide the solutions we need to find an alternative to the
conventional celery powder used today.

In closing, as we continue to move forward in developing the alternatives for conventional celery powder for the curing of organic meat products, the working group will continue to provide updates and let the NOSB know of our continuing efforts as we move along on this path.

CHAIR FAVRE: Good job. Harriet, and then Jean.

MS. BEHAR: Nice to see you, Erin.

MS. SILVA: Good to see you.

MS. BEHAR: So, I have a question, I just have some concern about, and maybe I just don't understand meat curing, but we're focusing so much on nitrites, which is something that I think we do have a concern about in our food, and I'm just wondering if there's any research being done on -- I mean, right now, we're looking at, how can we get something with nitrites in it --

MS. SILVA: Yes.

MS. BEHAR: -- is there some other
methods that you're also looking at to even completely bypass that --

MS. SILVA: Right now --

MS. BEHAR: -- ingredient?

MS. SILVA: -- we're still looking at the conversion of nitrate to nitrite. Jeff Sindelar, who, again, is a professor at UW Madison that's worked in natural curing for years now, was really the foundation of his career, he's done a lot of research and literature review to demonstrate that actually nitrate and nitrite, even though there's been recent news reports to demonstrate or to show that there may be a link between cured meat products and health risk, that the research really documents that that is not necessarily the case.

So, from my understanding, it's moving along this path of looking at an organic alternative based in nitrite is not increasing human health risk. And, indeed, nitrites have been used since the 1800s for curing, it certainly isn't something that's new as a synthetic product.

CHAIR FAVRE: Any other questions? Oh,
yes, I'm sorry, Jean.

MS. RICHARDSON: So, it's good to see this research coming out of some of the recommendations from the NOSB, because it was hard to sort of say, yes, go ahead with the celery, when we thought it could come from organic plants. So, are you finding that -- are you using a combination of cultivars and fertilizers to try to increase the nitrite levels that you're looking for?

MS. SILVA: Right now, we're concentrating -- yes, we are looking at cultivars as a potential solution and looking at cultivars that might inherently have higher levels of nitrates. But our approach is not to look at excessively fertilizing the crops. So, we may --

MS. RICHARDSON: Okay.

MS. SILVA: -- look at management strategies and optimizing management strategies with fertility management, but not dumping nitrogen on the system, that would be against that organic philosophy or organic fertility management.

All of our experiments thus far have
been using the typical fertility management approaches that organic farmers would use. So, that's not the approach that we're hoping to take. We are using some foliar feeds, but that is not necessarily uncommon with some of our vegetable production, organic vegetable production in the state.

MS. RICHARDSON: Okay. Yes, because that was one of our main concerns when we were looking at it in committee.

MS. SILVA: Yes.

MS. RICHARDSON: And so, my PhD's from University of Wisconsin Madison, so your research must be good too.

(Laughter.)

MS. RICHARDSON: Thanks.

CHAIR FAVRE: Thank you very much.

MS. SILVA: Thank you.

CHAIR FAVRE: Next up is Abby Youngblood, with Jake Lewin on deck.

MS. YOUNGBLOOD: Good afternoon. My name is Abby Youngblood and I'm the executive
director at the National Organic Coalition. Thank you NOSB members for all that you do. We greatly appreciate and value your service to the organic community.

I want to begin by urging the NOSB to pass all three parts of the proposal on excluded methods, including the terminology chart. The NOSB needs to provide as much guidance as possible for the incoming administration about the specific techniques that are excluded from organic.

We have had copious public comments and vetting of the excluded techniques listed in the proposal and we have consensus. Let's act now to give ourselves the best shot possible at protecting organic.

On hydroponic production, I have no problem with innovation, I value helping new farmers get started, I believe in food justice, but that does not mean that hydroponic or bioponic should be certified as organic. These systems are not consistent with organic principles.

They are not centered on the long-term
improvement of the soil of the farm, and that is the
foundation of organic farming. Allowing these
types of hydroponic systems to proliferate in
organic is badly damaging trust in the Organic Seal
and the NOSB process.

We urge the NOSB to remove carrageenan
from the National List. My colleagues at Consumers
Union, including senior scientist Michael Hansen,
have reviewed the scientific literature in detail
and have concluded that there is a substantial body
of evidence that points to potential harm to human
health.

NOC is eager to have the sunset review
process be less cumbersome and to provide more
opportunity for public engagement. So, thank you,
we strongly support the proposal to reorganize the
sunset review workload.

We applaud your efforts to strengthen
organic seed guidance and want to see the final
guidance amended to require handlers to determine
if the varieties they require are available as
organic.
And thank you for the presentation this morning on the peer-review report. This process for NOP oversight is essential, especially as we consider changes in administration. We urge the NOSB to pay attention to this issue and we urge that the process for this peer review be publicly available and debated, because the process is just as important as the outcomes of the report.

And we agree with Dr. Richardson that a review of past reports, as well as continuous oversight, must be part of the process. We have additional questions, concerns, and comments on this issue, as well as on the issue of disclosure of conflict of interest by NOSB members, and we look forward to using the open docket as a mechanism to communicate with the Board further on these issues in a public and transparent way. Thank you.

CHAIR FAVRE: Thank you, Abby. Any questions? Thank you very much. Next up is Jake Lewin, with Christie Badger on deck.

MR. LEWIN: Hi, everybody. I'm Jake Lewin. I'm the president of CCOF Certification
Services. I'd like to just mention that the CCOF Foundation Bricmont Hardship Assistance Fund is currently open for applications for any organic operation until November 21 and the Future Organic Farmer Grant Funds are currently open too. And, well, they're a bright spot in our lives, so I just wanted to mention them.

So, you can see in our comments, we currently certify about 130 container-based operations. A single digit number of these is bio or hydroponic. And I want to be clear that we look at these operations closely in terms of their role in the system and how the standards are applied.

I also want to be clear that I and we have tremendous respect for everyone involved in this and I wanted to talk about how we approach these issues. As greenhouses evolved, so has our approach. Now, this whole thing has grown into a big discussion.

Not just anybody can just walk in and apply and be certified organic or hydroponic with the way we apply the standards. Their systems are
very, very different from their conventional versions.

We look at the spirit and intent of the standards, provide feedback to operations, and there's no bright lines between the container and the hydroponic systems, it's hard to tell them apart depending on which definitions you use.

We give all operations feedback against guidance and NOSB recommendations, but we're not in a position to enforce them until they're finalized and implemented. We'd like to see this stuff move forward and get more clarity and nuance.

We see operations of all sizes and a variety of production systems doing a great jobs and others, in every production system, with room for improvement. The argument that one system is input substitution and another is not is just not, in our experience, a well-founded argument.

We find that these systems are often creative, innovative, and operated by individuals with fierce alignment to organic. A lot more is container production implemented per the 2010
Recommendation. We've required a lot from these operations in terms of practices.

We want to ensure that they're very different from their conventional counterparts and, just like all farmers, we're consistently working to improve that. The bigger picture is, something to think about, where we're going to go with regards to climate change and with extreme resource limitations.

We're seeing operations that are able to farm with container production instead of that area becoming condos. We're seeing people with extremely limited access to water and inputs, and at a certain point, we're looking at this and these things have evolved as we've been working with greenhouses and requiring them to meet natural resource issues for many years, and the situation in farming is getting really, really challenging with regards to land and water and other concerns.

CHAIR FAVRE: Thank you. Questions? Thank you, Jake. Next up is Christie Badger, followed by Safari Azis on deck. Before --
MS. BADGER: Thank you.

CHAIR FAVRE: Before you start, everybody, I'm once again going to call an audible. We're going to go ahead and work through the break. If folks need -- yes. That's it.

(Laughter.)

CHAIR FAVRE: NFL football term, Jean, for you non-Americans. And for those that don't follow sports, Zea.

(Laughter.)

CHAIR FAVRE: Okay. My apologies, let me take care of this really quick. So, those of you that need to get up and take a break, please do so, but try to do it with the minimum of disruption. It's a little bit distracting if we're getting up and moving around a lot, but we need to make up some time. Thank you, go ahead.

MS. BADGER: Thank you. Good afternoon. My name is Christie Badger and I'm speaking today on behalf of the National Organic Coalition. Thank you for the opportunity to be a part of a process that I continue to be excited about and thank each
of you for the important work that you do to further the integrity of the organic label.

NOC thanks the Compliance Accreditation and Certification Subcommittee for taking on the topic of inspector field evaluations. While we review inspector field evaluations as important to consistency and integrity in the inspection portion of organic certification, we see this requirement as overly proscriptive with aspects that are neither sound nor sensible.

NOC disagrees with the every inspector, every year requirement. The lack of a formal comment opportunity at the time of the initial publication of NOP Instruction is a concern. We feel as though much would have been gained by following the appropriate channels and much of this back work could have been prevented.

NOC recommends a model for field evaluations that is risk-based, not overly proscriptive, and which will allow assessment of all inspectors over a period of three years. We believe that such a model will accomplish the goal
of accuracy and integrity in the inspection process, while maintaining a sound and sensible approach to field evaluations.

Defining emergency treatment for parasiticides. NOC supports the work and time spent by the Livestock Subcommittee on the annotation changes for fenbendazole and moxidectin. We submit, however, that this work was left incomplete.

Without a definition for emergency use as it relates to livestock operations in the final regulation, the subcommittee has missed an opportunity to provide further transparency. We urge you to close the loop in using parasiticides as preventative measures.

Agriculture impact mitigation plans to address fracking and other related activities. For some time now, producers have faced oil and gas industry activities on organic farms. The issue of oil and gas extraction on or in close proximity to organic farms is complex and multifaceted and, as such, will require effort over the long term.
We ask the NOSB to begin to work on this topic. The lack of discussion on this topic is not preventing its impact on organic farms and your leadership on this topic cannot come soon enough. There must be a consistency under the National Organic Program.

Along with our comments, we shared an agricultural impact mitigation plan, developed by Atina Diffley and edited by OFA, to incorporate livestock concerns. This document is a tool to address fracking and related activities on organic farms and help protect organic producers' operations. We urge the NOSB to add the topic of agriculture impact mitigation plans with respect to oil and gas industry activities on organic farms.

CHAIR FAVRE: Thank you. Any questions? Ashley?

MS. SWAFFAR: I just want to let you know that defining emergency is on our work agenda item. We have been working on it in committee led by Harriet and we didn't want to rush it for this meeting, we wanted to get it right.
MS. BADGER: Thank you.

MS. SWAFFAR: Look for it in the spring.

MS. BADGER: Great, we'll look forward to that.

CHAIR FAVRE: Thank you very much. Harriet, quick question.

MS. BEHAR: So, you mentioned about fracking, are you talking about fracking water or just the actual impact of having oil and gas wells on organic land? What is the specific or is it all of the above?

MS. BADGER: Well, in the long run, I would assume it's all of the above, at some point. However, Harriet, as you have shared with NOC previously and kind of said, when we were talking about this, that you had been told that the NOSB does not have jurisdiction over water.

And that's interesting to me, and I don't know all the ins and outs of that discussion and such, but as I've said to Harriet previously and I will say here, if you don't have jurisdiction over water, I really can't imagine that we could include
hydroponics in organic. Just a thought.

CHAIR FAVRE: Thank you very much.

MS. BADGER: Thank you.

CHAIR FAVRE: Next up is Safari Azis.

We've got Joan Norman on deck.

MR. AZIS: Good afternoon. My name is Safari Azis. I've traveled here from Indonesia to represent the Indonesian Seaweed Association of seaweed farmers also who are very concerned for the NOSB to remove carrageenan and agar agar from the National List.

As an archipelago state, consisting of around 1,300 island, Indonesia is part of coral triangle that inhabit many species of seaweed. Two of them are cultivated for use in two food ingredient under review by the NOSB: gracilaria for its agar agar and eucheuma for its carrageenan.

Therefore, seaweed become an essential commodity for coastal community in Indonesia. They have been extensively cultivated in the brackish water and seawater, respectively. Seaweed cultivation is unique in its impact on the
environment, distinguished from mining, agriculture and fishing activities in four key ways.

Economically, seaweed cultivation activity plays a crucial role in poverty alleviation as it provide employment with stable income to support household needs and to afford medication and children education. In addition, seaweed cultivation is the main livelihood for coastal community, especially for those living in remote island with limited option for other employment.

It is simple to practice with fast production and sustainable resources, with no additional chemical investment needed. It is also important to note, seaweed cultivation is a non-corporate activity that doesn't need high capital and sophisticated technology.

In ecology, seaweed stakes with mangrove and enriches the marine environment. Seaweed is important to balancing nutrient in water and serving as nursery and spawning ground for other
organism.

Seaweed cultivation activity creates an income for coastal community and to protect the environment. Seaweed farmer practice firmly there is a right clear way or nice, as its sociological system imposing social sanction for those who do not apply ecofriendly practice for sustainability.

It's implied that in the socio-cultural elements in seaweed cultivation have to it the communities to respect Mother Nature. As a national community in our archipelago country, seaweed cultivation become a tool to support our economic development goals.

To conclude, the listing carrageenan or agar will impact Indonesian seaweed farmers and diminish the benefit brought by seaweed farming to coastal communities. The NOSB must consider this collateral damage when completing sunset review of this material.

The listing will impact seaweed demand due to product formulation, as well as public perception of what the listing means. As
consequences, when there is a drop in demand for seaweed, seaweed farmer lose their living income, causing them to seek out other less sustainable vocation.

They will struggle for fulfilling their daily needs and will leave them with no choice but to turn to things like destructive fishing or begging or maybe annoying tourists on the beach.

(Laughter.)

CHAIR FAVRE: Well, we can't have that.

Jean, and then Zea.

MS. RICHARDSON: Do you know what percentage of the carrageenan and the agar are going to organic uses as opposed to non-organic?

MR. AZIS: That's not my purpose to answer, sorry.

CHAIR FAVRE: Zea?

MS. SONNABEND: Yes, hi.

MR. AZIS: Hi.

MS. SONNABEND: It sounds like your methods of seaweed cultivation very easily could be certified organic. So, why is it not certified
organic and do you see it could be?

    MR. AZIS: Oh, there is no institution. Our government of Indonesia already give them education to practice good farming practice. Then, they --

    MS. SONNABEND: Yes.

    MR. AZIS: Yes.

    MS. SONNABEND: But if we remove it from the list, then only organic seaweed would be able to be used in organic products, so removing it from the list is not necessarily taking it away if you can grow it organically.

    MR. AZIS: The problem is, you grow seaweed and then you need to be processed to carrageenan and then they can have value. If only seaweed, no value. That's the problem.

    MS. SONNABEND: Thank you.

    CHAIR FAVRE: Thank you very much. Next up is Joan Norman, followed by Marshall Fong on deck.

    MS. NORMAN: Good afternoon. My name is Joan Norman. My husband and I own One Straw Farm.
We were a certified organic vegetable farm in Maryland for 26 years. In 2012, we withdrew our application for certification in order to use bio-based films.

We went through the process, there was a petition filed, and in 2014, the Board voted to approve biodegradable mulch films. Later, I found out, the conversation came up that it had to be 100 percent bio-based. That was never part of the discussion, nor part of the whole process.

The NOSB and the NOP have been to my farm, they've seen what happens with the mulches, the way it biodegrades. It's a positive thing on our farm. It allows us to get our cover crops in for the next year, we have fertilizers that -- the cover crops are the fertilizer product.

In a really dry year, it doesn't matter so much, but in a wet year, and you never know ahead of time, we have to get those films out, if you use plastic polyethylene film, it has to come out and be rolled up and put into a dumpster and sent to the landfill. So, basically, I'm taking something out
of my backyard and putting it into somebody else's. I don't feel that's a good, strong organic practice.

I think it's important that we look at all these things and I think it's very important that the Board vote and make the final decision and approve this product so organic farmers can be the best stewards of the land and do what's best for all.

CHAIR FAVRE: I think you win the award for the least amount of time used in the comment period.

MS. NORMAN: I wanted to make my point.

CHAIR FAVRE: Thank you very much.

MS. NORMAN: You're welcome.

CHAIR FAVRE: Any questions? All right.

Thank you very much.

MS. NORMAN: You're welcome.

CHAIR FAVRE: We've got Marshall Fong up, with Melody Meyer on deck.

MR. FONG: Hello. I'm Marshall Fong with FMC and I want to share a brief carrageenan stakeholder analysis with you. Starting with the consumer, while it's true that there are more social
media conversations on carrageenan today versus
five years ago, many of them negative, it's still
a minor concern, representing just 0.2 percent of
all ingredient related social conversations.

Forty-one percent of those can be
attributed to targeted social media attacks on
Facebook pages of mass-market brands using
carrageenan, who recently completed long and
difficult reformulations. And 11 percent were on
cat related sites, where anti-carrageenan groups
attributed the death of a cat to carrageenan
consumption. These are areas of niche consumer
concern, I believe largely unrelated to the organic
consumer.

On safety, I ask that you weight more
heavily the human clinical evidence on carrageenan
safety over studies on rodents having to endure
carrageenan being injected into their paws or fed
in combination with potent carcinogens. I think
PETA would agree with me on that.

These four public institutions not only
found carrageenan to be safe in humans, they
attributed profound health benefits to it. We plan
to duplicate these trials next year in the U.S. and
we believe that consumers should continue to have
the benefits of carrageenan through organic
products.

On that note, I want to point out to you
that companies representing nearly 40 percent of
U.S. organic products containing carrageenan
submitted comments to you that they find
carrageenan to be critical to their formulations
and want it continued on the National List. We
spoke to another two dozen companies who wanted to
be here today to comment, but who also feared being
victims of social media attacks.

Finally, you suggested that gellan and
xanthan are suitable substitutes for carrageenan,
but the empirical data don't support that. Gellan
is used in only a few dozen U.S. organic products
across all categories, as it lacks the functional
versatility of carrageenan.

CHAIR FAVRE: Thank you. Jean, you had
a question?
MS. RICHARDSON: Yes, do you know what percentage of the carrageenan is utilized in organic products as opposed to non-organic?

MR. FONG: Yes, I think that's a difficult question. FMC is a public company and we do not report down to the product level. I think it's maybe a fair statement for me to say is, of the few reformulations that have happened so far, it might be fair to say that some 10,000 seaweed farming jobs have been lost due to that.

It is an important segment, not only in organic, but the domino effect, it's -- I believe that organic and mass-market are inextricably linked.

CHAIR FAVRE: Tom, and then Zea.

VICE CHAIR CHAPMAN: So, we've asked several of the commenters about why this product is not available in an organic format, why we're not growing organic seaweed to then be processed into organic carrageenan, and we've been referred to a manufacturer. And you're our manufacturer, so can you help answer that question?
MR. FONG: I think many explanations point to why it hasn't been. We are currently evaluating things that we can do as a supplier of carrageenan to make that happen. I think that will take at least a few years.

VICE CHAIR CHAPMAN: Have you guys taken any action up to this point to take it organic?

MR. FONG: I think that's probably a question better addressed to our seaweed expert, who you'll see later on.

VICE CHAIR CHAPMAN: Thank you.

CHAIR FAVRE: Zea, and then Ashley.

MS. SONNABEND: I pass, Tom asked my question. Tom asked the question I was going to ask.

CHAIR FAVRE: Okay, thank you. Ashley?

MS. SWAFFAR: Tom asked part of my question, but I have a couple others. Can you please set the record straight, is it cara-G-nan or cara-gee-nan? That is the burning question.

MR. FONG: Yes, it depends on whether I'm in Ireland or here. I think cara-gee-nan is the
most common pronunciation here in the States.

MS. SWAFFAR: Okay. Great. So, my real question is, reformulating without carrageenan, are you aware of any of the products that your customers can't reformulate without carrageenan?

MR. FONG: Quite a few. In fact, the few products where there have been reformulations are relatively simple formulations. You're talking some soy milks, where you have a little bit of soy powder, some calcium, some vitamin D, that is relatively easy. Most of the other beverage applications where carrageenan is prevalent and gellan and xanthan are not, those are very challenging systems, where there really is no other substitute.

MS. SWAFFAR: And, specifically, those examples would be -- that's what I'm wanting to know. Like --

MR. FONG: More protein, I think there was a gentleman here, Carl Freund, who talked about more nutrients, more fiber, more things. Those become very challenging systems, oftentimes where
there are other stabilizers as well.

CHAIR FAVRE: Thank you very much. Next up is Melody Meyer, with Marc Cool on deck.

MS. MEYER: Hello. Thank you very much. I want to thank the Board and everybody on staff for the hard work that you do and your tireless efforts, thank you. I'm Melody Meyer with UNFI.

I've been in the industry for 40 years and I really care about this industry. We're the largest distributor of organic products in North America. Regarding -- I have several topics, I'm going to go quickly, because, Michelle, I emailed you my comments, my full comments, earlier today.

Regarding hydroponic, bioponic, container, and greenhouse production. I encourage the NOSB to refer this proposal back to the committee for further refinement. I don't think it's ready, fully developed. With that said, we support the allowance of these container and hydroponic greenhouse production, provided that there's guidelines established to ensure the adherence to organic principles.
NOSB should develop a metric that requires a minimum level of biodiversity of soil microorganisms to be present in the production system as a means of verifying compliance. Albert's Organics, our fresh produce division, purchases over $52 million worth of these kinds of products per year from family farms across America.

If these methods are suddenly excluded, all parties along the supply change are negatively affected, consumers, farmers, and our customers. These methods present a sustainable way to produce food, especially in urban areas or areas where access to land and water is a barrier.

Regarding excluded methods. Contrary to what's been thrown across the internet, I want to reiterate that I feel and we feel that new genetic engineering techniques are not and should not be allowed in organic production. I think the definitions and the principles and criteria are strong. I think the terminology chart is a work in progress.

Biodiversity and transitioning high
value conservation land. I continue to encourage
the NOSB to eliminate this incentive to convert
those high value lands into organic production. I
need to add that to your work plan.

Biodegradable mulch. I would urge the
Committee to correct that technical error and allow
organic farmers to use that product. I think it's
essential that we not take the mulch and take it to
the landfill, that we have an alternative.

Regarding the proposed rule on organic
livestock and poultry practices. Thank you for
that. As a next step, slower growing broiler
chicken strains should be included. Several
companies recently announced, Compass, Bon
Appetit, that they're including these through the
Global Animal Partnership, and as it now stands,
organic regulations and the proposed animal welfare
do not cover this critical concern.

And it forces organic producers to
obtain two certifications, one for organic and one
for the animal welfare. UNFI's currently looking
at animal welfare standards. And there's more
comments in my written, so thank you.

CHAIR FAVRE: Thank you.

MS. MEYER: Any questions?

CHAIR FAVRE: Questions? Thank you, Melody.

MS. MEYER: Thank you very much.

CHAIR FAVRE: Next up is Marc Cool, with Brian Filipowich on deck.

MR. COOL: My name is Marc Cool. I lead the Global Industry Affairs work at Dupont Pioneer. We are a 90-year-old seed company, and the world's largest developer and supplier of advanced plant genetics, providing high-quality seeds to farmers in more than 90 countries.

We offer choices to farmers, and many times the farmers, in many regions across the world, including conventional untreated seeds which may be used by organic farmers in the US.

I'm providing comment on the proposal on excluded methods terminology. Thank you for the work done on this topic to-date. However, we believe this work needs further and transparent
discussion, to make sure all aspects of the complex topic are explored, and therefore a vote on the proposal should be delayed.

We believe the current proposal will not clarify the appropriate use of modern breeding methods in organic production, but will rather create further uncertainty, confusion, and divide, in the organic community.

This is because the proposal has several inconsistencies, inaccuracies, and technical issues, which we are concerned about. Our recent comments reflect a few examples of this. I'm happy to further explain or discuss, as necessary.

In addition, we believe the proposal to up-front exclude all technologies in their terminology charts is unnecessary, and artificially removes potential tools for organic breeders, either public or private, large or small. Individual products should rather be assessed to determine if they are consistent with the principles of organic agriculture.

There are many examples of ongoing
public and university work on products using modern breeding methods, which would be consistent with organic principles, and which would provide major environmental or consumer benefit.

For instance, the few examples, reduction of copper sulfate use in spinach, the same reduction of copper sulfate in grapes, breeding virus resistance in cucumbers, fighting citrus greening in oranges, developing stress tolerance in lettuce, and reduced damage by almond tree nematodes without use of soil fumigants. These are examples of ongoing current, public and university work on these topics.

We suggest this topic needs a comprehensive discussion, which includes both public and private sector breeders as technical advisers, as well as producers, consumers, and other stakeholders.

It is critical to evaluate modern breeding methods in light of organic principles, using full and factual information, and focused on the product outcomes. We are confident a new
proposal can be developed that is accurate, complete, and which creates the needed clarity around breeding for organic production.

As a plant science company with long experience in the application of many breeding methods, we offer to be a constructive partner in that inclusive discussion. And as was mentioned this morning, regardless of the deliberations the Board has tomorrow on this topic, and there likely will be a need for ongoing discussion, and we offer to be a partner -- a constructive partner -- in that discussion. Thank you.

CHAIR FAVRE: Questions? Zea?

MS. SONNABEND: Thank you, Marc, for your comments. I would like you to elaborate about one of the techniques on the chart that you singled out which has your company's name in it. The Dupont hybrid seed. I don't have the document open, but could you explain why that particular thing should be off the chart?

MR. COOL: Well that -- it's called SPT, which is a seed production technology, which is not
a breeding method, and this is a chart showing breeding methods. It's actually a seed production method. It's a way to create a male stenol to a female plant, and then cross that plant and the progeny of that plant has no foreign genes in it. So it doesn't belong on that chart because it's not a breeding method.

MS. SONNABEND: Thank you very much.

CHAIR FAVRE: Thank you.

MR. COOL: Thank you.

MR. COOL: Thank you.
It's a signal to the consumer that food has been produced in a specific way so that we all don't have to spend 20 minutes researching every single head of lettuce we buy.

So the question is, do aquaponics and hydroponics align with what the consumer expects when they purchase organic, and we believe the answer is a resounding yes. We think there are three main things consumers look for when they see this organic label.

One, production without synthetic pesticides, fertilizers and antibiotics. Our industries don't use these, and in fact, they're often detrimental to the biological systems that we foster.

Two, sustainable production that foster the recycling of resources, ecological balance, and biodiversity conservation. Our systems are constructed as closed-loop systems with only the minimum amount of resources required put in, and with minimal or no discharge.

Also, aquaponics and hydroponics have
proven they could produce more food than soil culture per area, thus saving more of the natural environment from development for agriculture.

Three, production that relies on natural biological processes to support plant growth. Organic aquaponic and hydroponic production relies on a robust microflora of the root zone, made of the same type and number of bacteria and fungi that thrive in soil, as my colleague Dr. Sarah Taber discussed earlier.

This flora converts nutrients into forms available to plants, and maintains plant health by reinforcing naturally occurring mechanisms of disease resistance, just as in healthy soil.

As the NOP's task force noted, there are many benefits of aquaponics and hydroponics, including dramatic water savings, reduced nutrient runoff, shorter supply chains, and greater food safety.

Also of extreme importance is this allows organic production in urban areas, or areas
without good soil, like areas that have drought.

We live in an era of climate change, drought, resource depletion, antibiotic resistance, polluted waterways, all combined with rapid population growth. Given these issues, our current agricultural system is unsustainable. We need to bring more people into these industries, rather than disincentivizing them. The organic price premium is a critical incentive to draw more entrants into this market.

Last week I was at the Aquaponics Association Conference, and several of our growers told me they likely wouldn't be able to succeed if it were not for the organic price premium, and that makes sense. We went into this industry knowing that we align with the spirit of organic.

And that when we produce something, that is what the consumers expect when they see the organic label. So revoking organic eligibility for these highly sustainable growing methods would be moving our industries backwards, at a time when we should be pushing them forwards.
CHAIR FAVRE: Harriet?

MS. BEHAR: So if this is a highly sustainable production system, why is the organic premium so necessary? And a secondary question would be, could the aquaponic and hydroponic community do the marketing effort to educate consumers about your highly sustainable system, and let them then decide if the organic label or the hydroponic label, whichever they want to buy, if there's two different labels in the marketplace?

MR. FILIPOWICH: Thank you. To the first question about why we need the organic label for the organic price premium, the reason is that we don't adequately charge for all the negative externalities of our agricultural system. If we adequately charged for water usage, for fertilizer runoff, for antibiotic resistance, for pesticide usage, for soil erosion, aquaponics and hydroponics would be doing much better. But we don't, so therefore we're incentivizing people to keep growing with industrial agriculture.

And I do agree that the ideal may be to
have our own label. However, right now the organic label is the one that commands that price premium, and so because we feel we align with the spirit, we should be eligible for that price premium.

CHAIR FAVRE: Thank you very much. Next up is Nate Lewis, followed by Kiki Hubbard on deck.

MR. LEWIS: Great, thanks. First, I just want to thank outgoing board members. Zea, it's been a pleasure exchanging Grateful Dead quotes over the last five years. Gene, your generosity with your time and wisdom, tremendously appreciated.

Tracy, thanks for opening up a can of Texas whoop ass as chair for the last few meetings. Harold, you've represented Washington State, my home state, really, really well, and Carmela, thank you so much for being the first Latina on the Board to -- and your service, I'm sure you're inspiring a whole new generation of folks to spent countless hours listening to us, getting on conference calls, and learning about things that you didn't even know
So first, I've made aware that a few members of the Aquaponic and Hydroponic Task Force felt the need to respond directly to some of OTA's comments that we put into the Federal Register, and I have no problem with that, but I think it'd be appropriate to have those uploaded to the Federal Register as well. That letter is just so that the public process can be maintained.

And so though it seems to be a little bit of confusion about what OTA's position is on the whole hydroponic/aquaponic container production, so I just want to clarify.

We supported the 2010 recommendation, which prohibited hydroponics and aeroponics, and that recommendation cited the lack of biological activity as the reason for that prohibition. The 2010 recommendation also started to provide clear guidelines for container production.

We believe that container and greenhouse production is distinct from hydroponics because container systems rely on biological
activity for their success, and we believe these systems can align with OFDA and USDA regulations. We also believe it is incumbent upon NOSB to develop clear definitions for all of us to use, and to consider the merits of each system separately, and that's why we ask that the proposal be referred back to subcommittee.

Lastly, I just want to recognize the passion behind the divergent beliefs presented on this issue, and urge everyone to remain respectful, and to avoid disparaging language and accusations of wrongdoing based on these beliefs. So thank you.

CHAIR FAVRE: Questions for Nate? Thank you Nate. Next up is Kiki Hubbard, followed by Amalie Lipstreu.

MS. HUBBARD: Good afternoon. My name is Kiki Hubbard and I work with Organic Seed Alliance. We're a non-profit that works nationally to ensure that organic farmers have the seed they need to be successful, through research, education and advocacy.
Our research program currently involves ten university partners, and we have projects in eight states. We teach organic plant breeding to further the scientific field, and we work with breeding partners in the seed industry to make sure that we get new varieties into the hands of organic growers.

We're happy to see the seed as a priority this week on the agenda, including a discussion document to strength the organic seed guidance. My coworker will provide more detailed comments on that here shortly, and I'll go into more detail with data and our recommendations in my formal presentation on Friday.

My comments now will focus on communicating our full support for the Material Subcommittee Proposal on Excluded Methods. OSA appreciates the NOSB's work to tackle this complicated, yet important, issue. We take seriously policy discussions that demand a deep reflection on our values and principles as a scientific organization.
We know this conversation is especially timely given that some of these methods in question are evolving rapidly, and have outpaced current regulations on biotechnology. In fact, USDA has decided in some cases not to regulate products derived from these newer methods.

We support the exclusion of the methods listed in this proposal to ensure that as a community we're clear on where we're drawing the line on certain technologies to protect consumer confidence in the organic label, and to provide clarity to the research community that is breeding for organic agriculture.

We consulted a number of our plant breeding partners about this proposal -- partners who hold PhDs in plant breeding and genetics -- to understand their perspectives and any potential impact on their work. And input from the scientific community is essential to this dialogue, but so is the input of non-scientists who are deeply invested and rely on the success of organic agriculture.
Any view that advocates a precautionary approach to new methods that are in conflict with organic principles, as is our position here today, should not be dismissed as scientific ignorance. A consideration of values ethics and justice are an integral part of the public policymaking process.

We've heard criticisms of this proposal, including potential limitations regarding detection and enforcement with some of these newer breeding techniques. We believe it's our obligation now, as a community, to move forward with the proposal to protect organic integrity, and keep seeking answers to these and other questions, which is one of the reasons why this proposal is so important.

It provides a framework for the first time, and more clarity for what questions we need to be asking when faced with these, and even newer, methods in the future.

Another strength of this framework is that it serves as a guidance. It can change and respond, just like our seed, to the evolution of our
own understanding, be it in the field or in the policy arena. Thank you.

CHAIR FAVRE: Thank you. Questions?

Tom?

VICE CHAIR CHAPMAN: Hi Kiki.

MS. HUBBARD: Hi Tom.

VICE CHAIR CHAPMAN: We received limited comment from organic plant breeders on the excluded methods proposals. I was wondering if, do you -- you noted that your comments incorporated work with organic plant breeders. Would you say -- I know you can't speak for all of them -- but would you say your comments were reflective of organic plant breeders?

MS. HUBBARD: I would. Like I said, we work with ten universities, and I consulted with our closest partners, who are as committed as any to breeding in and for organic systems. To provide more context to that statement, we actually convened our own little working group of public plant breeders that we work with, to inform our comments for the first proposal, which we then
recommended go back to the subcommittee because we and our public plant breeding partners didn't think it was ready.

I then consulted these breeders again with a new proposal, and they agreed that the improvements were sufficient moving forward, especially when considered as, again, a guidance framework. When it comes to some of the controversial techniques, many of them, of course, agree and understand the benefits of some of these methods. However, they were also in agreement that they're in conflict with organic principles, and it is too soon to understand some of the potential impacts of these methods, be they positive or negative, and agreed with our comments for excluding the methods currently in the proposal, at this time.

VICE CHAIR CHAPMAN: One more real quick question. We have several items -- DVD and a discussion document. Do you have any suggestions on how we move forward with those?

MS. HUBBARD: I think -- first of all,
I think the approach that the NOSB is taking with the excluded methods discussion is the right one, and I think moving forward, each method does warrant careful consideration. Again, as a scientific organization, we don't want to close the door on methods that could be especially useful to advancing organic seed, so method-by-method, the process that you have undergone so far I think has been constructive.

VICE CHAIR CHAPMAN: Thank you.

CHAIR FAVRE: Thank you very much.

Next up is Amalie Lipstreu, with Andrew Thompson on deck.

MS. LIPSTREU: Good afternoon. My name is Amalie Lipstreu, and I'm the Policy Program Coordinator for the Ohio Ecological Food and Farm Association.

Organic farmers, certification agencies, and other organizations, are making progress in creating tools and recommendations for certified farmers dealing with the encroachment of oil and gas pipelines, fracking, and injection well
activity, in the absence of existing guidance.

OEFFA is working with organic farmers who fear the loss of their certification, and the very integrity of their farms. Farmers like James. James is a fourth generation dairy farmer, and he approached us when the energy transfer company wanted to cite the Rover Pipeline diagonally across his grazing fields. With just 40 organic cows, James said that if he cannot be certified organic, he can't make a living as a farmer, and support his wife and two young children.

James really isn't asking for much. He wants the company to take precautionary measures so he won't lose his certification. As Christie mentioned earlier, we adapted the organic agriculture impact mitigation plan created by Atina Diffley and her attorney, so that it had provisions for livestock and dairy operations, and we shared that mitigation plan with the Federal Energy Regulatory Commission, and the pipeline company.

As a result, FERC included provisions in the final environmental impact statement, that
specific mitigation measures had to be developed for organic farms, and those mitigation measures had to be put in place in consultation with the farmers who were affected.

While we understand the reticence to be involved in an issue where there's a dearth of regulatory authority, the NOSB is addressing emerging technologies that also lack proper authority.

James, and farmers like him, need our attention and support. While we've made progress in advocating for farmers, your leadership on this topic is urgently needed. The NOSB and the NOP can have a real impact on protecting organic farmers through recommended guidance.

Please add a study of the impacts of oil and gas activity on organic farms to the NOSB work plan, and adopt a mitigation plan as a resource, a starting point, for farms that face impending pipeline infrastructure, to be shared with both the Federal Energy Regulatory Commission, and the National Association of State Departments of
Agriculture, to ensure consistency and application of guidance. Is there any information that we can provide to help the NOSB move forward on this issue?

CHAIR FAVRE: Thank you. Any questions? Thank you very much. Next up is Andrew Thompson, with Cathleen McCluskey on deck.

MR. THOMPSON: Good afternoon. I'm Andrew Thompson, Managing Partner of Assist Natural Products, manufacturer of Relentless Plus.

Managing litter requires a commitment that isn't achieved with just one product or practice. Treating a litter as a biomass is impacted by moisture and the presence of disease-causing pathogens. To manage this biomass requires managing a complex set of variables.

Competitive exclusion is a plan that states that two species competing for the same resource cannot coexist at a constant population values. Using organic and natural products that promote this scheme provides enormous synergy, allow good bacteria to thrive in an environment that is challenged by disease-causing pathogens.
If not managed more intensely, the buildup of manure on the litter from surface, from multiple flax, accompanied with no clean-out schedule, causes bacterial diseases and excessive ammonia levels during the grow-out period.

Conventional litter treatments contain harsh acids to lower the pH of the litter prior to initial placement of birds. Once the pH rises above the treatment capacity, to bind the ammonia the birds are exposed to higher ammonia levels caused by residual bioload in the litter.

However, beneficial microbes require a higher pH of growth and are destroyed during the application of these acid-based treatments, opening the door for disease-causing pathogens to populate the house. By using all-natural litter treatments, the growers will not only reduce ammonia in the barn, but also decrease litter moisture, combat pathogens, and reduce environmental stress.

Maintaining a balance of moisture is critical to control of ammonia and disease. Too
much moisture in the litter can make it difficult to maintain good quality litter.

Two of the products being petitioned, sodium bisulfate and aluminum sulfate, are hydroscopic, meaning they pull water from the air, creating a damp environment, and must have a relatively damp environment in order to be effective. Otherwise, the acid activity of these products is reduced. Acid-activated Bentonite also requires relatively high amounts of water to maintain acidity.

Using natural products and new technology provide numerous mechanisms by which micros operate more efficiently. Introducing specific microbes that are selected for their ability to decompose poultry waste, and to provide a barrier against pathogens like E. coli and Salmonella, through competitive exclusion, along with good management practices, allows not only organic growers, but also commercial growers, to control ammonia, prevent disease, and raise very healthy flax in the poultry industry.
The livestock subcommittee posed two questions. Are there alternatives available to reduce ammonia in poultry barns? Do the alternatives work in the area of reducing or eliminating salmonella that could be present in the barn?

As a developer, manufacturer and distributor of natural products, the answer to both of these questions is yes. And for these reasons, with all due respect, I request NOSB not to approve. Thank you.

CHAIR FAVRE: Francis? I'm sorry. Ashley?

MS. SWAFFAR: So your product --

MR. THOMPSON: Relentless.

MS. SWAFFAR: Relentless. Yes, sorry. There's a couple of them. Do you have commercial -- commercial is the emphasis there -- broiler or turkey producers using your product now, and that are effectively controlling ammonia levels in the barns?

MR. THOMPSON: Yes.
MS. SWAFFAR: Thank you.

CHAIR FAVRE: Thank you very much.

MR. THOMPSON: Thank you.

CHAIR FAVRE: Next up is Cathleen McCluskey, followed by Keith Kandt on deck.

MS. MCCLUSKEY: Good afternoon. My

name is Cathleen McCluskey and I work for Organic

Seed Alliance. OSA is a non-profit that works
	nationally on organic seed research, education and

advocacy, to ensure organic farmers have the seed

they need to be successful. OSA appreciates the

NOSB's attention to the issue of organic seed, and

the important role that they, the NOP, and the

certification community play in building organic

seed systems.

Building the organic seed supply is

important, not only to help certified growers meet

a regulatory requirement, but to ensure that we are

advancing seed that helps organic farmers stay

competitive, and adapts to changing climates and

markets.

We encourage rapid improvements to the
organic seed guidance document, as described in the Crop Subcommittee discussion document. We hope to see this strengthen guidance, coupled with regular trainings for organic certifiers and inspectors, and a data collection system for analyzing organic seed availability by region and crop type.

Our main critique of the current guidance is its failure to provide a framework for what continuous improvement looks like, and how to achieve it in the context of seed. We believe producers who aren't meeting the organic seed requirement should be encouraged by certifiers to demonstrate improvements each year.

This is also an issue of consumer confidence, since organic consumers expect organic integrity along the entire production chain, beginning with organic seed.

We agree with the key points included in this Crop Subcommittee discussion document, such as encouraging organic growers to go beyond three seed sources, and to conduct on-farm variety trials. Without trialing, many farmers won't take the steps
to move beyond the untreated, non-organic varieties they're accustomed to using.

The commercial availability clause states that farmers need to search for an equivalent variety, not the exact variety, when verifying compliance with the organic seed requirement. Certifiers should encourage trials of organic varieties so growers can identify options that may be as good or better than the conventional varieties they already use.

We feel strongly that the guidance also should apply to handlers. Handlers that require specific varieties to be grown should be encouraged to work with producers they contract with, to find organic seed in qualities they need -- quantities that they need -- since these contracts, and not the producers, often dictate whether organic or non-organic seed is purchased.

Lastly, there's a need for a systematic way to collect data on organic seed availability by region and crop type. We hope the NOSB and NOP will encourage the development of such a system.
Ideally, the system would support a more reliable, searchable database for farmers and certifiers.

It is certainly not our intention to promote policies that force organic farmers to use seed that may not be appropriate for their operation. However, more consistent enforcement is necessary if we're going to see significant increase in the availability and sourcing of organic seed. Thank you very much.

CHAIR FAVRE: Thank you very much.

Sorry. Harriet, go ahead.

MS. BEHAR: I totally agree with you on the trialing, but I'm wondering if you've had any interaction with farmer organizations that would be something difficult for farmers to do, or, I mean, would there be some educational activities that we need to do to help those farmers feel more comfortable in doing those equivalency trials so they can really learn which seeds they can grow?

MS. MCCLUSKEY: Harriet, Organic Seed Alliance offers -- yes, and we offer many free publications, webinars, educational outreach,
trainings, support tech extension, on-trialing, how to do it. I'd be happy to follow up with NOSB with a list of the many publications and webinars that are available for free to growers.

CHAIR FAVRE: Emily.

MS. OAKLEY: I was just going to make the comment that I think farmers typically do do trials, and in response to your question, we regularly do organic seed trials on our farm. Some are successful, some aren't, and I don't think it's an onus requirement for any scale farmer to try.

CHAIR FAVRE: Thank you very much.

MS. MCCLUSKEY: Thank you.

CHAIR FAVRE: Next up is Keith Kandt. On deck is David Ross.

MR. KANDT: Hi. My name is Keith Kandt. I'm with NatureSweet Tomatoes, and I do want to thank you for your time today.

Regarding containerized growing, we've heard many voices over the years on this issue, but there's one crucial voice that has not been clearly heard, and that is the voice of the consumer,
without whom none of us would be here today.

So my question is, who are we doing this for? Are we doing this for us, the farmers, or are we doing this for the consumers? So we asked organic consumers through the scientific survey that David Harris presented a little bit earlier, their thoughts on some important organic issues.

We didn't lead them. We let them lead us. So it's been five or six hours. Maybe your memory's better than mine, but I'm going to reiterate a couple of those slides.

We asked consumers why they buy organic produce. So remember their answer. As you've seen, the consideration for soil and soil growing is far, far down the list. Tenth out of 12 things that they could have chosen.

Folks, the method of organic growing chosen by the farmer is not an issue for consumers. It truly is not.

So we also asked questions around some organic growing issues too. One of those questions was whether farmers should be allowed to grow
organic products in containers. Note their response on this one. Only ten percent said the rule should be changed. Ten percent.

You've also seen this next slide. We've asked consumers what they will think of the USDA if we tell them that hydroponics is not a valid way for growing organics. Here the consumer speaks again.

The bottom line is that consumers simply do not want to be told that we are limiting the options that farmers have for growing healthy organic produce. So what would happen if we said soil is the only way? Here's what would happen.

One of the concerns the consumers addressed, or had, was affordability. That would go out the window. Limited land in greater demand equals higher prices. It's an irrefutable law of economics. With higher prices, only the rich and the elite would be able to buy organic produce. That means inner-cities, less affluent rural areas, areas with poor soil conditions, would not have access to affordable organic produce.
Disallowing containerized growing will reduce availability of organic produce from 30 to 40 percent. High-profile retailers have told me we must not let this happen. Is this what we really want to do? Does this really make sense? There's enough demand for everyone. There really is.

My last -- I would just say if you have any doubts about this, please err on the side of listening to the consumer. Thanks.

CHAIR FAVRE: Questions? Thank you very much.

MR. KANDT: Thanks.

CHAIR FAVRE: Next up is David Ross, with Cameron Harsh on deck.

MR. ROSS: Good afternoon. My name is David Ross. I'm Operations Manager for Great Harvest Organics. We grow, package and produce certified organic corn, soybean and wheat. I'm here today to represent the American Seed Trade Association, and also I want to thank the hotel for getting me such a great room thinking I hit a home run in this year's seventh game of the World Series.
It's not true. Different name.

The National Organics Standards Board is currently reviewing three topics, which could have a profound impact on the organic seed industry. On behalf of the American Seed Trade Association, I'd like to make the following comments. Detailed comments are submitted electronically.

To reiterate our written comments, the discussion on the excluded methods is not over. We support excluding genetically modified organisms from organic production. However, at this time more information is needed on these techniques to achieve this goal.

As stated in many comments, we need to determine which methods can be used, and why they can be used on an individual basis. Lumping all of them together will limit the tools available for organic breeders, many of which are aligned with our organic principles. Therefore, we continue to urge the Board to take its time and carefully review each case individually.

American Seed Trade Association and
NOSB both want to stimulate breeding research investment in the organic seed industry over time. The seed usage document aims to make the regulations around seed usage clearer for seed companies, producers, and certifiers.

Since the inception of the national organic program, using non-organic seed in organic production has been debated. In some cases it's necessary, and will likely continue to be necessary.

But in cases where seed companies can meet demand, organic producers should be encouraged to produce organic seed. Only this will increase the investment in this sector. The NOSB should focus on educating certifiers, and understanding where exceptions can and should be allowed.

Also producers should work with their seed companies to ensure, at planting, the varieties they want are available. Seed companies do not stock large inventories, but can work with their customers 12 to 18 months in advance of planting, to make sure sufficient quantities are
present barring any situations from mother nature.

Finally, seed purity continues to be a topic of discussion. American Seed Trade Association applauds NOSB for its focus on crops it deems at high risk. This focused approach allows the NOSB to address the issue without causing unnecessary burden on crops which do not face the same genetic purity challenges as it continues to offer this support and experience in the area, as needed by the NOSB. Thank you.

CHAIR FAVRE: Any questions? Thank you very much. Next up is Cameron Harsh, with Terry Shistar on deck.

MR. HARSH: Good afternoon, or maybe it's evening at this point. My name is Cameron Harsh. I'm the Senior Manager for Organic and Animal Policy at Center for Food Safety. CFS would like to emphasize the importance of essentiality in protecting organic integrity, and ensuring that the National List only includes synthetics necessary to organics as mandated by OPA and the organic regulations.
Advocates for materials often claim essentiality, but blur the boundaries of what is truly essential. Materials that make a product simpler to manufacture, or more appealing to consumers, address issues of convenience or cost, but are not essential to the product.

For carrageenan, while evidence of its significant health impact should be sufficient for the precautionary approach to justify its removal, a lack of essentiality absolutely necessitates its removal.

OPA's plain language restricts the National List to only materials without which an organic product could not exist. Many organic handlers have already successfully formulated dairy and dairy alternative products without carrageenan. It is clearly not essential.

Further, a vote to sunset carrageenan at this meeting still provides the industry two years to adjust to its prohibition. CFS does not oppose relisting silicon dioxide for the uses not replaced by rice holes at this time. However, NOP's recent
policy memo on nano-materials leaves the door open for petitions to list nano-silicon dioxide, and similar nano materials.

Nano-silicon dioxide's significant health concerns make it incompatible with organic. This must be fully prevented by adding nano-technology to the list of prohibited substances and methods at 205.105. CFS appreciates NOSB's intent to review marine plant species used in organic. Seaweeds are integral to marine ecosystems, and there may be significant unintended impacts from their harvest.

CFS' written comments provide an initial literature review, including how harvesting rates, techniques, regeneration rates, risk of invasives, and biodiversity concerns may impact a species' compatibility with organic.

NOSB should identify whether specific plants are compatible with organic principles, and develop a system for producers to easily identify a species that are allowed or prohibited. Using scientific names is necessary for the greatest
CFS also supports the research priorities. In particular, research seeking to identify holistic system space strategies for eliminating synthetic methionine from poultry diets.

Synthetic methionine is not essential, but provides production benefits that are attractive to the poultry industry. As such, its removal is long overdue. In eliminating synthetic methionine, research suggests that a combination of strategies, including genetics management practices and multiple natural feed inputs, will likely provide the most favorable solution.

Moving forward, studies must investigate multiple strategies in combination to add to the existing literature, which primarily studies individual replacements or practices in isolation. And just to end, I want to thank you all for your great work and all your dedication to protecting organic.

CHAIR FAVRE: Questions? I actually
have one for you. In your literature review and search on the impact on seaweed harvest, did you formulate any opinion on whether or not carrageenan could actually be harvested and certified organic?

MR. HARSH: So our literature review of marine plant species took a general look, and we did name some species, but we weren't specifically focused on the species used for carrageenan. I know it's just an essential -- essentially an effort to put the research on the docket and give you all a chance to read it without taking a position on any particular plant species, as far as the harvest and sustainability.

CHAIR FAVRE: All right, thank you. Next up is Terry Shistar, with Tricia Johnson on deck.

MR. SHISTAR: Okay, my name is Terry Shistar, and I'm on the Board of Directors of Beyond Pesticides, and that's not --

Okay, we have a long history of involvement with organic production. Here you can see some of our current and former Board members.
We submitted comments on all of the issues before the Board at this meeting. My comments today address a few of them, but first I would like to thank you all and express our appreciation for your work on some big issues, including excluded methods, organic seed requirements, hydroponics, phosphates and marine algae, and remind you to demand technical support when you need it. Your work is extremely important, and we all need to reflect on the harm that would be done to organic if the NOSB were to be found to be incapable of performing its job.

We are extremely concerned about the proposal to add chlorine dioxide gas to the National List. The petition should be rejected because it fails to meet all of the criteria. There are also several deficiencies in the subcommittee process for evaluating this material.

The petition product has a conditional registration from EPA, meaning that not all essential data have been submitted. It's not labeled for this use. The necessary tolerances or
exemptions from tolerances do not exist. It's a hazardous material. It used to take the place of care and handling, and use of less hazardous materials. It is not necessary.

The NOSB should not approve more sanitizers, especially chlorine-based sanitizers, until performing a comprehensive review of sanitizers, and their need in organic production.

Hydroponics should not be considered eligible for organic certification. Organic production depends on the law of return, which together will feed the soil, not the plant, and promotion of biodiversity, provide the ecological basis for organic systems.

Hydroponic systems are not consistent with these principles. Although there is a continuum between in-ground production and bioponics, the line separating production methods that can be certified organic from those that cannot lies between those extremes.

Do not allow the fact that NOP has acted contrary to NOSB recommendations by allowing
hydroponics, to prevent you from doing the right thing.

Whether or not you accept the results of independent research as showing more serious health impacts, the NOSB must take a precautionary approach in light of the most recent technical review of carrageenan. Even giving equal weight to industry supported and independent research, the NOSB must accept the existence of science pointing to serious health consequences associated with consumption of carrageenan, and to protect organics consumers.

Importantly, the industry cannot control the amount of degraded carrageenan in the final product. The production of -- I'm behind. Finally, carrageenan is unnecessary. We support eliminating incentives to convert native ecosystems to organic crop production. Thank you.

CHAIR FAVRE: Questions? Thank you Terry. Next up is Tricia Johnson, with Jenny Cruz on deck.

MS. JOHNSON: And before I start, the
projectors on this side have not been showing the slides properly. So if you are also having trouble, my slides are included in the handout that just went through.

My name is Tricia Johnson. I am a Board-certified poultry veterinarian with 20-plus years of experience. Of the 148 poultry field veterinarians in the US, only about ten of us work with organic broilers. A large portion of my practice is working with antibiotic-free -- there we go, can't get the slides to come up at all -- is working with antibiotic-free and organic broiler chicken farmers, to help them develop healthy litter ecology so they can raise healthy chickens.

Healthy litter is analogous to bioactive soils. The exposure of baby chicks to normal flora and reuse litter, is as essential to good gut health as bioactive soil is essential to healthy plants.

Many of the same concepts that I apply to building soil in my own organic market garden, apply to building health litter ecology in a chicken
house. New litter is like dead sterile soil. Antibiotic-free organic broilers raised on new litter are 2.6 times more likely to develop necrotic enteritis. Necrotic enteritis affects 30 to 50 percent of organic broiler flocks, with mortality as high as ten percent.

In infected flocks, bird deaths at 14 to 18 days of age, can range from 300 birds per day on used litter, to 1200 birds per day on new litter. In a healthy flock, farmers only pick up two to five dead birds per day.

The use of sodium bisulfate is essential to my practice. The combination of acid in sodium and sodium bisulfate, or SBS, promotes the growth of healthy probiotic bacteria in the litter, while killing harmful ones like Clostridium and Salmonella.

Acidification alone does not have the same holistic impact on litter ecology. Use of organic litter amendments has not been successful in controlling necrotic enteritis, Salmonella, or even ammonia. Achieving results in real world
conditions in real chicken houses, are very different than achieving results in a laboratory.

Sodium bisulfate reduces Clostridium in the litter by 99.99 percent. This environmental control of Clostridium is essential to the prevention of necrotic enteritis in birds raised without antibiotics.

SPS is the only litter amendment that is safe enough to apply mid-flock in the presence of birds. This allow me, as a veterinarian, to control bacterial infections, by altering the house environment, without having to treat the chickens with antibiotics.

SPS is the only litter amendment that has met the stringent EPA efficacy requirements to be approved for bacterial control on poultry farms.

Prior to 2007, veterinarians could use SPS to prevent Clostridium infections on organic farms, because it was on the list four of inert ingredients. When the NOP clarified the use of synthetic inerts, we lost an important veterinary tool. Today I can prevent necrotic enteritis in
ABF flocks by using SBS, but I have no tool at all to use on organic flocks. None of the products approved for organic use are effective in the field. I became a poultry veterinarian because it was the one species where my entire focus was on preventive medicine. It is only with my organic clients that I encounter so many sick flocks, because I have no products available to control necrotic enteritis.

Please allow for the use of sodium bisulfate in organic production, so that our birds do not continue to suffer. And I'd be happy to answer questions.

CHAIR FAVRE: Francis?

MR. THICKE: Thank you. Can you explain how acid and sodium promotes probiotic bacteria, but kills harmful bacteria?

MS. JOHNSON: Absolutely. There are three types of pressure that we can put on bacteria. Temperature pressure, like cooking. We can put osmotic pressure, which is sodium, and then we can put pH pressure through hydrogen.
When you look at the lactic acid-producing bacteria that make up the predominant component of normal healthy flora, they prefer a low pH, high sodium environment. That's their preferred growth niche. And so when we use sodium bisulfate, we're giving those normal gut flora their preferred growth niche. That's not the preferred growth niche for pathogens.

MR. THICKE: Okay.

MS. JOHNSON: And so it actually shifts the litter ecology, and so that's why it's effective.

CHAIR FAVRE: Ashley, then back to Francis, and then Gene.

MS. SWAFFAR: Okay, so you said in there that the use of the organic litter amendments are not working on the farms that you work with.

MS. JOHNSON: That's correct.

MS. SWAFFAR: Have you done trials with those, or --

MS. JOHNSON: Well it's not -- I mean you had the young lady from Miller who spoke today.
You have Foster Farms that sent in a letter that you'll see later. We've tried everything. Necrotic enteritis is the number one disease issue we deal with in organic poultry. It does not occur in conventional birds.

We've tried every sort of probiotic bug-in-a-jug that we can spray on the floor. We've tried humate-based products, we've tried acidified barn fresh, we've tried everything, and the birds simply don't stop breaking with necrotic enteritis.

So trialing really isn't the thing. We have birds that are getting infected so often, that we're trying everything we can find. We're using probiotics in the diet, we're using direct-fed microbials, we're using organic acids in the drinking water. We're using everything we have, but because of using a coccidiosis vaccine, that causes that inflammation, and then the Clostridium comes in secondary. So if we cannot control the Clostridium directly in the environment, we've been unable to do it.

I'm sorry, you had asked earlier, why
are the veterinarians writing in? Why aren't the companies writing in? The companies are scared to death to admit publicly that their struggling. Because of the backlash and the environment, if someone's organic's not the way you think it should be -- they're just afraid. And so the veterinarians that commented, we're the field veterinarians who are working with these smaller companies, and we're the ones experiencing this firsthand.

CHAIR FAVRE: Francis, then Jean, then back to Ashley.

MR. THICKE: In the interests of full disclosure, is it true that the company Jones-Hamilton applied for a patent for sodium bisulfate for use -- for ammonia control -- and you were listed as the inventor of that?

MS. JOHNSON: I was. We had -- you were asking earlier about how does the sodium and hydrogen impact good bacteria, but not bad. So one of the things that we're struggling with in California, is air quality issues. If any of you
are growers in California, you know that.

So VOC production from cattle is a really big issue there, and the reason you get VOC is because the rumen bacteria that pass along with the feces, they continue to digest and act like a rumen, but outside, and both of those species of bacteria that are responsible for that are killed in the presence of high sodium, low pH. And so because that's one of the differentiating tests in the microbiology lab, and so when I served on the USDA AgriQuality Task Force and the California producers were talking about the problems they were having, and the two bacteria that were causing it, my veterinarian brain went wow, we can kill that with sodium bisulfate.

And so Frank Mitloehner at UC-Davis -- a lot of you know him from his greenhouse gas work -- is the one that did all of that work after I had figured that out.

CHAIR FAVRE: Jean, then Ashley.

MS. RICHARDSON: As a veterinarian, you're -- poultry veterinarian -- you're probably
only going to those places where they've got sick animals, or sick birds.

MS. JOHNSON: No.

MS. RICHARDSON: Okay, so you go to other poultry places. So what I'm trying to find out is do you really need these products? Couldn't you, if you were to have slower growing broilers that had more space per birds, better ventilation, other management practices, do you see farms like that, where you would have a lower level of death rate of the young birds?

MS. JOHNSON: When we do have -- wait, first of all, as a poultry veterinarian, I sometimes joke my job's to make sure my patients die on time. I don't want them to get sick and die early, and I don't want the farmer to do a poor job of raising them -- they're too cold, they're not comfortable.

But everything we do as poultry veterinarians is prevention-based. Everything. And so we see the full gamut. My customers ask me to come in -- my clients ask me to come in and develop preventive medicine programs for them, so birds
never get sick.  
So to see a sick flock for us was very, very unusual, and then, so then when organic started becoming more predominant, it was very shocking for us as veterinarians, because we used to be able to prevent everything. 

And so the Clostridium, it's all about that coccidiosis vaccine, and it's a really delicate balance with those birds. That's why if we clean out, we take the coccidiosis vaccine out of the house, birds don't cycle evenly. 

If the density's just not right in that sweet spot, if they're too loose, then the vaccine doesn't cycle evenly. So actually, what we see, Dr. Richardson, is that when we give excessive space, that the vaccine doesn't cycle effectively and evenly, and we actually have more necrotic enteritis, because we have more coccidiosis inflammation. 

CHAIR FAVRE: Ashley. 

MS. SWAFFAR: So I'm struggling with this one, for sure. But is this really an enteritis
problem, more so than an ammonia problem?

MS. JOHNSON: Really, I mean I
think -- you know, ammonia's a really big deal. That's true, okay. But when you look at ammonia, ammonia does not kill birds. It causes eye
lesions, it causes weight suppression. If we could control ammonia, you wouldn't have to place so many
birds, because you wouldn't -- they would perform better. But when it comes to organic, our biggest
issue as a veterinarian, yes we're struggling with ammonia, and really we don't really have anything
that's all that effective. But at least the bird's not going to die.

But when it comes to Clostridium growth in the litter, and that leading to necrotic enteritis, those birds are going to die, and they're going to die a lot.

My husband is also a poultry veterinarian. He had a flock last month that he got called out on a Monday morning to go see. Producer in a panic. Brand new farm, first time they'd ever have chickens in the house, without antibiotics,
the birds started breaking with necrotic enteritis on a Friday.

By Monday morning when my husband arrived, they were losing 1200 birds per day, per house. That grower had to apply for an emergency burial permit from the state.

The second most deadly disease that I deal with as a poultry veterinarian is bronchitis virus. If I get a bronchitis virus, I might lose 50 birds. This is something that we are desperate. We use sodium bisulfate in our antibiotic-free non-organic flocks, it's working well. We are desperate as poultry veterinarians. Birds just should not be dying.

MS. SWAFFAR: What percentage of the flocks -- organic flocks -- do you have that break with the -- I would -- really high --

MS. JOHNSON: With really, really high occurrence, the highest occurrence is when we have to clean out. We're in that balance. We try to clean out sometimes between every one to two years so the Clostridium doesn't get too high, but we'd
have fewer flocks on the new litter.

So the highest ones are on new litter. That might be of the 30 -- 50 percent of the flocks that do break, maybe you're -- a mild break again is like 300 birds a day. But the really heavy ones are usually on new litter. A lot of times they're on a first time farm. Those might be more five percent or so of what we see that 1200.

MS. SWAFFAR: So five percent of all the flocks that you work with break? That's what I'm asking.

MS. JOHNSON: No. How many flocks break? 30 to 50 percent. The higher are going to be in parts of the country that are more humid. Humidity, right at that air litter interface, really plays a lot into how the litter ecology shifts, and the Clostridium blooms, and the coccidiosis blooms, and we struggle because of the outer access that draws the cold air directly across the floor, making it damper.

So in climates that are colder, or climates that are more humid, we struggle with it
more. In climates that are more arid, like central coast of California, it's not -- they have it, but they're at that lower end, where my clients -- where's it's colder, or where it's more humid, they're at the upper end, closer to half their flocks are breaking.

CHAIR FAVRE: Okay, Harriet, and then Dan, and then we're going to need to wrap it up.

MS. BEHAR: Okay, so on these organic farms, you mentioned about the access to the outdoors --

MS. JOHNSON: Yes ma'am.

MS. BEHAR: -- but how many of the birds are actually going outside? I'm very aware that many have a door, or even many doors, that open, but because they don't have enticements outdoors -- water and shade -- the birds really don't go out there, making that the indoor environment is at that high concentration of one bird per square foot, or even less, and I'm wondering if some of this problem is not a result of high concentration of birds inside.
MS. JOHNSON: One of the things that we see, I work a lot in Australia, and 100 percent of the Australian production is free range. So even though it's not organic, it's free range. So almost all of the research on what entices a bird to go outside, what behaviors that -- comes out of Australia.

I was speaking last year at the Australian Veterinary Poultry Association, when they asked me to come and talk about paw lesions. They really, really struggle with paw lesions, which goes back into litter and humidity, and they asked me to come help them with that.

And all of the speakers prior to me were all observing birds in the free range component, how were they responding, and the number one behavior that was being expressed by those birds when they were outside, were fear-based behaviors.

And so that's really -- birds are looking for the chicken hawk that's coming to pluck them off. White Oak Pastures in Georgia, where I live, they've become a bald eagle breeding colony,
because the bald eagles have figured out that their chickens outside are easy pickings.

So we have reduced the density. In a conventional house I might maybe be at .75 square foot per bird. In my organic, we've gone up to 1, to 12 square foot per bird. If we go any higher, we're not going to get the coccidiosis vaccine to cycle properly. And so how do you make a bird go outside when it's afraid?

MS. BEHAR: I'm not going to answer that question.

(Laughter.)

MS. BEHAR: Though I do know the answer, but for time I'm not going to talk about it.

CHAIR FAVRE: Thank you Harriet. I appreciate your forbearance on that. Dan?

MR. SEITZ: You mentioned a vaccine that I'm -- what's the relationship between this vaccine, the density, and the ailments that you're talking about?

MS. JOHNSON: Okay, so Clostridium perfringens that causes necrotic enteritis
actually comes in as a secondary infection. Coccidiosis is the most common pathogen, if you will -- it's not really -- it's a protozoa that birds are exposed to, and the only option that we have in poultry is a coccidiosis vaccine. That vaccine gives the birds very slow exposure to that coccidiosis, and it has to cycle usually twice, so it's a 14-day process, and every time that life cycle in that -- it burrows down into the gut of the bird, and at the end of the life cycle it breaks through and it causes a lot of inflammation.

So in order to protect that bird against coccidiosis, we have to have them in a certain level of density so that the vaccine cycles. Basically the birds shed the vaccine into the litter, they pick it up from the litter, and that helps it cycle evenly, so you don't have really high exposure.

Or if it's too low, if the birds are too spread out, they don't have enough exposure to the vaccine, and therefore they don't develop good immunity. And it's that inflammation -- for the process of developing immunity -- that allows the
clostridium to invade. And so that's why it's a seven-day cycle. That second cycle is at 14 days, and 48 hours later at 16 days, we see the clostridial deaths occurring.

MR. SEITZ: And are all flocks given this vaccination, or are some --

MS. JOHNSON: No. I would say 100 percent of organic broilers are given a coccidiosis vaccine because it's the only tool we have available in organic production. If you didn't give it to them, we would see necrotic enteritis at 100 percent of our flocks. Any other questions?

CHAIR FAVRE: Thank you Dr. Johnson --

MS. JOHNSON: Thank you so much for your time.

CHAIR FAVRE: -- we appreciate your comments. Sorry we kept you up here so long.

MS. JOHNSON: That's quite all right. I'm glad to be able to -- I want something so my birds stop dying. Thank you.

CHAIR FAVRE: Thank you. Next up is Jenny Cruz, with Charlotte Vallaeps on deck.
MS. CRUZ: Hello. My name is Jenny Cruz, and I'm Coordinator of the Accredited Certifiers Association. We would like to thank the Board for all their work, and also the CACS for its work on the discussion document regarding personnel performance evaluations of inspectors. We did submit more extensive written comments on this topic.

As noted in the discussion document, ACA has submitted multiple comments to the NOP regarding NOP 2027 instruction on personnel evaluations. Our main concern with the instruction is the annual field evaluation of every inspector.

It should be noted that the ACAs currently evaluate inspectors annually based on reports submitted, feedback from clients, and general review of their work. ACA members do realize the value in, and support, onsite evaluations of inspector performance.

We are concerned that the requirement for an annual onsite evaluation of every inspector
is extremely burdensome to the inspection process, and is costly to agencies. Some ACAs have reduced the number of inspections being utilized -- of inspectors being utilized -- in order to reduce the expenses associated with onsite evaluations.

Outside of monetary cost, the requirement diverts personnel resources from other essential programs and activities. It creates a race against the clock to get the evaluations done, rather than applying greater scrutiny where greater scrutiny is due, and focusing on a quality end product.

We did submit survey results from our members regarding the financial impacts of this requirement in our written comments.

The March 2016 revision of NOP 2027 to permit the sharing of evaluations among ACAs was a step forward in permitting additional flexibility in this program. However, additional flexibility, in the form of the allowance for the development of a risk-based approach to conducting onsite evaluations, should be permitted.
We note that this instruction was developed without public comment at the time of the initial publication, and NOP has not solicited public comment on the instruction to date.

In addition, NOP has been assessing non-compliances during accreditation audits, for lack of completing onsite evaluations, even though NOP Instruction 2027 indicates that inspectors should be evaluated during an onsite inspection at least annually.

This essentially turns a should into a must. We ask that the CACS continue work on this topic in order to provide a recommendation to the NOP for the allowance of additional flexibility in the development of a sound and sensible process for onsite evaluation of inspectors. Again, thank you for all your work.

CHAIR FAVRE: Questions? Thank you very much. Next up is Charlotte Vallaey, with Zareb Herman on deck.

MS. VALLAEYS: Good evening. My name is Charlotte Vallaey, and I'm a Senior Policy
First, I'd like to thank you for your work. I'd also like to announce that we updated our Consumer Reports Greener Choices website, which now has an entire section devoted to the organic label and our organic policy work.

We are in the process of updating our entire food labels database, and we have completed our updated evaluation and rating of the USDA organic and made with organic labels, which can be found on greenerchoices.org.

When we review and rate labels, one of the criteria we use is, is the label truthful and not misleading? In other words, does the label mean what it claims it means?

For organic, what it claims it means is outlined in the organic law and regulations, where there are strict criteria -- among other things -- for determining what can and can't be used in organic food production.

The organic label means no substances that pose a risk to human health should be used. We
have analyzed the research on health impacts of carrageenan, and believe it should be removed from the National List.

Laboratory research on animals links carrageenan to inflammation, which is a precursor to many diseases. To ulcerative colitis-like disease, intestinal lesions and ulcerations, and the promotion of colon tumors.

Research -- including industry-sponsored research -- shows that consuming foods with carrageenan exposes consumers to degraded carrageenan, which is classified as possibly carcinogenic to humans by IARC.

Please note our concerns, detailed in our written comments, about the limited scope TR on carrageenan. We are pleased to see the discussion document on phosphate food additives. Research shows that high intake of phosphorus is associated with negative impacts on bone health, kidney health and heart health.

The prohibition on all phosphate food additives -- except for monocalcium phosphate as a
leavening agent in other standards -- sheds light on their essentiality. We urge the NOSB to take the next step of putting the sunset review of phosphates back on the agenda.

We urge you to take action on the hydroponics issue. Again, is the label truthful and not misleading. Does it mean what it claims it means. One of the founding principles of organic agriculture is the focus on soil health. Healthy soil fosters healthy crops and healthy animals, which in turn fosters the health of people.

The organic law and regulations don't just prohibit certain inputs. It clearly requires that farmers foster soil health. Hydroponic systems simply do not fit this model. We are not opposed to hydroponic production, but we are opposed to their products carrying the organic label.

Finally, we urge the Livestock Subcommittee to address the last remaining use of antibiotics in organic agriculture, its use in hatcheries and day old chicks. Rather than wait
for the NOP's take on this, we urge you to read our
legal analysis in the appendix of our written
comments. Thank you.

CHAIR FAVRE: Good job. Thank you.

Tom.

VICE CHAIR CHAPMAN: Hi Charlotte.

Some commenters have presented us a study on organic
consumer opinions on soil, amongst other things. I
know you submitted a bunch of studies to us on your
surveying of consumers. Was there anything in
those studies related to soil?

MS. VALLAEYS: No. We haven't asked
that question in our survey, and we do surveys very
regularly, so we're definitely open to input on any
questions the Board is interested in. So that
might be a good one.

VICE CHAIR CHAPMAN: Thank you.

CHAIR FAVRE: Thank you very much.

MS. VALLAEYS: Thanks.

CHAIR FAVRE: Next up is Zareb Herman,
and we've got Manojit Basu on deck.

MR. HERMAN: Good afternoon. My name
is Zareb Herman. I'm a nutritionist with the Hain Celestial Group, one of the largest producers of organic products in the world. I am commenting on the phosphates discussion document.

Assessing the possible health effects of dietary phosphorus is a complex issue, and more research is needed to determine if consumption of added phosphates has adverse health effects on the general population.

Let's take a look at phosphorus consumption in the United States. The average daily intake for phosphorus is approximately 1600 milligrams. Many foods contain substantial amounts of naturally occurring phosphorus. A typical four-ounce serving of fish contains 350 milligrams. A four-ounce serving of chicken contains about 300 milligrams, and one cup of milk contains 250 milligrams, and the phosphorus in these foods is highly bioavailable.

We calculated that the monocalcium phosphate leavening in an organic muffin mix contributes 19 milligrams of phosphorus per
serving. The sodium acid powder of phosphate leavening in an organic frozen waffle contributes 16 milligrams of phosphorus per serving.

The added phosphates in each of these products contributes roughly one percent of the average person's daily phosphorus intake, and the other phosphates on the National List are not major contributors to phosphate intake either.

Since the phosphates on the National List are regarded safe by the FDA, and because they contribute a small fraction of dietary phosphorus, we do not believe that it is worthwhile for the NOSB to spend time on this issue. The scientists at FDA are better equipped to evaluate this situation and to make recommendations to the public, and this Board can spend all the extra time on other issues, like carrageenan.

CHAIR FAVRE: Any questions? Thank you very much. Next up is Manojit Basu. We've got Esteban Macias on deck.

MR. BASU: Good evening, and thank you NOSB for the opportunity to comment here. So I'm
Manojit Basu, and I have a PhD in plant molecular biology, with my research focusing on allergenicity, toxicity, and food safety. I represent GMA, the Grocery Manufacturers Association, and not Good Morning America, though I would have been famous with Good Morning America.

The Grocery Manufacturers Association is a voice of more than 300 leading food, beverage, and consumer product companies, and our primary focus is on product safety and signs-based public policies. Carrageenan has been used for centuries, and is used globally in a variety of organic and conventional food products, including infant foods, processed dairy, meat, pet foods, and many other categories.

Regulatory agencies and research organizations around the world have consistently determined carrageenan to be safe, non-carcinogenic, and lacking any hazard to human health.

Some concerns raised on safety of carrageenan were also baseless, and refuted by the
study from Dr. James McKim, Jr. It is also important to note that the NOSB did not base its decision -- or vote -- on the safety of carrageenan, but on the essentiality. So I want to take a moment here and thank NOSB for accepting the safety arguments and the publication on safety by various scientists, GMA, and my other distinguished speakers during the April, as well as this meeting.

I would like to highlight some of the technological functions served by carrageenan, which may help NOSB to realize the versatility of carrageenan, and why it is essential for manufacturing organic food products.

Some of the key functionalities are producing stable structures with food proteins that can prevent food component separation, enhancing viscosity and mouth feel without the need of additional viscosity enhancers, allowing easier processing, suspending particles within a solution, stabilizing emulsions, inhibiting separation, binding moisture, and substitution for animal-based products -- such as gelatin -- in
specialty food.

GMA would like to reiterate to the Board that carrageenan is essential in several food products, and one of the many noteworthy purposes it serves is maintaining the stability of suspension in a variety of food products to ensure that the consumer is getting the right concentration of nutrients.

To conclude, two points. GMA would first would like to request NOSB to maintain carrageenan in the National List, for not only is it safe, but also serves multiple technological functions. And the second part, in my interpretation of the Organic Food Production Act, but -- social media-surveyed consumer demand is not recognized as a criteria for sunset review, as per the Organic Production Act. Thank you.

CHAIR FAVRE: Questions? Ashley, followed by Harold.

MS. SWAFFAR: So my question is -- what I've asked several other folks before, is what products cannot be made currently without -- the
organic products -- without carrageenan? Specific products, not just general statements.

MR. BASU: I do not have the list of specific products, but there are categories of products -- which include infant formulas, food for special medical purposes -- where carrageenan helps the stability of the food product, and it allows the consumer to have the proportionate amount of nutrients. Otherwise, what would happen is the nutrients would settle down, so you may be drinking just the fluid or water without getting the right amount of nutrients.

CHAIR FAVRE: Harold, followed by Tom.

MR. AUSTIN: So with this discussion around carrageenan having taken place over the last five years since we've been on the Board, with your associate members of the GMA, has there been any consumer concerns raised with your associate members that you can share with us regarding the safety of the food products that your association members sell that may have carrageenan in them?

MR. BASU: Not that I am aware of. The
discussions that we have had with our membership and the several companies are on the safety and the several publications that are out on carrageenan, and members have agreed on the safety and the publication. But we haven't had a discussion on any of the consumer questions.

CHAIR FAVRE: Last question from Tom.

VICE CHAIR CHAPMAN: So you cited the infant medical food as a product. Are you aware of an organic infant medical food?

MR. BASU: Infant food and medical purpose food, but I'm not aware of any specific brand or specific product. But carrageenan is approved for use in some of those food products as well. Recently -- in 2015 if I'm not wrong -- even JECFA -- the Joint Expert Committee on Food Additives -- has approved use of carrageenan in these food categories.

VICE CHAIR CHAPMAN: But you're not aware of an organic infant medical food.

MR. BASU: Not of a specific product, no.
VICE CHAIR CHAPMAN: Thank you.

CHAIR FAVRE: Thank you very much.

Next up is Esteban Macias, followed by Scott Rangus on deck.

MR. MACIAS: Good afternoon. Thank you very much, and I really appreciate the time. Before anything else, I would like to express my sense of responsibility of the testimony I want to present, especially because I know there's a lot of oil growers that in my condition probably weren't either -- didn't know that this meeting was being held, or didn't have the chance to be here.

What I want to show you is a model for actually a soilless production we're using. We are growing in Central Mexico. Actually, we are one of the most important vegetable growing groups in Central Mexico. Our vegetables are being sold in Mexico, most of them. But we also send vegetables to United States, Canada, and as far as Japan or Taiwan.

Anyway, we started growing organic because we always wanted to do something different.
From now on and on, we have been increasing our organic program, and in this moment, actually we are bringing 680 acres of in-soil growing. But in parallel, we started this soilless operation, containerized operation. Why? I call it natural selection.

We tried to do it in the open field. We wanted to grow tomatoes open field, and after two years of having problems and losing the whole crop, we decided that we weren't doing things not at the best we could under the conditions we are working, and I want to point out conditions.

Every grower everywhere has got particular conditions, so maybe my challenges won't be the same challenges a guy in North Carolina will face. I am working under a semi-desert area, and water conservation is a must for us.

Also we have some poor quality water, so also the quality of water limits our way to do growing. So that's what we did, and we started from scratch 12 years ago. And I want also to point out that most of the operations that are right now
working on this system, didn't start yesterday, but 10, 12, 13 years ago.

That's on the control. We are able to actually -- and what you see there, when you detect a plant for the male or female, you take out the plant and you stop the problem there. So that's very valuable for us. You see a whole row that we pull out. This was taken this year, and we still do that, and we get better at it. And that way, we don't have to use so much materials to control disease.

We optimize lutins. We make compost. Last year we made 2000 tons, metric tons, of compost that was used in open field production. So that's the way we close the cycle. Thank you very much.

CHAIR FAVRE: Thank you. Questions? Emily?

MS. OAKLEY: You have 51 acres, you said, in greenhouse production?

MR. MACIAS: Yes.

MS. OAKLEY: Have you conducted any tests of the soil underneath those greenhouses?
MR. MACIAS: Yes. Actually, we started on the parallel a project for doing it in the soil, and our yields were a little bit better than actually in the containers, but we did appreciate the safety of the container. Again, after having experience of losing the crop on the open field, that it was because of loss, but being grower, you want to be assured -- you want to be sure that you are going to harvest in three or four months.

So we decided to stay in the containers, because it was a logical way for us to assure that disease will be contained. Nematodes, we fight off for a -- there are so many things that can actually attack our crops, and it's very high investment crop. So you want to make sure that you're able to react, and it's a very organic way to actually control disease, because you can just pull the plant and isolate the whole thing.

CHAIR FAVRE: Tom?

VICE CHAIR CHAPMAN: So we've been told that hydroponics is not allowed under the Mexican
organic standards. Are you certified to the standards? Is it considered hydroponics there? Can you --

MR. MACIAS: Yes, sir, and that's correct. Under Mexican definition of hydroponics, what we are doing is not hydroponics. The definition of hydroponics is to grow a plant in an inert substrate, or in water, and what we are using is not inert. And using soluble nutrients, which organic materials ain't really soluble. We are using fish emulsion, fish meal, natural minerals, but they are not really very soluble, and actually Mexican rule saying hydroponics not allowed, is actually recognizing that what we are doing is not actual hydroponics under the definition we have.

VICE CHAIR CHAPMAN: So are you certified to the Mexican organic standards as well?

MR. MACIAS: Yes.

VICE CHAIR CHAPMAN: Thank you.

CHAIR FAVRE: Thank you very much. Next up is Scott Rangus, followed by Jackie DeMinter on deck.
MR. RANGUS: Hi. My name's Scott Rangus. I'm the President and CEO of Ingredient Solutions. We are the world's largest independent supplier of carrageenan, along with other specialty hydrocolloids, and I've been in the carrageenan business since 1976, and also commented at the May hearings.

The previous speaker before did an excellent job of summarizing, I think, the preponderance of evidence supporting carrageenan safety over the decades, that every major food regulatory body in the world continues to reaffirm carrageenan safety as a food ingredient.

There's a lot of isolated studies that have been undertaken. Over the 40 years, I've seen a lot of them. And I would say you can take any food ingredient and put it into an environment where it causes some detrimental effect, either at the cellular level, but to this date, I am not aware of a single documented case of harm to any human through the consumption of carrageenan.

And I would add to that, of all the R&D
folks, and teams globally that we've dealt with over the decades, going back to my FMC days and to today, that any food scientist that we deal with at the customer level, whether it's Kraft or General Mills, you ask them about carrageenan safety, they'll say we have no concerns -- and these are food scientists; they know what they're doing -- they say we have no concerns about carrageenan.

Even the ones that are charged with reformulating. It's like we're not doing it because we're concerned about carrageenan safety, but we're being pressured by consumers that are being fueled by the bloggers, and it's a marketing decision. But it's not a scientifically based decision. It's pressure. And the difference between now and 30 years ago, is that now you've got social media being fueled by special interest groups with an agenda that just perpetuate the safety issue that really doesn't exist.

You go to any food agency in the world and they will reaffirm that there isn't any evidence that significantly supports removing carrageenan
as a safe food additive. Never mind the hundreds
of thousands of farmers that depend on seaweed as
a livelihood, and the fact that if you look at the
production of carrageenan and growth of seaweed,
it's as green and sustainable and natural as you can
get. It would be the poster child of food
ingredients, if it weren't for the recent flap.

So I would propose that it remain on the
organic allowed list, let the market and the food
formulator and the consumers decide if they feel
it's safe. But at least don't remove it as a tool.
That's it.

CHAIR FAVRE: Ashley, followed by Zea,
and then Harriet.

MS. SWAFFAR: I'll ask you my question
that I have asked everyone. What products --
specific products, not brand names -- but what
products are you aware of that cannot be formulated
without carrageenan?

MR. RANGUS: I'll be honest with you.
I think that if you took any product and said we
can't have carrageenan in it. Can you make a
similar product? You can make a product that would
be similar, whether it's chocolate milk or infant
formula. It's probably doable. But it is going to
perhaps not have the same textural properties and,
for example, gellan is often used as a potential
substitute for carrageenan in beverages. That's
probably the most common use. Soy milk, even
chocolate dairy milk.

But it requires additional additives
for body, and the cost is several times what it would
be with -- carrageenan has a unique protein
interaction and a functionality that is not
duplicated by any other food ingredient or
additive, and that's what makes it unique. Could
you do it? Yes, you know, you said, hey, I can't
have any salt in my product. You got to find
something else. There's a way to do it. We get
these questions, and actually we supply gellan. So
we're covered at both ends.

But it's interesting, when the dairy
guys come to us and say, we'll, you know, can we take
carrageenan out of our chocolate milk? We say oh
yes, we can show you a system to make chocolate milk without carrageenan. And then they find out what the cost is and they go, oh, well we didn't know it was going to cost more. Never mind. We're not interested anymore.

And I say, even the folks that have reformulated, for example, with gellan, soy, almond, they say hey, we're just doing this because we're being pressured to do it. We get the consumer complaints, but yes, the carrageenan is much more effective, it's easier to work with, and it's much less expensive.

But we're being driven by social media, primarily, but not science. So we have no concerns about carrageenan's safety. But we have to do what we're being pressured to do. And the real issue here, and I think it's been stated -- I think Marshall stated it as well -- is the organic market for carrageenan huge? No. Not in itself. It's a precedent.

CHAIR FAVRE: Let me have you wrap up there. We've got two more people that have asked
questions.

MR. RANGUS: Sorry.

CHAIR FAVRE: Zea, go ahead.

MS. SONNABEND: You made a rather sweeping statement that no case of human health problems have been attributed to carrageenan, and yet we received several dozen comments from people who have had really severe effects, and trace those health effects to products that have that in it. So could you comment upon that?

MR. RANGUS: Okay. I would say -- I mean carrageenan, for example, is not considered an allergen, in general. It's not widely seen in any circles as having digestive problems -- now I would say that, let's say you found 200 people that said, you know, carrageenan gives me an upset stomach. I would say that you could take -- again, any food ingredient. Corn, corn starch, which is not considered -- corn's typically not considered an allergen either. But I guarantee you if you went out and looked hard enough, you'd find people who would say I can't eat things with corn in them,
because it gives me an upset stomach.

You can't dispute that. I think every person on the planet is probably going to have some negative reaction to any ingredient you put out there. So to say there isn't somebody on the planet who has some reaction to carrageenan, I can't say that that's absolutely false. I think it's very unlikely. I think it's more likely somebody has an ocean in their head, and they say, we'll, you know, I had soy milk with carrageenan in it, and I had a bellyache.

Well, maybe you have a reaction to the soy, and not the carrageenan. The carrageenan is in there. You're blaming the carrageenan, when your real issue is something else.

CHAIR FAVRE: Okay, let me interject there please.

MR. RANGUS: Sorry.

CHAIR FAVRE: Harriet, it's got to be a brief question, and it has to be a brief response.

MR. RANGUS: Sorry. Thank you.

MS. BEHAR: So you did just talk about
that some of the manufacturers that you work with are moving away from carrageenan due to pressure they're receiving from their consumers, right?

MR. RANGUS: Right.

MS. BEHAR: They're trying to market a product in the marketplace. So would you say that there is a value to a label that maybe wouldn't have carrageenan as an ingredient? Or are you saying that this is a very small amount of consumers that maybe would judge that?

MR. RANGUS: I think you've got a relatively small segment of the consumer population that is concerned about that. Our mainstream customers -- dairy, meat, whatever -- are continuing to formulate and use carrageenan because they realize there's no real food safety issue there. Now you're going to have that segment, and this is why we're here, where the organic consumer's probably more sensitive to that, and if there was some study -- I mean the McKim Report was very significant that was released after the May meeting, that refuted most of the negative
carrageenan data that's been flogged around the industry for quite a while now.

MS. BEHAR: Thank you.

MR. RANGUS: And that was important.

MS. BEHAR: Thank you. Sorry. I was just going to say --

MR. RANGUS: No, that's all right. I tend to -- sorry.

CHAIR FAVRE: That's all right. We appreciate your passion on the topic. Thank you very much.

MR. RANGUS: Are we good?

CHAIR FAVRE: Yes, I think we're good.

MR. RANGUS: Thank you.

CHAIR FAVRE: You're released. Thank you. Next up is Jackie DeMinter, and we've got Jay Feldman on deck.

MS. DEMINTER: Good evening. My name is Jackie DeMinter. I am the Certification Policy Manager at MOSA. We now certify approximately 2,000 operations. I'll be speaking on the container and greenhouse discussion document, and
the proposal for listing synthetic soy wax.

We have extensive experience with greenhouse and vegetable production, and with reviewing inputs. Thank you all for the time you spent discussing topics for this meeting, and for your endurance during this meeting.

The NOSB is positioned to encourage and embrace the growth of the organic industry in many areas, and to strengthen the organic seal. We support the general direction of the NOSB to further define greenhouse and container-based production methods. We appreciate the clear definitions provided. Our written comments offer some suggestions for areas where further clarification would be helpful.

We agree that land considerations, natural resources and strategies to meet the goals of crop rotation should be described in the OSB, and we encourage the NOSB to develop a comprehensive set of criteria specific to greenhouse and container production for certifiers and farmers to use.

We believe that soil used in an organic
container-based operation must be free of prohibited materials for 36 months prior to the harvest of the crop, and that any other ingredients in the media also be allowed.

We feel this should be true as well for non-organic planting stock brought on to the organic operation. Yet, we've been advised that any media used as part of the non-organic production system does not require review. This presents a dilemma. If non-organic planting stock is brought onto the organic operation, any unacceptable media should be replaced.

We agree with the requirement suggested in this new discussion document, and would like to see the exception addressed. The intent of the proposal for listing synthetic soy wax, for the wax to be produced from organic soybeans, supports our overall goals for growth of the organic industry.

Our written comments offer suggestions for clarity and appropriate emphasis for the annotation, which should be on the requirement for organic soybeans. We suggest the complete
production of soy wax be considered, and encourage the NOSB to require that soy oil be organic as well. That would seem more in line with organic principles.

If we exclude the production of soy oil through the wax, then it seems the intent to require organic seed is negated. Would a soy wax manufacturer be motivated to search out soy oil produced from organic soybeans? Lack of commercial availability seems as if it would be the standard.

We're not concerned regarding verification when organic soybeans are used, but we do have questions about oversight and appropriate verification when non-organic soybeans are used.

Finally, we emphasize the need for clarity in labeling on all fronts. It's a little perplexing to see the petition materials calling the soy wax all-natural, yet the NOSB is recommending it be listed on 601, synthetic substances allowed for use on organic operations.

Thank you for your work on all these challenging
topics and precedent-setting issues.

CHAIR FAVRE: Questions?

MS. DEMINTER: Thank you.

CHAIR FAVRE: Thank you, Jackie. Next up is Jay Feldman, and we've got Thomas Harding on deck. Hi, Jay.

MR. FELDMAN: Hi. I am Jay Feldman, Executive Director of Beyond Pesticides. Served on the NOSB from 2010 to 2015, and I wanted to thank the outgoing Board members for all their work, as well as all the Board members. Thematic questions emerged for me when I was on the NOSB, and I think for you, the go-to questions, such as what does the law say, what are the legal standards and principles behind the law, what have past boards decided, and what is the history?

And then quickly you come up against different interpretations of the law. As a Board member you may bring your understanding -- your best understanding of the law -- and previous decisions. Certainly USDA may have an opinion, and you may ultimately disagree with that opinion. The point
is that the key functioning under the law and the integrity of the label requires that we have strong independence on the part of the Board.

We need to maintain and exercise that independence. The court decision in the recent compost case I think indicates that NOP's approach may not always be in compliance with the law. That's why we have you on the NOSB as a check, and that's why we have a public process built into the law.

Regulations and recommendations of this Board may lead to economic dislocation. At the same time the Board, in protecting organic integrity, protects the economic health of the organic sector, the organic market and facilitates its growth.

Hydroponics is a good example of this, and the importance of the NOSB's role. We need the Board at this meeting, before the start of the new administration, to take action and fulfill its role, reaffirm the 2010 decision of the NOSB, which can only be interpreted as rejecting soil as
agriculture.

As the APA states, an organic plan that contains provisions designed to foster fertility, primarily through the management of organic content of the soil through proper tillage rotation, et cetera.

If USDA does not follow the law, whether it is processed, like in the case -- processed, like in the case of the contaminant case, or it's a substantive matter, integrity suffers and economic harm will follow.

Under the PPM, the PDS -- the Policy Development Subcommittee, given the PPM changes, really needs to incorporate background, understanding, history of its proposals, whether it's an Appendix 2 or anything else.

We need to capture the minority views of the subcommittee. The subcommittee's deliberations are a cornerstone to this Board. These views, like the majority, the minority views in the subcommittee become a part of the public discourse.
We need to use the checklist approach to maintain compliance with the criteria of APA. And we need an open docket. The open docket that has been put in place for the part of the expansion is appropriate, but we need to embrace the 2013 decision of the NOSB to create a year-long open docket. This will help with the problem we're having with FOIA, I think, in bringing more decision information to you throughout the year. Thank you very much.

CHAIR FAVRE: Thank you, Jay. Questions? Thank you very much. Next up is Thomas Harding, followed by Robert Rankin on deck.

MR. HARDING: Well good afternoon, and thank you all very much for not only the work you've been doing. The five of you who are leaving, thank you for your hard work. The five that are coming, they have no idea what they're in for. But I want to say also for the NOP, I appreciate very much the work that all of you collectively are doing.

I'm here to speak on behalf of the support for sodium bisulfate. But before I do
that, I just want to give you a quick history. Some 35 or so years ago, when material review was something that most certifiers did, we laid out a criteria, and that criteria was rigid. That material had to be really important to us. That had to be a management tool for the farmers or their processors, and that it had to meet the criteria that environmental, humane, whatever it might be.

And that once we found a better tool, that tool would be removed, and we'd put a better tool on the list. I encourage you to reconsider what's happened from the standpoint of the subcommittee vote. I encourage the NOSB members to, in fact, vote to support sodium bisulfate. I think you've heard an awful lot already.

I just passed around -- or I should say Michelle has -- two papers, mine, as well as Foster Farms. I think they will be self-evident from the standpoint of how important this material is.

You've heard already from the Miller Farm. Tomorrow you'll hear from the Heller Farm, and you will hear from people of what I would call
hands-on experience. I think it's really important that you all value their important work. They live on those farms every day, they work in those houses every day, and they know those chickens really well.

I would encourage you to respect their opinion, and respect the opinion of the scientists that have already spoken, and those that will speak after me, and longer.

I want to remind us that this is really not just about a material we're putting on a list. About the way we treat our animals. You talk about prevention, you talk about humane treatment. I think it's really important to know that the right material that does the job throughout the system is a humane material, is a responsible material, is a material that works for the farmer and that provides a product at the end to the consumer that they can be proud of and that has the qualitative values that we all want to represent.

I think it's really important that we represent a material that says, and is
verified -- when we put the petition together, we put a huge amount of data in that document. We subsequently have supplied a lot of data, and it's not just one or two years. It's not in the marketplace. It's in the field. It works every day. I think it's really important to listen to that data and to respect that data.

I would encourage you very much to reconsider this. It's really important that we look at this thing in the long-term. We want to increase the market. We want to do it in the right manner. We want to be transparent, and I think if you vote to put sodium bisulfate on the list, you'll have done that. And I thank you very much.

CHAIR FAVRE: Emily, and then Zea.

MS. OAKLEY: Do you think that this is a material that's needed to combat a condition situation -- and you spoke about humane treatment -- and rather than maybe something that wouldn't be necessary if the conditions were different?

MR. FELDMAN: If we're talking about
scale, the one thing I'd remind us of is, scale is not part of this issue. But most of the small and medium-sized producers that we've worked with, and that are represented in our testimony in the next two days, all of those people need this tool.

It's not because they have poor conditions. It's not because they're not good farmers. It's because they have conditions that have been forced upon them in the way the standards are written. What do you think's going to happen when we finally get this proposed rule, or the final rule, approved about humane treatment for livestock. This will even put a greater burden on farmers.

So no, I think this is an important material. It's an essential management tool. It's just not about another material. It's about something that's really going to improve the whole of the system.

CHAIR FAVRE: Zea?

MS. SONNABEND: Thank you, Tom. I apologize in advance for having an incomplete
knowledge of all the data in your petition, and I'm no livestock expert. But of course anything that is added to the litter will eventually end up in the soil as litter is recycled, and so I'm wondering, the thought of adding something with sodium in it to the soil would cause pause for many organic producers, and so I'm wondering what happens to it when it gets to the soil.

MR. FELDMAN: Well I can't answer that from a technical standpoint, but one of the things I do know is that these materials break down in such a way, and they're spread out throughout the whole system in a biodiverse way, and they work very heavily with the microorganisms. I think we're not adding more sodium to the soil, because what we will do is, in many cases, compost this material, or handle it in such a way that we're responsibly putting things on a field that's not going to add more nutrient, or, for that matter, more sodium.

I think in the broad sense -- and we can get a technical review on that if you'd like -- I think we're not going to have a problem from that
standpoint. At least I haven't been made aware of any.

MS. SONNABEND: Did the petition cover that at all?

MR. FELDMAN: It did cover that in a couple of technical places, yes.

CHAIR FAVRE: Last question from Ashley.

MS. SWAFFAR: Okay, so it's been a while since I've read the entire petition, and it's 300 and some-odd pages --

MR. FELDMAN: I understand.

MS. SWAFFAR: -- that it was, but just glazing through this, so the primary focus was on ammonia control. But it now seems like enteritis is the bigger issue that's brought up in the forefront, while there are some people talking about ammonia. I think you see that.

Why wasn't enteritis brought up in the petition?

MR. FELDMAN: Oh I think it was brought up in the petition. And it's been brought up in a
number of the papers we supplied, and certainly in
the testimony again today.

I think if you look deeply in there, you
will find those documents where we have addressed
that issue. I have the petition. I can show you
if you'd like that. All right.

CHAIR FAVRE: Thank you very much. We
appreciate your comments.

MR. FELDMAN: You're very welcome, and
thank you.

CHAIR FAVRE: Next up is Robert Rankin.
We've got Lori Klopf on deck. Before you get
started, Robert, just for those of you that are
tracking things, we are actually running not quite
an hour behind, and we were scheduled to finish
right before 6:00, so Board members, if we will try
to keep our questions to a minimum, we'll try to get
through the rest of these as quickly as possible.
Thank you. Go ahead.

MR. RANKIN: Okay, thanks. Good
afternoon. My name is Robert Rankin, and I'm
Executive Director of the International Food
Additives Council. IFAC is a global association representing manufacturers of food ingredients, including a number of substances allowed in organic foods and beverages.

IFAC supports the subcommittee's recommendations to relist agar agar, cellulose, and silicon dioxide on the National List. IFAC strongly opposes the subcommittee's recommendation to delist carrageenan. Carrageenan has been determined to be safe by regulatory authorities, scientists and expert reviewers from around the world, and is approved for use in food by all major regulatory and standard-setting bodies.

Delisting carrageenan would force organic formulators to use inferior alternatives or consider removing their products from the market.

I'd also like to call attention to the slide from the FMC representative earlier, that listed 254 products for which the replacement of carrageenan was not an option in those products.

I'll spend the rest of my time commenting on phosphates. Phosphates are safe
food additives and represent one of the most important functional segments of the food ingredient industry. Phosphates have been determined to be safe by regulatory authorities in the US, Europe and around the world. In addition, CODEX Alimentarius has adopted numerous provisions for phosphates in various food categories.

Phosphates are used in multiple applications, including improving the texture and nutritive value of baked goods, preventing fat and protein separation and milk products, and supporting nutrient delivery in beverages. The use of alternative substances in these applications will not provide the desire effects as compared to phosphates.

Our written comments raise concerns with a number of the responses in the technical report on phosphates. Most importantly, we do not agree that, one, phosphate additives increase serum phosphorus more so than naturally occurring phosphorus, and two, elevated serum phosphorus is correlated with renal and vascular disease.
IFAC also objected to the allegations in the discussion document of adverse health effects from the cumulative consumption of phosphates. None of these assertions are supported by the majority of the scientific literature that exists on this topic.

Many of the studies that lead to these allegations involved animals that were fed large amounts of phosphates -- far more than are regularly consumed by humans, and therefore not representative of typical intake levels, and/or focused on specific populations, such as those genetically predisposed to certain poor health outcomes, which cannot be generalized to the majority of consumers.

In anticipation of the NOSB's consideration of phosphates, IFAC commissioned Cato research to conduct a literature review, and develop a white paper on phosphates and human health. Cato reviewed 110 primary research articles on the potential health effects of phosphorus and phosphates, as compared to
approximately 30 papers reviewed for the TR.

We provided with our written comments the executive summary of the white paper, the list of studies reviewed and a comparison of the references to the TR. Cato found that the scientific evidence does not support a definitive conclusion that consumption of phosphates result in negative health effects to the general population.

In addition, the Cato report confirms phosphate additives do not have a cumulative effect on healthy populations, and do not contribute to a higher phosphorus load. Any phosphorus that is not needed in the body, whether naturally occurring or added through phosphates, is excreted in urine.

Based on the Cato white paper, there is no conclusive scientific evidence to support the reduction or removal of phosphates from organic foods. Cato's review of 110 primary research articles supports the safety of phosphates, and therefore the continued use of phosphates, in organic foods and beverages. Thank you.

CHAIR FAVRE: Right towards the end you
sounded like one of those commercials where there --

MR. RANKIN: I know, I know. Had to kick into high gear there.

(Laughter.)

CHAIR FAVRE: But good job, ending right on the button. Are there any questions? Jean.

MS. RICHARDSON: Mine is really just a comment. I just wanted to thank you very much. I'm the lead person on this phosphate topic, and I really appreciated that detailed analysis, and I'll be discussing more about that and the TR when I give the presentation. We do that tomorrow. Thank you.

MR. RANKIN: Thank you.

CHAIR FAVRE: Thank you very much.

MR. RANKIN: Thank you.

CHAIR FAVRE: Next up is Lori Klopf, with Michael Lacy on deck.

MS. KLOPF: Good afternoon. My name is Lori Klopf and I'm in Regulatory Affairs for ICL
Food Specialties, a St. Louis-based company that produces phosphates and other food ingredients for the entire food industry.

Our company is also a member of the International Food Additives Council, and we support the comments from this trade association, on behalf of continued listing of different phosphates on the National List.

Today I will provide some information on why phosphates are essential in providing a variety of different foods based on organic products.

Each of the phosphates allowed in organic foods has a specific technical function that is required, either for the production of the food, or for the properties of the food product, and there are no alternatives currently on the allowed list.

Calcium phosphates are essential for use as leavening components for organic baked goods that cannot be made using yeast. The calcium content also provides nutrient fortification to foods, and whitening to non-dairy protein milks.
Tricalcium phosphate is also an effective flow agent for organic dry mix products.

Potassium phosphates are required in certain foods and beverages as a buffer, emulsifier, and/or stabilizer, to prevent phase separation of other ingredients. They also provide potassium as a nutrient.

Sodium phosphates are allowed only in dairy foods. In very low levels will interact with the protein fat in water, to provide the stabilization required for smooth and creamy dairy products.

Sodium acid pyrophosphate is essential in certain organic baked goods, such as cakes, muffins and waffles, as a slow-acting leavening agent.

Monocalcium phosphate is a fast-acting leavening agent, so cannot be used in these systems.

Sodium acid pyrophosphate is also essential as a component in double-acting organic baking powder.

I would also like to make a few comments
on the three discussion questions included in the technical report on phosphates.

Number one, all food products, including dairy foods, are carefully formulated by the food manufacturers to have good stability and taste. Sodium phosphates are used only when they are essential, due to the formulation, or to processing requirements.

Number two, phosphates are included in equivalency organic agreements with several other countries. While monocalcium phosphate is an essential ingredient in certain organic food applications, it is likely that cultural differences in food choices in other countries have not made allowances to include a larger variety of foods for organic consumers, as compared with the US.

Number three, phosphates should not be phased out of organic foods because of their unique functional properties. The current allowances of phosphates meet all of the OFA requirements, including essentiality and no-adverse-effects on
human health.

In conclusion, current reviews continue to support the safety of phosphates in foods. The phosphates on the National List meet the requirements of OFA, and should continue to be evaluated individually through the sunset review process. Thank you.

CHAIR FAVRE: Thank you. Questions? Harriet?

MS. BEHAR: Approximately how many phosphates are in use in food products in the United States? Different phosphates?

MS. KLOPF: Okay, and not organic. You mean --

MS. BEHAR: Not -- just, is it 20? Is it 200? What --

MS. KLOPF: Oh no -- oh goodness no. It would be more on the order of 20 to 30.

MS. BEHAR: Thank you very much.

MS. KLOPF: Mm hmm. Thank you.

CHAIR FAVRE: Next up is Michael Lacy, with John Bobbe on deck.
DR. LACY: Good afternoon. I'm Mike Lacy, Professor Emeritus in the Department of Poultry Science at the University of Georgia. I served on the NOSB from 2002 to 2007, and chaired the Livestock Committee the last year of my sentence -- excuse me, I mean term.

I'm here today to speak in favor of adding sodium bisulfate to the list of synthetic substances approved for use in organic livestock production. I won't go into the safety. You've heard several people talk about the safety of the product already, and the fact that it has a long and successful history of use in poultry production.

I fully understand that these characteristics alone don't qualify substance for inclusion. However, the contribution sodium bisulfate would make to improving animal welfare, food safety, soil, water, and air quality, decidedly swing the balance in favor of an approval, in my opinion.

Most important to me is the animal welfare issue. Among your production in litter is
a concern to every poultry producer, large and small. Depending on weather, time of year, it is difficult, if not impossible, to keep ammonia levels below those detrimental to the health and welfare of chicks.

Ammonia levels of just 25 parts per million have been demonstrated to negatively impact the function of the protective cilia and the trachea of young poultry. Organic poultry producers need tools to control ammonia, and sodium bisulfate is one of the most effective and environmentally sound tools available.

I say this with all the passion I have. Organic producers need sodium bisulfate. More importantly, their birds need sodium bisulfate. Approval would be significantly beneficial to the welfare of organic poultry, and welfare is a structural pillar of organic production.

When you're making your decision, I ask you to heavily weigh the welfare of organic poultry against the natural inclination to sometimes just look for reasons not to approve any synthetics.
To be frank, I fear that putting organic producers in the position where they cannot use a proven, effective, safe product to provide their flocks a positive environment, will ultimately damage the integrity of organic livestock production.

Consumers won't understand, nor should they, why their organic poultry are produced in environments less animal friendly than in conventional systems. Thank you for what you do. I know firsthand, and appreciate and respect, the incredible time, effort that you invest in helping organic producers, and organic poultry. Thank you.

CHAIR FAVRE: Our problem child over here has a question. Ashley?

MS. SWAFFAR: I'm sorry. So Dr. Lacy, I know you do a ton of work on poultry ventilation, and are well respected in the industry for that.

DR. LACY: Thank you.

MS. SWAFFAR: Have you done any research comparing these armory approved and armory
listed products, compared to sodium bisulfate, and what'd you find?

DR. LACY: Colleagues of mine at the University of Georgia have tested virtually every litter treatment known to man. The University of Georgia is where people come to try out new litter treatment. So yes, I may not have directly done it, but colleagues of mine -- Brian Fairchild, Casey Ritz -- are sort of the gurus of litter treatments.

MS. SWAFFAR: So did they do work with those armory approved products --

DR. LACY: Yes.

MS. SWAFFAR: -- and do you know the results of them?

DR. LACY: The results -- I can't say that the products are non-effective. But I wouldn't be here pushing for sodium bisulfate if I didn't think that it was the most effective.

CHAIR FAVRE: Francis, last question.

MR. THICKE: Okay. You say the mode of action is simple. It simply reduces pH. And so I guess you're implying that if you have a product
that reduces the pH similar to sodium bisulfate, it should be similar in action. Is that correct?

DR. LACY: Well, you know, in a three-minute comment you can't put -- or at least I couldn't figure out a way to put all of the information in there. I think the effect of sodium has already been discussed thoroughly, and that's another part of the mode of action in terms of necrotic enteritis. But in terms of ammonia, primarily the effect is the reduction in pH.

CHAIR FAVRE: Thank you very much.

DR. LACY: Thank you.

CHAIR FAVRE: And thank you for your service on the Board.

DR. LACY: Thank you.

CHAIR FAVRE: Next up is John Bobbe, with Richard Mathews on deck.

MR. BOBBE: I'm John Bobbe. I'm the Executive Director of the Organic Farmers Agency for Relationship Marketing. We are a cooperative, incorporated in the State of Minnesota. We work with commercial organics, grain farmers, and
livestock farmers, from 100 to 7000 acres.

What I want to talk about today is organic imports, which Michael Sligh mentioned. In July and August of this year, imports from a very questionable region of the world -- Turkey -- have reached one million bushels a month. That amounts to displacing 8000 acres of organic grain in this country every month, or 100,000 acres a year.

In last September and December, anti-fraud workshops were held in Turkey and the Ukraine by IOAS. On January 16, the USDA's Foreign Agricultural Service published a report of an overview of Turkey organics that was rife with fraud, including the manufacture of certificates.

Edco, which was certified by USDA, is still on the approved-certified list after having been decertified by both the EU and Canada.

In December 2015, the European Commission issued a document with warnings about countries in the former Soviet Russian Federation, that they were at high risk if they were to import grain into the European Union.
There were no -- the NOP has no warning lists or warning system. Edco is still on the approved system. Now it's not that the imports are coming in. We recognize that as a fact that 40 percent of the corn and 70 percent of the soybeans, possibly 90 percent that we use, is going to come in in imports.

However, Canada and the EU do require importers to be certified. The NOP is Johnny-come-lately to it, and you're to be commended for finally talking about it. But where the argument about the -- that we have found nothing, and we filed two complaints with NOP about shiploads -- bulk shiploads -- coming into this country from Turkey, is the audit trail falls of the back end of the boat. Why? Because I have 16 years of experience in the Transcaucasus Region, having been there in September and October, and an NOP-certified -- accredited certifier -- personally told me that they were looking at other countries for certification, like the Ukraine, but it was too dangerous for them to go in.
The bottom line is, that our farmers are incurring $300 an acre in losses, and last time conventional prices went up, 50,000 acres left organic, and it's going to --

CHAIR FAVRE: I'm sorry.

MR. BOBBE: -- flatline organic grain production in this country.

CHAIR FAVRE: I need you to stop there please. Appreciate it. Questions? Jean.

MS. RICHARDSON: Did you hear Mr. McEvoy's comments this morning on that issue?

MR. BOBBE: Yes.

MS. RICHARDSON: Yes. Okay, good.

Thanks.

MR. BOBBE: We have also filed a letter of complaint with the Office of Inspector General, because the NOP, we don't -- our farmers don't feel, along with food and water watch -- need some additional oversight, because our farmers are expected to have an on-farm inspection every year, and my guess would be that just equivalency agreements and hiding behind those, you cannot go
out in an audit trail and find those farms in the exact fields. We're asking for equal treatment.

CHAIR FAVRE: We appreciate your passion on the issue. Thank you for bringing us your comments.

MR. BOBBE: Thank you.

CHAIR FAVRE: Next up is Richard Mathews, with Rhodes Yepsen on deck.

MR. MATHEWS: Richard Mathews, Executive Director of the Western Organic Dairy Producers Alliance. I want to start with parasiticides. WODPA finds it incongruous that the NOSB would expand the use of parasiticides, while pushing to remove substances, and prevent the addition of substances, to the National List, especially when you recommended parasiticide use allowance removes all incentives for proper farm management intended to prevent the occurrence of parasites in the first place.

The regulations clearly show that producers are responsible for minimizing the occurrence of parasite infestations. They also
clearly show that certifiers are responsible for assuring that producers have taken the steps necessary to minimize the occurrence of parasite infestation.

When both producers and certifiers are in compliance with the regulations, the emergency use of parasiticides should be uncommon. Further, the regulations specifically prohibit a producer from withholding necessary medical treatments to preserve the animal's organic status.

WODPA argues that by extension, producers are prohibited from withholding necessary medical treatment allowed by regulation. Thus, any argument that the changes are in the animal welfare issue, is a specious argument.

Accordingly, rather than reducing withdrawal periods and expanding use, which weakens the standards, encourages use, WODPA strongly recommends that the NOSB withdraw its parasiticide recommendation of last April. Further, WODPA strongly recommends that the April 2016 recommended be replaced with a recommendation that limits
parasiticide use to, one, use only for dairy and breeder stock, not breeding age. Two, on-label use only, and three, use only by and on the lawful written order of a licensed veterinarian.

With a regard to hydroponics, I was heartened to hear Zea yesterday say that fodder sprouting systems are not a part of the hydroponic discussions. We just ask that you make that real clear in your recommendation.

CHAIR FAVRE: Thank you very much. Questions? Thank you very much. We appreciate it. Next up is Rhodes Yepsen, with Steve Peirce on deck.

MR. YEPSEN: Thank you for the opportunity to speak. My name is Rhodes Yepsen and I'm Executive Director of the BPI.

After listening this morning about the objectives of NOP and the projects underway for accreditations, tracking compliance, increasing staff to keep up with the program, I couldn't help but think about some parallels to our own organization.
While we're much smaller, BPI is also a mission-driven organization, with a voluntary certification program, and we're chronically understaffed, with a volunteer board, and are also working on a continual process improvement dealing with threats about fraudulent certifications, and defending the value of our certification.

With that in mind, I'm wondering why CROPS is revisiting the topic of biodegradable mulch film before sunset review. The policy memo blocking these items from organic farms simply asks for clarification about whether the intent was to limit it to 100 percent biobased film or not.

To my knowledge, NOP hasn't received a response from NOSB. So I would ask if NOSB can take a moment to vote, perhaps at this meeting, to respond to that policy memo.

As new Board members come online, there are only going to be more questions if a decision isn't made soon, as they won't be familiar with the original decision. That has already happened this year.
Our petition never stated that these products were 100 percent biobased. It focused on the biodegradability as a better alternative to the environmental mess of polyethylene mulch film. Diadem is already on the National List, and I would ask that you give farmers the ability to benefit from the original decision.

CHAIR FAVRE: Thank you. Any questions? Thank you very much. Okay, we've got Steve Peirce up next, with Ryan Costello on deck.

MR. PEIRCE: Good afternoon, or good evening, and thank you. My name is Steve Peirce, President of Ribis Incorporated. We are the company that produces the organic rice hulls, which are the alternative to silicon dioxide.

I've read the comments that were submitted on the sunset on silicon dioxide. I agree with those comments. I'm here to kind of let you know that today about 95 percent of those applications that would have historically used synthetic silicon dioxide, today they are successfully using organic rice hulls.
The comments submitted about those special applications that demonstrate the real need for silicon dioxide, the significant reliance on SIO₂ in these unique applications, either extreme hygroscopicity or high oil situations, is very much in keeping with what we've seen over the last several years.

So here to kind of give you a report back that the organic handlers have accepted and embraced the organic rice hulls very strongly as a clean-label alternative to silicon dioxide.

I'm here to compliment both the NOSB and the NOP. You guys got it right three years ago when you made the annotation on silicon dioxide. Work is being done by our company today to enhance the functionality of the rice hulls, so that they will work better in those challenging situations.

Over the last three years, we've seen sales go up significantly, both on organic, as well as on natural. We've seen it work in spices. Some of the largest spice houses in the world are using the new flow -- the organic rice hulls -- either
organic or natural.

Same thing in dietary supplements. It was a press release that came out by a company a few weeks ago that they've got over 500 different vitamins or minerals that are on the market today using the organic alternatives, or using the natural rice hulls.

So where you guys were the leaders in setting kind of the trend on this, it is working both in the natural world, as well as the organic world.

Again, compliments to the NOP and the NOSB. You guys got it right. You probably don't hear that too often. The OFBA says when there is a -- you replace the synthetic when there's a wholly natural alternative.

Our company, being an entrepreneurial company, just released an uncertified organic replacement for magnesium stearate, for tablets and capsule production, just in the last few weeks. We're looking at more items that are on the National List, to be able to replace them with organic alternatives, or natural products. So thank you.
for giving organic preference, or giving preference to organic ingredients for organic products. Thank you. Any questions?

CHAIR FAVRE: Lisa?

MS. DE LIMA: Can you talk -- can you give me some specifics about what the challenging situations are, where the rice hulls still don't work?

MR. PEIRCE: Sure, and we'll go back to the two that I referenced. It's something that is very sugary, and extremely hygroscopic. I know rice syrup solids are one that I've talked about. It's a pain to work with. Glad to have an alternative.

The other one that is something is a high oil situation. Those are the two extremes, but yet I'm going to say approximately 95 percent of the stuff in between were working very well.

CHAIR FAVRE: Thank you very much.

MR. PEIRCE: Okay, thank you.

CHAIR FAVRE: Next up is Ryan Costello, followed by our last commenter today, Cori
MR. COSTELLO: Hi, good afternoon. My name is Ryan Costello, and I'm a Farm Certification Officer, speaking on behalf of Oregon Tilth Certified Organic.

We'd like to thank the subcommittee for allowing community input on greenhouse and container production. Many of our OTCO-certified producers grow crops both in containers and in soil, side by side, and see these as complementary methods of organic production.

Container-growing allows producers with limited access to fertile soil and water, to extend the capacity to provide fresh produce for local communities, rather than importing soil-grown product from long distances away.

Greenhouses also help producers extend their growing season in harsh climates. We would encourage the subcommittee to ask the question, what is the goal of placing additional restrictions on container production.

Last week I had a chance to talk with Skolaski.
Jason from Yep Yep Organic Farms, and Dexter Oregon. They farm on heavy clay, hillside soils, and although they’re working hard to improve their soil, the productivity is low. So in addition, they have a greenhouse vegetable production system.

Jason said that without the supplemental income from the greenhouse, the farm could not be financially sustainable.

Additional restrictions on container production methods could easily overburden organic operations, particularly small-scale producers, and OTCO would encourage the subcommittee to consider the detailed recordkeeping requirements in the rule for compost production. Although that was well-intentioned for some producers, it became apparent that the outcome of the compost rule was to pile red tape onto those trying to recycle local manures.

Eventually, additional guidance was needed to reduce the paperwork burden, and make it easier to produce NOP-compliant compost. The discussion document proposes requiring a minimum
bulk density for growing media. However, bulk density does not necessarily correlate with fertility, or with biological activity.

A planning media composed of bark would have a higher bulk incident than peat moss, but be less fertile, and potentially less biologically active.

In addition, mandating a minimum percentage of total plant nutrients to come from the media would require producers to track their total plant nutrient requirement, and also the media mineralization rate.

So these additional restrictions would place burdens on the small producers who are already finding it difficult to meet the recordkeeping requirements, and additional evaluation requirements for us certifiers.

OTCO would encourage the subcommittee to consider economic impact analysis before recommendations are made to the NOP. We do agree with the subcommittee's concerns about the degradation of natural resources by paving over
fertile soil, or through effluent runoff, although we feel that these risks also present themselves in more traditional farming systems.

We would support additional guidance to clarify how container operations should maintain or improve their natural resources, as well as how these systems can meet the -- maybe crop rotation standard, or implement alternative practices.

Thank you very much.

CHAIR FAVRE: Thank you. Questions?

Harold?

MR. AUSTIN: I'll be brief. Ryan, could you just briefly discuss your concerns and -- with your written comments for the full Board on phosphates?

MR. COSTELLO: Oh. I did not write those comments on phosphates. I'm sorry.

MR. AUSTIN: Okay, well then let's not talk about it.

(Laughter.)

MR. COSTELLO: I would be poorly informed on that. Sorry.
CHAIR FAVRE: Harriet?

MS. BEHAR: I'm not sure if you could answer this one either, but we heard so much about the poultry, and the kind of dire situation that some producers are having without the use of sodium bisulfate, and I'm just wondering, at Oregon Tilth I know you do certify many poultry operations. Are you finding high mortalities, and/or can you get someone else, maybe you -- I don't know if they're going to speak tomorrow -- who could answer if you're seeing a lot of high mortalities on organic farms because that product is not currently allowed.

MR. COSTELLO: Okay. I probably won't be the best to answer that. We do have a technical specialist here that might be able to address it later. I'm kind of more or a crop guy.

CHAIR FAVRE: Well okay crop guy, thank you.

MR. COSTELLO: Thank you. Appreciate it.

CHAIR FAVRE: Thank you very much. All
right. Last up today is Cori Skolaski. Welcome Cori.

MS. SKOLASKI: Hi. Hi, my name is Cori Skolaski, and I'm the Executive Director at MOSA Certified Organic, and I apologize in advance for a cough that I have.

Thank you very much for the opportunity to provide comments today. I'm here to speak to you about NOP 2027, personal performance evaluations of inspectors. MOSA also has submitted detailed comments, written in written comments.

MOSA certifies approximately 2000 operations in more than 20 states. We employ 15 staff certification specialists who inspect, and we contract with approximately 50 independent inspectors annually.

We have been in compliance with NOP 2027 for two years. During that time, we have performed onsite evaluations of 100 percent of our inspectors, and we feel we are well-qualified to provide comments and feedback on 2027.

We firmly believe that any inspector
qualification issues about which the NOP is concerned could be addressed with a sound and sensible approach to evaluations. Our objection to NOP 2027 is with Section 3.2.b., which requires an annual onsite evaluation of all inspectors.

MOSA supports a continuous improvement system that includes onsite evaluation. MOSA’s recommended solution is to perform onsite evaluations on a three-year cycle, combined with a risk-based approach. In the current year, when a new inspector is hired, when a new scope is added, and/or when a concern is noted by an operator, or review your feedback.

Our goal for personal performance evaluations is to promote the professional development and continuous quality improvement of inspectors. Unfortunately, complying with NOP 2027 has almost completely erased our ability to be thoughtful and strategic. In our commitment to remain 100 percent compliant, we find it difficult to match the onsite visit with what would actually be, in our opinion, the best evaluation for the
inspector.

For example, MOSA wants to perform an onsite evaluation when an inspector is adding a new scope. However, when our focus is directed towards ensuring that all inspectors get an annual evaluation, logistics can be so difficult and convoluted, we can't guarantee that's the one that we'll be able to evaluate.

Onsite evaluations are very helpful for training, and for upholding performance criteria of inspectors. However, it is not the only tool we have. Robust evaluation also includes evaluating the feedback from inspected operations, and from certification specialists who review the inspectors' work product from every inspection performed.

It is in all of our best interests to ensure that the inspector pool is well-trained, competent, and capable. We ask the CACS to recommend the NOP that we be allowed greater flexibility. Thank you very much for your time and attention.
CHAIR FAVRE: Questions? Scott?

MR. RANGUS: Cori, I was struck with your comments regarding turning potential growers away.

MS. SKOLASKI: Mm hmm.

MR. RANGUS: Could you speak to that a little bit?

MS. SKOLASKI: Yes. So the organic industry is booming, and we're seeing clients coming at us rapidly, and we don't have enough inspectors on the field that have been -- in the field that have been evaluated, in order to take on new inspections at this time, so we actually -- we're in the position this year of turning away crop clients because we did not have inspectors that we had evaluated available to do it in a timely manner, and we had no capacity to do an evaluation before they did the inspection.

CHAIR FAVRE: Okay, thank you very much.

MS. SKOLASKI: Thank you.

CHAIR FAVRE: Folks, this concludes
public comment for the day, but before we all get up and leave, I just want to make a quick announcement for tomorrow.

We are starting at 8:30 in the morning, and we have a very aggressive agenda for public comments again, as we did today. For those of you that have looked at your agenda, you may notice that we only have allocated 60 minutes -- one hour -- for lunch tomorrow. So those of you that think that might be an issue, you can bring your sack lunch to us and we'll all have lunch here together.

We appreciate you diehards that stuck through the bitter end tonight, and we will see you tomorrow at 8:30 in the morning. Thank you.

(Whereupon the above-entitled matter went off the record at 6:48 p.m.)
UNITED STATES DEPARTMENT OF AGRICULTURE

NATIONAL ORGANIC STANDARDS BOARD

FALL 2016 MEETING

THURSDAY
NOVEMBER 17, 2016

The Board met in the Chase Park Plaza, 212-232 Kingshighway Boulevard, St. Louis, Missouri, at 8:30 a.m., Tracy Favre, Chair, presiding.

PRESENT

TRACY FAVRE, Chair
TOM CHAPMAN, Vice Chair
HAROLD AUSTIN
CARMELA BECK
HARRIET BEHAR
JESSE BUIE
LISA DE LIMA
EMILY OAKLEY
SCOTT RICE
JEAN RICHARDSON
DAN SEITZ
ZEA SONNABEND
ASHLEY SWAFFAR
FRANCIS THICKE
ALSO PRESENT

MILES McEVOY, Designated Federal Officer, Deputy Administrator, National Organic Program
MICHELLE ARSENAULT, Advisory Board Specialist, National Organic Program
LISA BRINES, Ph.D., National List Manager, National Organic Program
SAM JONES, Public Affairs Office, Agricultural Marketing Service
PAUL LEWIS, Ph.D., Director, Standards Division, National Organic Program, USDA
JESSICA WALDEN, Materials Specialist, National Organic Program
C-O-N-T-E-N-T-S

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CHAIR FAVRE: Thank you for joining us on the second day of the National Organic Standards Board. We're going to go ahead and get started back with public comments. First up this morning is Zen Honeycutt with Dana Perls on deck.


Okay. Dana Perls, are you here?

MR. PERLS: Yes.

CHAIR FAVRE: And then we have Marty Mesh on deck.

MS. PERLS: Hi. Good morning. I'm Dana Perls, senior food and technology campaigner with Friends of the Earth. I've been tracking and working on the issues of new technologies and synthetic biology for the past four years nationally and internationally, and was honored to be part of the Materials Subcommittee's ad hoc working group on the issue of excluded methods.

Friends of the Earth would like to strongly support the NOSB's proposed updates to the
definitions, process and criteria, and the terminology chart. And we recommend that the NOSB adopt all three sections.

We want to ensure that we have an organic certification which addresses emerging biotechnologies and new techniques being applied to agriculture.

As the NOSB knows, the techniques and field of genetic engineering are changing very quickly. We've got cibus canola oil, synthetic biology stevia and vanilla, Dupont's CRISPR waxy corn, as just a few examples of the new generation of GMOs making their way already into food and consumer products.

These new genetic engineering techniques are incompatible with organic and sustainable agriculture. They involve artificially creating new DNA, engineering new life forms and genetically reprogramming existing organisms and they represent and present environmental and safety concerns that go far and beyond existing, traditional GMOs.
The proposed updated definitions of genetic engineering, genetic modified organisms, modern biotechnology, synthetic biology and non-GMO effectively include new genetic engineering and gene-editing techniques and should be adopted.

The alignment with the CODEX definition creates consistency across definitions and is a globally accepted standard.

This will also help with equivalent definitions of genetic engineering with country partners.

We support the recommendation -- the recommended principles and criteria and ask that they be combined with existing NOSB evaluation criteria.

The updated criteria and processes, the process section clarifies the organic regulations processed-based system. Because this approach is distinct from other USDA programs, it's critical to outline how to evaluate new genetic engineering techniques as they come up.
Lastly, we support the adoption of the terminology chart, which shows the list of excluded methods.

We ask that the NOSB use the established process for updating its terminology chart after adoption to include several techniques that fall within the proposed updated NOSB definition of genetic engineering and modern biotechnology.

We support the NOSB's adoption of these proposals to exclude new gene editing and synthetic biology techniques from organic by adopting the proposed definitions, criteria and processes, and the list of excluded techniques.

Friends of the Earth urges immediate adoption of these recommendations as guidance.

Thank you.

CHAIR FAVRE: Thank you.

Questions?

(No audible response.)

CHAIR FAVRE: Thank you very much.

MS. PERLS: Okay. Thank you.

CHAIR FAVRE: Next up is Marty Mesh,
with Michael Hansen on deck.

Marty, are you here?

Okay. All right. Sorry we're going
to miss Marty this year.

Michael Hansen, are you here?

Next up is Michael Hansen, with Justin
Dautoff on deck.

MR. HANSEN: Good morning. My name is
Michael Hansen. I'm a senior scientist with
Consumers Union, the policy and advocacy arm of
Consumer Reports.

We're here to speak in strong support
of the proposal for guidance on the excluded
methods terminology.

I also was part of the Materials
Subcommittee ad hoc working group that developed
this document.

We strongly support all three sections,
declarations, principles and criteria, and the
terminology chart of excluded and allowed methods.

In terms of the definitions, we believe
that the overarching term, quote, modern
biotechnology developed by the CODEX Alimentarius Commission, is the most important definition since documents and standards developed by CODEX are referenced by the World Trade Organization in trade disputes and so constitute a globally accepted standard.

I would also point out that the executive -- the July 2000 and second 2015 Executive Office of the President memo modernizing the regulatory system for biotechnology products which was sent to the heads of USDA, EPA and FDA, states very clearly, quote, biotechnology products refer to products developed through genetic engineering or the targeted or in vitro manipulation of genetic information of organisms, including plants, animals and microbes.

And this definition that the White House says is the appropriate one, does cover all the new second generation of techniques of GE such as the gene silencing RNAi, the gene-editing techniques such as CRISPR-Cas 9 and others.

I'd also point out that with CRISPR-Cas
9 and the other gene-editing techniques, the language makes you think they're very precise when they're actually not.

The way CRISPR works is there's actually a pair -- there's an enzyme which cuts the DNA, and then there's a guidance RNA which recognizes specific sequences, but it turns out it's not exact.

It can actually recognize other sequences so there will always be off-target effects. That's why that they're products of modern biotechnology.

We also believe the principles and criteria section is appropriate, because it makes clear that, since the organic regulations themselves are process-based systems, it's appropriate that the excluded technique should be process-based as well.

We also support the terminology chart, because it makes very clear which products are included and which are excluded.

And we'd also point that there are terms
in the discussion document terminology chart, particularly cisgenesis, intragenesis and agroinfiltration, we feel, should be considered excluded methods as well, because they clearly meet the definitions and the process and criteria for excluded methods.

    So, in sum, we recommend that the National Organic -- that the NOSB recommend that this proposal be fully accepted as is. Thank you.

    CHAIR FAVRE: Thank you.

    Questions? Zea.

    MS. SONNABEND: Thank you, Michael.

    How long have these CRISPR-developed products been tested in the field or produced commercially in the field for?

    MR. HANSEN: There are actually none that are on the market. And the work that's been done is just stuff that's in the lab whether it's this mushroom or the waxy corn, but there's no data that's yet come back from the field on any of this.

    And they would really have to look to look for these off-target effects, because there
is -- there's studies in the scientific literature that talk about coming up with new, more precise sort of enzymes to guide where the cutting happens.

And just the fact that they're saying they're more precise, you know, says that they're not.

And so, particularly when you're doing this with mammalian systems, it's so imprecise that you can have lots of off-target effects. And that's why when they went to synthesize an entire E. coli, they didn't use any of the CRISPR techniques explicitly because of all these off-target effects. They actually manufactured it completely synthetically.

CHAIR FAVRE: Francis.

MR. THICKE: Thank you.

Are we going to be able to test for all these new technologies that test the crops and know what's in them?

MR. HANSEN: Yes, you should be able to, the simplest ones such as the Cibus Canola, which makes a single nucleotide change.
Most of the technologies, these are intellectual property for companies. And so, they have to have a way to actually be able to detect that so that they can make sure that others aren't stealing their technology.

So, for all these there are, almost invariably, yes, will be a way to detect that these are products of -- that a company has done something with rather than something that just happened in nature.

Otherwise, it's not in the interest of the company to put that out, because then some other company could just take their research and say, hey, this product was just found in nature. So, there will always be a way.

Given our present free-market system, since everyone wants to protect their intellectual property, there has to be ways to determine that.

And even with that rapid trait canola even though it's a one-nucleotide change, there is a way to tell because you look at the patent and you see they always have to have a way to detect
the stuff so that they can protect their
intellectual property.

CHAIR FAVRE: Tom and then Dan.

VICE CHAIR CHAPMAN: Just to clarify
that last question, there's a way to test today,
or you think there's going to be a way to test in
the future for all of these methods?

MR. HANDSEN: So far, the ones that
have been developed, there are ways to test today.
You can look at, for example, the patent for the
Cibus and -- that's actually the simplest one. And
there is a way to detect it if you look at that
patent application.

So -- and technology gets better and
better and more precise. So, we're now even able
to tell -- some of these epigenetic changes,
they're able to tell even more subtle changes to
RNA than was previously believed. So, technology
and research is moving rapidly in this area.

CHAIR FAVRE: Dan.

MR. SEITZ: I'm glad you brought up the
metaphor around engineering and technology and the
implication that it's very precise and that in actuality, at least, the technology you're talking about has these off-target effects.

And what I'm curious to know is whether in the world of biology, you can ever be assured that you wouldn't have off-target effects either on human health or even with the more, quote, well established biotechnology techniques, you could be assured that there was the complete precision that is implied by the terms engineering and certainly in marketing materials around --

MR. HANDSEN: Yes. That's actually an excellent question and something that I've been concerned about with decades that all this language makes it sound like this stuff is very precise, and it's not.

The more we work on this, the more complicated we realize how these genetic systems work.

And so, you really are -- whenever they try to do something, they always find that there is a way that an organism can fight back.
A perfect example is with CRISPR. They thought that they had solved how to basically protect against HIV. They engineered T cells so that whenever the virus came in, HIV, it would chop it up and that was going to be the wonder.

Well, what happened is when they went in the lab, those T cells worked, but within two weeks the HIV virus was actually able to hijack the CRISPR system and create mutations so that it could go around that.

So, I don't think there is any -- at present, any way for us to be able to precisely target stuff because whenever they try to do that, they always find that there's something else that's going on.

And I think the reason for that is this system of how genetics works is so complicated that trying to look at it in this reductionist way that GE does is really where the problem is.

And that's where I think organic and agro-ecological approaches which look at the whole systems, they're more holistic. Those work much
better in the long term. All these little targeted approaches really haven't worked.

We were told 30 years ago that we would have crops with all these different traits in them and they've only been able to just do a couple of traits because when they try anything that's more complicated, it always ends up failing in the field.

CHAIR FAVRE: Thank you very much.

Next up is Justin Dautoff, with Pierre Sleiman on deck.

MR. DAUTOFF: Hi. I'm Justin Dautoff. I'm president of Rocket Farms.

Rocket Farms is located in northern California. We're a producer of living herbs. We grow millions of living herbs in grow pots each year.

At Rocket Farms, we do not believe that organics must mean that all plants are grown exclusively in the outer crust of the earth. We grow our living herbs in small pots where they create biologically active soil.
We're selling pots and containers where they grow and mature and there are no consumer confusion with our product and field-grown product. We are clearly meeting the expectations for organic product.

Our herbs are started from organic, non-GMO germinated seeds, seeds germinated in plug trays and then transplanted into the final pot.

We grow organic peat -- we grow an organic peat moss-based media and irrigate them with organic fertilizer.

Environmental control, release of biological insects and scouting are all part of our integrated pest management program.

When needed, organically-certified pesticides are used to control disease and pests. We grow organic because we believe it's sustainable for the environment, there's strong consumer demand and it's better for our employees.

Potted plant production should not be singled out for not fostering soil fertility when it is irrelevant to the commodity. Potted plants
can never be grown in the earth's soil, because they are sold as a living plant for the consumer.

Potted plant production is a separate category than produce itself. It needs to be clarified in terms of organic certification. Transplant seedlings, mushrooms, sprouts are all able to be certified organic, and so should potted plants.

Organic production consumes more than just the earth's crust. The benefits that come from organic growing practices should be applied and included in potted plant-growing systems.

We fulfill the original intent of organic movement despite not growing in the earth.

Our organic definition calls for production -- calls for a production system that responds to onsite conditions and integrated cultural, biological and mechanical practices that foster cycling of resources, promote ecological balance and conserve biological diversity.

Through our use of organic fertilizer, biological controls of insects, organic
pesticides, organic-certified non-GMO seeds and organic-growing media, we meet the goals of organic certification.

Having access to living herbs grown in pots with organic pesticides, organic fertilizers, organic seeds is something that is important to consumers and meets the requirements of organic farming.

By removing this option, you are taking away the consumer's ability to choose organic.

There is no alternative option for living plants. If organic is no longer an option for potted plants, consumers will be introducing chemical fertilization, pesticide residues into their home and environment.

We believe consumers deserve the option of purchasing organic, sustainably grown living herbs in pots. So, in closing --

CHAIR FAVRE: I'm sorry, we've got to stop you there.

MR. DAUTOFF: Sure.

CHAIR FAVRE: Emily, and then Harriet.
MS. ROSEN: Good morning.

Do you not consider your living pots to be transplants to fall under that category?

MR. DAUTOFF: Well, that's where the clarification is needed is that our plants are sold for consumers to either use or transplant into the garden, but most consumers on a -- I'll say a basil plant, will bring it home and eat it, grow, you know, finish growing it and eat it directly from the pot itself most often placed in the kitchen.

CHAIR FAVRE: Harriet.

MS. BEHAR: And so, you're unaware of people selling transplants in a compost or soil-based mix for other people, that the only way to do this is in a soilless mix where you tell consumers to then use liquid fertilizers?

MR. DAUTOFF: We actually -- there's no fertilization required for the consumer. It's a finished good. So, they buy it and it's consumed. So, it's -- there's no growing practice required from the consumer. It's something that's consumed normally within days of purchase from the
grocery store.

MS. BEHAR: So, are there other people out there selling? You're unaware of that, because you said --

MR. DAUTOFF: I'm unaware of that myself.

MS. BEHAR: Okay.

MR. DAUTOFF: I mean, the other people in the marketplace do similar to what we do.

MS. BEHAR: Well, I am aware that there are people selling in compost-based mixes, just to put it on the record.

MR. DAUTOFF: Are you talking about the mix, or the vehicle? I'm sorry, I --

MS. BEHAR: That there are potted plants being sold for consumers to take and leave in the pot that are not in a soilless mix.

MR. DAUTOFF: Yes, certainly there could be alternate mixes. I'm sorry, I thought you meant the finished good.

CHAIR FAVRE: Thank you very much.

MR. DAUTOFF: Thank you.
CHAIR FAVRE: Next up is Pierre Sleiman, with Richard Wallick on deck.

Pierre, are you with us this morning?
Okay. Moving on, Richard Wallick.

Are you here, Richard? Okay. And then we've got Dani Neifeld on deck.

MR. WALLICK: I'm Rich Wallick.

In December 2011 and again in May 2012, the NOSB made recommendations regarding MRO's role within the national organic program.

This includes the recommendation, and I quote, material decisions should only be made by NOP-authorized entities.

The Organic Food Production Act of 1990, as amended, does not grant authority to NOP to create or authorize, nor to delegate the responsibility to create or authorize entities other than accredited certifiers.

There is nothing in the OFPA to prevent NOP authorizing an MRO as an accredited certifier, nor to prevent an MRO to seek to be a NOP-accredited certifier.
The NOSB clearly stated that material decisions should only be made by NOP-authorized entities, and the only entities NOP can authorize are accredited certifiers.

I am therefore respectfully requesting the NOSB to immediately clarify to NOP their recommendation by replacing NOP-authorized entities with NOP-accredited certifiers as in material decisions should only be made by NOP-accredited certifiers. Thank you.

CHAIR FAVRE: Thank you.

Any questions?

(No audible response.)

CHAIR FAVRE: Thank you very much.

All right. We've got Dani Neifeld here, and Peter Aylen on deck.

MR. NEIFELD: Hi. My name is Dani Neifeld and I'm coming all the way from Israel, flying 10,000 miles out and back just to talk to you for three minutes.

And I'm going to talk about a subject that is not on the agenda, and that's why I'm
talking, because it should be.

I'm working as a developer in research in a company called Stockton Israel. We develop biopesticides for the organic market around the globe.

And I'm involved in the movement of the organic world movement for many years. Some people know me from there, some people from here.

And I'm going to talk to you about the public comment that we made, and there's copies here as well, about the -- sorry -- of the list of inerts.

I want to start with a short story, because you going to hear so much data later on. So, about eight years ago on the bus on the way to iPhone conference in Modena, I was sitting next to a young, enthusiastic guy called Miles. I don't know if he remember.

And I was talking to him back then in 2008 about the story of the inerts and the NOSB and how the NOSB don't deal with inerts issues. Later on, we raised our hope in 2010 when the Inerts World
Group was established.

Later on, we got a letter from Dr. Lisa Burns saying they’re stating that from 2003, the inert list they never issue and allow a new inert to the inert list and that we shouldn't even petition, because, at the moment, nobody is going to look at it.

Last year I was sitting on the floor with Zea, I don't know if she remember, eating lunch and we were hoping together that finally the new Safe Chemical Ingredient List will become available to developers. And nothing happened since. So, if things happen, the public don't know about.

Now, I know it's a very small corner in the big picture of the organic world, but you have to understand we, as developers, we're going on a journey of ten years to develop a new product.

We cannot start doing it on shifting sands coming to the end of the road after ten years and $10 million and somebody tell us, hey, it's not organic, because we didn't approve this inert or
this inert is obsolete.

The EPA in 2006 don't deal with the inert list anymore. There's new lists. All in all, people like us trying to develop tools that will give a competitive edge to the farmers in the United States cannot do that. So, please, we encourage you to finalize the story.

CHAIR FAVRE: I'm sorry. I know three minutes goes really fast.

Any questions?

(No audible response.)

CHAIR FAVRE: Thank you. Thank you for coming.

Next up is Peter Aylen, followed by Robin Hadlock Seeley on deck.

MR. AYLEN: My name is Peter Aylen. I'm president of Absorbent Products. We've been operating for about 25 years. We've developed 11 unique products that are listed with OMRI.

We developed a liquid litter acidifier, Activated Barn Fresh, to fill the organic boiler producer's need to control ammonia and bacteria.
It is OMRI-listed and it's approved for use in organic production.

Sodium bisulfate uses synthetic sulphuric acid in its production. We of course use a non-GMO citric acid. ABF serves the same purpose as sodium bisulfate.

The acidification controls ammonia formation. Our product can reduce the pH in the litter down to two to three. Dr. Lacy yesterday said low pH controls bacteria.

Our sales are increasing throughout the US and over two million birds per week are being placed on litter treated with Activated Barn Fresh.

We are not surprised that Jones-Hamilton is trying to discredit our products. Jones-Hamilton is the world's largest manufacturer of sodium bisulfate.

Dr. Trisha Morris Johnson has represented Jones-Hamilton for many years. She co-wrote an article to promote sodium bisulfate along with the president of Jones-Hamilton. She applied for a patent along with Jones-Hamilton and
is often referred to in publications as being from Jones-Hamilton.

That is not all that's involved here. The Livestock Committee asked us to discuss alternatives to sodium bisulfate. Conventional producers are sodium bisulfate when they have deep litter -- I'm sorry, they use sodium bisulfate when they use deep litter.

There are many options available to organic producers. You heard from Relentless yesterday and the speaker discussed litter management as going hand in hand with his product.

All poultry management practices should be a combination of management practices and use the other products as required.

In a written submission, we described many management practices that are alternatives. Auburn University Research has found that in-house wind drawing can kill up to 99.99 percent of Clostridium perfringens, the pathogen that causes necrotic enteritis. Dr. Morris Johnson says this is the pathogen that absolutely needs sodium
bisulfate.

The OTA represents the leaders in the industry, companies like Fosters, Perdue, Petaluma, Cal Main, Organic Valley. Many of these are our customers.

The OTA's position is that synthetic bedding amendments are not necessary to organic production because there are so many alternatives. The organic poultry industry is thriving without sodium bisulfate.

CHAIR FAVRE: Thank you.

Questions? Francis.

MR. THICKE: Did you say there are two million birds per week on the Barn Fresh material?

MR. AYLEN: Yes.

MR. THICKE: Is that Barn Fresh or Activated Barn Fresh?

MR. AYLEN: That's Activated Barn Fresh.

MR. THICKE: And where are they? What size buildings?

MR. AYLEN: Well, they're fairly
large. They're major producers. They're major producers. I'm not sure exact size of buildings, but they are large.

CHAIR FAVRE: Ashley.

MS. SWAFFAR: So, of those two million birds per week that are on the Activated Barn Fresh, are you hearing back from your clients that they're having disease challenges or ammonia challenges or --

MR. AYLEN: We have not heard anything to that effect. What we are also finding, though, is that they're buying more all the time.

MS. SWAFFAR: That's the thing with litter amendments.

CHAIR FAVRE: I have a question.

So, I'm a little confused. We received information yesterday that indicated that the ingredients in the Activated Barn Fresh don't really get utilized if the humidity levels don't rise to a certain level. And that's the reason why the other treatment is required.

Can you speak to that?
MR. AYLEN: Well, that's -- that's very interesting. We noticed that as well. One fellow said that it had to be above 73 percent. Later on, another person said it only -- it worked in California because it was so dry. Can't have it both ways.

It did -- we find it works everywhere. And the moisture also comes from the litter itself.

CHAIR FAVRE: So, you're basically refuting that statement, you don't feel it has to get to that level of --

MR. AYLEN: No, absolutely not.

CHAIR FAVRE: Okay. Thank you.

Dan.

MR. SEITZ: In the materials we have, there's some discussion about the dangers to farm workers of sodium bisulfate.

Are you aware of any of these and can you elaborate on that?

MR. AYLEN: We've had people decide that they did not want to use sodium bisulfate because of the effect on clothes and things like
that, and then they switched over to our products. I can't tell you anything more.

CHAIR FAVRE: Harriet, and then Francis.

MS. BEHAR: Are you seeing high mortality rates in the barns where there's Barn Fresh?

MR. AYLEN: We have not been told of any. And we, of course, don't have the data, though, ourselves.

CHAIR FAVRE: Francis.

MR. THICKE: On that issue of the need for high humidity in the barn to make it dissolve, I was wondering -- I should have asked the last speaker who said that, but I was under the whip with Tracy here, but I wanted to ask that question, but I wonder if that was -- maybe a comment.

It sounds to me like laboratory data that -- because you're putting it in litter which would have variability amount of moisture and you couldn't get a precise from that kind of variability, but in a laboratory you could, and I'm
wondering -- maybe you could comment on that.

MR. AYLEN: That's quite possible of where it was done. We don't -- we were not privy to the tests. We don't know anything about their testing. What we heard yesterday is the first we've heard of it as well.

CHAIR FAVRE: Thank you very much.

MR. AYLEN: Okay.

CHAIR FAVRE: Next up is Robin Hadlock Seeley, with Ian Justus on deck.

MS. HADLOCK SEELEY: Good morning. I'm Dr. Robin Hadlock Seeley, a senior research associate at Cornell University and the Shoals Marine Laboratory and a faculty fellow with the Atkinson Center for a Sustainable Future at Cornell.

Thank you for taking on issues concerning marine plants, and special thanks for the comprehensive discussion document.

As you may have seen in the recent technical reports, screening and development for commercial products in wild and cultured algal
species has often been disconnected from environmental and physiological data and concerns associated with marine habitats and their inhabitants.

Seaweed processors, as we heard yesterday in oral comment, look at a rockweed or Ascophyllum bed, for example, and see biomass worth about four cents a pound. But a marine ecologist looking at that rockweed bed sees something else entirely: a critical three-dimensional marine forest, a habitat-forming seaweed used by 150 other species -- Michelle, thank you -- including sea birds and shore birds of conservation concern in the northern hemisphere, juvenile cod, flounder, pollack and herring and many other species.

And in these clips, I show how Ascophyllum and Laminaria, habitat-forming seaweeds of the north Atlantic, are machine harvested.

A single Laminaria trawl boat in Norway can take 150 tons a day and the annual landings are 150,000 tons.
We can't just have our single-species glasses on when we talk about seaweeds. It's about the ecosystem.

Our oceans are at risk from multiple stressors: ocean acidification, invasive species, rising sea temperatures, disease, pollution and, yes, habitat degradation.

So, to answer the three questions raised in the discussion document for nomenclature, definitely Latin names should be used on this National List.

For annotations, seaweed harvested by machine or from conservation areas should not be allowed.

And is further NOP guidance needed? Yes, definitely, to deal with issues of coastal pollution on wild harvest and seaweed farming, and to figure out how Section 205.207 for wild crop harvest rules should apply, including degradation of environment.

The NOP guidance requires that the substance satisfy expectations of organic
consumers regarding authenticity and integrity and that the use of the substance has a positive impact on biodiversity.

By these standards, substances derived from wild harvested habitat-forming seaweeds don't meet these criteria. And I'm happy to answer questions.

CHAIR FAVRE: Jean.

MS. RICHARDON: Thank you, Dr. Hadlock.

Yesterday we heard one of the speakers from industry said that the situation with regard to harvesting that you have sent us a lot of written comments on -- made on rockweed is changed now and already it's getting under control and that there are regulations which are, in fact, controlling over-harvesting and excessive harvesting, et cetera.

Have you -- is that your experience? Is that what you're seeing in Maine and up into the Maritimes, or not?

MS. HADLOCK SEELEY: No, I believe the
speaker was talking specifically about two
maritime provinces, Nova Scotia and New Brunswick.

In Maine, it's completely unregulated
except for one small area of Maine on the border
of Canada. And except for regulation that
establishes cutting height, the amount of take of
the seaweed is completely open. It's not
regulated.

And, also, I should say that's the same
in Norway. And I'm not sure bout Iceland, but
Norway also has no regulations on the take of
Ascophyllum.

CHAIR FAVRE: Thank you very much.

Next up is Ian Justus, with Federica Del
Toro on deck.

MR. JUSTUS: Hello, and thank you for
the opportunity to provide public comment on the
container production discussion document.

I am Ian Justus. I work for Driscoll's
and I've been the principal scientist working in
the research, extension and development of organic
soil and organic container production systems in
I know that the organic container system is not well-studied. This is why we chose to include data from a study we conducted on microbial populations in the Driscoll's public comment letter.

This study demonstrated that organic container production requires healthy microbial populations to allow for adequate plant growth.

This study changed the way our growers thought about the production system and began the framework for making the organic production system a commercially viable system.

Since then, many growers have changed their soil mixes, their volumes, their forms of organic matter and microbial inoculations to further nurture these microbial populations.

We are coming to the same conclusions for containers that organic soil growers found years ago.

The health of the plant in organics is contingent on this plant-micro relationship in the California.
root zone.

The study also showed that when mineral nutrition is applied in conventional substrate, these microbial populations are not required for healthy plant, showing a distinct differentiation for organic container production from conventional production practices.

It is important to note that Driscoll's is not the fruit producer. We have a network of independent growers that manage their own business to produce the fruit.

Their growing methods and the improved inputs they use are based on their preference, experience, economics and site-specific conditions.

The majority of our organic container growers also have organic soil production. They use similar inputs in both production systems.

A governing body providing overly prescriptive regulation and input requirements by crop is going to be very difficult to determine, regulate and audit.
Our concern with the questions and discussion document is that much of this conversation is about increasing inputs to justify that production is organic, but these inputs are just additional and not truly changing any of the biological processes, which is the core of what makes agriculture organic.

We do not believe that increasing input such as substrate volume, fertility and water beyond plant requirements is in the spirit of organic principles.

As good stewards of the land, we should all be striving to decrease inputs, especially the farming, as all inputs have an environmental cost.

Container production has all the elements of organic soil production. The main differences are the percentage of the soil fractions.

Most soil types have a significantly larger mineral fraction percentage which is driving the noted difference in bulk density.

A clear definition that is feasible to
regulate around is that the majority of available nitrogen should come from processes involving microbial breakdown. We think the best regulation that maintains the integrity of the organic standards will come from a place where the plant's health and the environment are the top considerations.

We encourage the Board to take more time on this matter and continue to learn. We believe we should issue a second discussion document and delay any vote until fall 2017.

On behalf of Driscoll's, I am happy to answer any questions and offer any support in the future on these issues. Thank you for your consideration, and your service on this board.

CHAIR FAVRE: Zea.

MS. SONNABEND: Thank you. I appreciate your comments on the discussion document and am interested in the suggestion that we try to quantify the mineralization of nutrients based on microbial activities and wondering how you would suggest that we measure that and what amount
is okay for organic compared to what amount is not okay for organic.

MR. JUSTUS: That's a very interesting question. Thank you.

In many cases when you do a sampling, you can sample for the ionic forms of nutrition. The organic forms are actually much more challenging to find, but in general I think the tenets around why organics are created in the first place was about not applying those ionic forms of nitrogen.

So, when we, for example, if, you know, if you're applying a liquid fertility application to a substrate container, you measure zero nitrate in the input water, but you will measure nitrate within the media and in the drain water to a small amount.

And so, in that case, you know that that actually came through a microbial cycling, but you didn't apply that as an element. It was actually broken down and mineralized, metabolized by a microbe to become available for the plant, which
is the fundamental basis of how -- and the fate of all organic matter that becomes nutrition, because the soil doesn't produce nutrition.

The microbes actually digest what's in the soil to make it available to the plant and puts those forms into solution, which then the plant takes up.

So, in that case, you can just basically measure what you're applying, the rate of nitrate in there, and then the delta difference minus the plant uptake. It's not a simple thing to do, but those tests are fairly standard.

CHAIR FAVRE: Emily.

MS. OAKLEY: Thank you.

What's the frequency of application for liquid fertilizer solutions?

MR. JUSTUS: So, as I mentioned, Driscoll's is not the fruit producers. So, we represent a lot of different growers.

And if you know from dealing with growers, that every grower does something differently.
Pretty similar to our soil growers, most of them are applying liquid fertility on a weekly basis.

It doesn't necessarily mean every day. Some choose to do it every day in a very small amount, some do water and then a liquid application. It's heavily grower preference and also around the site-specific condition.

So, what kind of soil type or media are you feeding to will greatly affect the amount of nutrition and also, have they added compost or some sort of solid nutrition form that they have to account for in that case.

CHAIR FAVRE: Thank you very much.

MR. JUSTUS: Thank you.

CHAIR FAVRE: Next up is Federica Del Toro, with David Martinez on deck.

MR. DEL TORO: Good morning to all. Thanks to NOSB to allow us this time to speak in front of you. I'm Federica Del Toro and I'm a blueberry producer for Driscoll's in Mexico.

So, the regulations, NOP guidelines
dictate us that we need to comply with three fundamental points: the continued release of nutrients at the root zone, microbiology fostering and the organic matter content in the media.

Within the substrate mixes that we use, we can find ergonomic conditions for this to happen.

Air and water ratios in substrate plus the uniformity of a media allow us to be way more effective in the use of resources like water and fertilizers.

At the same time, it allows for rational use and sustainable use of these resources, which have lead us to increased productivity in our systems, which is related to our reduction on the carbon footprint and the raise ability we have in our production sites.

This system allows to all the farmers to farm in lands where it wouldn't be possible to have these, also, where water conditions are not ideal for the crops.

THE INTERPRETER: May I translate the
last part?

CHAIR FAVRE: Yes, please do.

THE INTERPRETER: Thank you.

MR. DEL TORO: So in the zone where we're at, we have ideal conditions for blueberry growth. We have great water, but the soil wouldn't allow us to have such crops in that region. Thank you.

CHAIR FAVRE: Thank you very much. Questions?

(No audible response.)

CHAIR FAVRE: Thank you very much. We appreciate you coming.

MR. DEL TORO: Thank you.

CHAIR FAVRE: Next up is David Martinez, with Gerry Robertson on deck.

MR. MARTINEZ: Good morning. My name is David Martinez. I'm one of five brothers and four sisters who farms both organic in-soil crops and container crops in southern California.

I'd like to share a quick story with you to personalize who I am as a fellow farmer. My
older brothers immigrated to the United States three decades ago. They were farm workers, primarily harvested berries.

Twenty-four years ago my brothers managed to start a small, two-acre plot of land. I was 14 at the time, and that two-acre plot was my playground where I would go every week and to help the family pick berries.

At the risk of sounding pretentious, I humbly share that today we produce close to 20 percent of the organic raspberries consumed in the United States.

Some years ago we started to see significant decreases in the production per acre due to soil diseases. This was very discouraging because we thought that maybe our days as organic farmers were numbered.

In 2011, we started experimenting with container production. In the beginning, the system was very challenging. There's no room for mistakes in this practice. It is highly a complex system in which the connectivity of all parts makes
the system susceptible to failure.

After many failed attempts and after almost five years of trial and error, we finally figured out how to grow in the system and were able to produce organic berries in a very efficient manner.

We assure that our substrate media meets the following three criterias: here's organic matter present in the substrate, nutrition is available from the substrate on an ongoing basis, and there's biological activity taking place in our substrate.

Organic soil -- or organic -- soil organic crops and container substrate organic crops are NOP-compliant and certified by an NOP-accredited organic certification agent.

The growing method -- this growing method is and will be again changing for many farmers. For example, we only use 60 percent of the water as compared to what we use in soil. We also minimize the use of fertilizer due to the precision in our applications.
Many things have changed in farming since we started 24 years ago. All farming was only in the ground. Now, we have these new systems in -- taking off in the face of land, water and labor constraints.

The decision that you will make will not only impact our family farm or many other farmers, but the spirit of entrepreneurship and innovation that keep us ahead.

Furthermore, your decision will impact the increase or decrease of organic supply and to move -- to move forward away from efficient use of resources.

I thank you for your support in favor of container production. We stand ready to provide clarification, additional information of interest to the Board in order to assist you to have a better understanding of our systems.

CHAIR FAVRE: Thank you.

Any questions?

(No audible response.)

MR. MARTINEZ: Thank you.
CHAIR FAVRE: Thank you very much.

Next up is Gerry Robertson, with Sergio Zubieta on deck.

MR. ROBERTSON: Good morning. My name is Gerry Robertson, and I'm the director of supply at Reiter Affiliated Companies in Oxnard, California where we grow organic and conventional strawberries, raspberries, blackberries and blueberries.

I'm here to speak in support of continued organic certification of container growing methods.

First of all, I want to state our full support for the principles of organic production systems which have been at the core of OFPA and NOP from the beginning and that have always guided our organic practices.

These principles include the cultivation of an active biological process in the root zone without the use of prohibited materials in order to build a healthy plant and to create a more sustainable growing environment.
I wish to address some aspects of the continued certification of these practices that are important to our business from a sustainability point of view.

Container-based systems allows us to better address the increasing challenges that we face in California agriculture: in particular, the availability of a reliable workforce, the lack of water and the cost and availability of land.

Container-based systems allow us to achieve a much more reliable supply of organic berries. With the careful selection of substrate materials, protected tone culture, year-round favorable climate in southern California and over container-specific production practices, we have substantially increased the health of our plants and their root zone biology.

These efforts have resulted in a much more environmentally and economically sustainable organic supply than we would otherwise be able to accomplish.

For the Reiter companies, the men and
women who tend the crops and harvest the fruit are the single-most important part of the very complex production equation. Our container organic systems allow for a more stable and reliable labor curve. Today -- or, I'm sorry, which includes long-term employment, better picking conditions and higher individual earnings.

Today, these labor conditions are of the highest priority for us. Increasingly, we are designing our mix of plantings and production systems around developing the flattest, year-round, high-earning labor curve possible. Organic container systems significantly contribute to this objective.

Going into our fifth year of drought in California, we must employ every means to reduce and conserve water use.

Our container organic systems consistently use 30 to 40 percent less water than our soil systems.

Finally, we want to thank the Board for your service and for thoughtfully tackling this
issue. I know you've got your work cut out for you. Two points I want to leave you with is that container production is compliant with current OFPA and NOP regulation and we support that. And that considerations around this issue should be based on the clear and available science that defines the same biological processes in soil and in containers. Thank you.

CHAIR FAVRE: Thank you.

Questions?

(No audible response.)

CHAIR FAVRE: Thank you, Gerry.

MR. ROBERTSON: Thank you.

CHAIR FAVRE: Next up is Sergio Zubieta, and we've got Roberto Ramirez on deck.

MR. ZUBIETA: Good morning.

We would like to give a special thanks and recognition to the USDA and the NOSB to grant us this opportunity. We feel honored and greatly appreciate it.

Somos Mexico was founded in 2011 by two brothers and one close friend. The mission,
values and goals of Somos Mexico commit us to be sustainable, to be environmentally friendly, to have a great respect for our employees, to achieve the highest standards in food safety and security in order to obtain the premium quality and taste demanded by the top markets. With this mindset, the only logical outcome was to become organic.

We started with one hectare of cluster cherry tomatoes and we grew also a few species differently.

The greenhouses tomato and the other tomatoes. We just think there weren't any organic seeds with their resistance so we have to face to let the soil to rest or cultivate grains.

We were unable to relocate the greenhouses due to high cost of transportation and we don't have extra land to use. The situation was, to say the least, difficult.

We grow blackberries. We have ten hectares of blackberries organic in soil. The deep knowledge that we acquired over the years enabled us to understand the necessities of the
organic pollution in the soil.

We care deeply about the soil and we try to improve it at -- the conditions by adding compost, bacteria, fungus and some others to create the microbiology that give us the best opportunity to provide the nutrients to the crops.

We optimize the use of the water and the soils by using instrumentation that allow us to irrigate when is needed through our grid system.

But what about the greenhouses? The soil needed to rest and we needed to produce. Being able to use the soil -- the use of pots gave us the opportunity to grow and to excel what we do.

Driscoll proposed to cultivate us organic blueberries in the containers. With this solution, we were able to let our soil heal and sparing the investment of the new land and relocation and still produce good quality.

Somos Mexico, we are proud to be organic. We are organic growers. We are proud to be pioneers in growing organically in pots and we promise to keep our model and integrity intact to
ourself, our customers, the consumer, the employees and the environment. Thank you.

CHAIR FAVRE: Questions?

Emily.

MS. OAKLEY: After starting the blueberry production, have you returned to vegetable production, or have you stayed strictly with blueberries?

MR. ZUBIETA: Sorry, again?

MS. OAKLEY: After moving from vegetable production to blueberry production in containers, have you returned to vegetable production in the ground in some of those greenhouses, or have you stayed strictly with blueberries in containers?

MR. ZUBIETA: I believe so, because we will recover our soil and then I can move the pots and be more efficient.

MS. OAKLEY: So, just to clarify, you're rotating blueberries in pots with vegetables in the ground?

MR. ZUBIETA: No. No, no, no. The
blueberries will be in the pots, and the vegetables will be again in the greenhouse and I will relocate the pots in the other part.

MS. OAKLEY: Okay.

CHAIR FAVRE: Thank you very much.

MR. ZUBIETA: Thank you.

CHAIR FAVRE: Next up is Roberto Ramirez, with Erick Ask on deck.

MR. RAMIREZ: Good morning. My name is Roberto Ramirez. I am substrate director of Reiter Affiliated Companies, a four-generation, family-owned company that grows organic berries and conventional.

I'm here to speak in support of continued organic certification of container growing methods.

In our culture, as in other industries, there is a constant need for improvement in our processes and use of our resources. Our culture is an ever-evolving production system.

Organic growing is and should continue to be defined by how plants are nourished and
protected from pest and diseases.

For me, that means that the core of organics is producing a high-quality food while being a steward of environment. Container production is a great example of organic principles in many ways.

At Reiter Affiliated Companies, we have identified our key resources to be water, land and labor. Through the more precise systems we use in containers growing, we have achieved greater efficiency improvements by delivering water to plants only when it's needed and in the amount that it's needed.

This has resulted in healthier microbiology collectivity in the substrate, stronger crops, less plant stress-related problems and improved fruit quality.

In growing areas like southern California, we now reliably supply fresh organic produce in more than one season and maintain jobs associated to these production that otherwise would be lost.
Successful management of soil seeks to improve soil conditions for the microorganisms to thrive and create ideal conditions.

While some in the organic movement state that we should feed the soil, not the crop, we have found that what we really need to do is to feed and care for the biology in the root zone regardless if we are in substrate or directly in the soil.

In our container systems, we can carefully add just the right amount of organic nutrients at the right time to stimulate and manage the biology, to reduce unwanted nitrogen runoff and conserve resources compared to alternative growing techniques.

So, while inputs in our organic soil crops and our organic container crops are exactly the same, results are not.

In the geologically active zones where we -- where our farms are located, soil characteristics can vary tremendously within each field. Growing media provides consistency
through our crops allowing us to reduce inputs, increase our sustainability and produce a consistently high quality product that consumers demand and deserve.

Efficient use of scarce resources like water, reducing our carbon footprint by growing our berries closer to our consumers and consistently providing pesticide chemical-free produce to more people are fundamental to organic ideals.

Efficiencies of container growing system have reduced our use of land and other resources to allow us to better contribute to earth’s ecological balance and to conserve native habitants to bolster biodiversity.

We respectfully encourage the Board and the pertinent authorities to continue to be inclusive of methods that allow farmers to keep on innovating with sustainable biology-based methods that preserve and enhance the principles and spirit of the organic movement, a decision that should be backed up by science and facts instead of magic.

CHAIR FAVRE: Thank you.
Questions?

(No audible response.)

CHAIR FAVRE: Thank you. And thank you for your translation services earlier.

MR. RAMIREZ: And thank you for your service.

CHAIR FAVRE: Next up is Erick Ask, with Bob Verloop on deck.

MR. ASK: Okay. All right. So, hi. So, I'm Erick Ask. I'm the seaweed development manager at FMC Corporation.

Earlier this year I provided you my history with the seaweed industry and spoke before you regarding the social, environmental and economic benefits of seaweed cultivation and harvesting for the carrageenan industry.

Today, I'd like to respond to the three questions posed on page 62 of the National Organic Standards Board Livestock Subcommittee discussion document marine algae listings on National List dated September 6, 2016.

Question 1 regarding naming in Latin
binomials, my suggestion is that we would -- it would be helpful to organize the marine plants algae by use. For example, human food, agriculture inputs and extracts ingredients.

In addition, I would only name algae to the order level. Naming at the order level provides information about the general life cycle necessary for resource management plants while assuring taxonomy medias at a level suitable for the organic standards.

Question 2 regarding annotations to clarify specific uses of harvesting guidelines for any of the marine algae listings, my suggestion would be there is no need to add annotations. The organic standards provide criteria for organic, wild crafting, wild harvesting and cultivation.

And as pointed out in the TR and the discussion document, there are science-based government management plans for seaweed harvesting and cultivation in most countries that meet the organic criteria to assure sustainability.

Organic certifiers are qualified to
determine whether the harvested or cultivated source meets those criteria.

I studied fisheries management as an undergraduate student and have been involved with developing sustainable seaweed cultivation and wild harvest plans for nearly three decades.

My experience is that plans are based on an understanding of the biology and life cycle of the algae and the ecosystems in which they live. These plans have an excellent track record and continue to improve.

Question 3 regarding a need for further NOP guidance on marine plants algae, my answer would be, no, the current system is working. Though, again, it would be good to create three categories of use, as I suggested in my response to Question 1.

I provided written comment, which goes into far more detail with citations and also covers a few more concerns I had with the discussion document and TR.

I thank you for considering my comments.
and would be happy to answer any questions you may have.

In addition, if we refer to the slide that's up now, my colleagues and I provide this slide. For the record, this is a summary of written and oral commentary already provided by producers of organic products regarding the essentiality of carrageenan. Thank you very much.

CHAIR FAVRE: Thank you. I like how you slid that in right at the end.

Zea, you had a question?

MS. SONNABEND: You mentioned that the seaweed production met organic criteria of sustainability.

So, what are the obstacles to having the seaweed production, specifically the species for carrageenan, being certified organic?

MR. ASK: Right. So, as the technical review showed, there are few seaweed harvests that are currently organically certified. And the -- I would say the problem -- or not the problem, the challenge for the carrageenan seaweeds is that, as
you've heard, you're talking about tens and tens of thousands of smallholder farmers and it's a challenge.

I'm not saying it's impossible, but it's something we have to really look at. We, all of us, because how do you do that? How do you go to people with just a small plot who might only have a sixth grade education, and tell them they need to do all this record keeping? Okay?

MS. SONNABEND: Well, it is being done in other crops with smallholders under the grower group provisions, but then how about the processing of the carrageenan?

Would that be able to be adapted to meet organic regulations; do you think?

MR. ASK: So, that's probably not my expertise, you know. I'm -- like, yesterday you had the crop guy, today I'm the seaweed guy, and you would have to really talk to the process people about that, but I think it's a challenge, something that needs to be looked at.

CHAIR FAVRE: Dan.
MR. SEITZ: So, does your company buy seaweed from lots of small producers? Is that the -- and then process it?

I just want to understand your --

MR. ASK: Sure.

MR. SEITZ: -- place in the --

MR. ASK: Okay. So, the supply chain would be, you know, for the farmed carrageenan and seaweeds, smallholder farmers, tens and tens of thousands. So, they'll sell on to a local buyer, who sells on to a person who will be bailing and shipping to our factory. So, usually there's three to four steps in the supply chain.

MR. SEITZ: Uh-huh.

MR. ASK: My -- our -- my personal role is we work on, you know, improved farm systems, trying to, you know, promote better farm practices and developing new areas of cultivation.

So, I'm working with farmers, I'm working with governments, I'm working with suppliers.

CHAIR FAVRE: Emily.
MS. OAKLEY: Have you considered encouraging your suppliers to work with Fair Trade certification for the products?

MR. ASK: I -- no. It just hasn't -- it hasn't come up yet.

CHAIR FAVRE: Thank you very much.

MR. ASK: Okay. Thank you.

CHAIR FAVRE: It's my understanding that Bob Verloop is not here. So, next up is Manuel Mercado, with Clarence Wagner on deck.

Manuel, are you here?

MR. MERCADO: Good morning. My name is Manuel Mercado. I'm a farmer -- a very nervous farmer right now.

So, I've been growing berries. I'm an independent grower, so Driscoll independent grower. So, I've been in the growing business for harvesting organic berries. We started here in the 1900s and our first certification was around 2002. So, we have been growing for a long, long time.

First of all, thanks to the Board for
to let us come and talk to you regarding the container and greenhouse production.

Why is it important for me? Right now we're facing challenges. Climate change is very real for us. Water -- I have neighbors that wells are going with no water. So, water is real, real important, a resource that we need to protect.

Land rotation for myself and for a lot of growers have been another challenge. And the ability to find clean ground free of disease have been very difficult. And that's one of the reason why we're trying this new technology growing in substrate.

I'm already growing conventional substrate and there is a lot of benefits and less use of water, less use of fertilization.

We are very committed to the fundamentals of growing organic. We want to follow all the recommendation or the rules, but also I'm coming to ask you for to let us innovate. Innovation is very important for us, try new ways to produce.
California -- especially California, our farmers are facing a labor issue. It's really hard from increasing minimum wages to overtime. We need to be more productive. We have to produce better crops so we can have labor and to have these berries.

I want everybody really, ourselves, to understand what the consumer wants. And it's pretty clear that we want to offer fruit without fertilizer or pesticide, free of synthetics.

And so, I really want to understand what the consumer want, but also what the growers need, what the farmers need.

At the end of the day, let's work together. So, please help us out. Thank you.

CHAIR FAVRE: Thank you. See, that wasn't so bad, huh?

(Laughter.)

CHAIR FAVRE: Any questions?

(No audible response.)

CHAIR FAVRE: Thank you for coming.

Next up is Clarence Wagner, with Megan
Klein on deck.

MR. WAGNER: My name is Clarence Wagner, CEO of GSSI Consulting in Tulsa, Oklahoma.

Good morning and thank you for this opportunity to speak on behalf of continuing the organic certification of soilless methods which allow for the cycling of nutrients through a biological process and only use organic inputs.

Everyone deserves quality organic food. More than 50 percent of all American households are now purchasing organic produce. 63 percent of Americans are trying to eat healthier.

Nielsen reports that sales from fresh organic fruits and vegetables have increased 31.9 percent in the past two years.

The UN states by 2050 the world's population will reach 9.1 billion and require a 70 percent increase in agricultural production. The demand seems insatiable and where will all this food come from?

21st century technology gives us the possibility in our lifetime for multiple methods
of organic farming to produce more quality, healthy, organic produce for the consumer expanding the organic sector.

Outdoor and indoor organic farming both in the crust of the earth as well as organic soilless methods, should not be an opposition, but complementary.

This is a critical time for the food supply and food security of our nation and the world and all organic growers should be embracing and supporting each other.

A variety of outdoor and indoor organic growing methods can meet the demand and assure this, as well as provide many more full-time, quality agricultural jobs because the indoor methods harvest 24/7 365.

After all, organic soil and soilless methods both use certified organic media to sprout our plants, use non-GMO and organic seeds and organic nutrients, avoid synthetic substances, chemicals, urbicides, pesticides, fungicides, use natural sunlight, are sustainable,
environmentally friendly, conserve our natural resources and, most importantly, cycle nutrients through a biological process in a soluble vehicle called water.

Our two groups seem to be splitting hairs. How much water is too much water? And how much soil is too little soil? We don't have that answer today, do we? There's still too many unanswered questions and demonstrate the vigorous debate we've heard over the last two days.

For this reason, I'm calling upon you, the NOSB, to refer this critical decision back to the Crops Committee for further scientific review.

Emotions and passion are powerful, but they should not be the basis for such an important decision that affects so many people.

This decision must be impartially based on facts and science that will show that while the methods are different, the dynamics are the same -- are not and leave no doubt as to conclusion we're on the same team and we all need to work together in both the letter and spirit of the OFPA and NOP.
regulations. We all want the same thing.

    It's time for us to come together so as to reinforce and maintain strict organic standards for the various styles of organic growing and give our nation an abundance of the best and healthiest food available.

    CHAIR FAVRE: Good job.

    Questions?

    (No audible response.)

    CHAIR FAVRE: I have one.

    Can you tell me what GSSI stands for?

    MR. WAGNER: Genesis Strategic Solutions International. It was founded in Israel with the hydroponic industry over there. And in the United States, they're doing similar things in this country.

    CHAIR FAVRE: Great. Thank you.

    Thank you very much.

    MR. WAGNER: Thank you.

    CHAIR FAVRE: Next up is Megan Klein, with Angel Reyes on deck.

    MS. KLEIN: Hello. My name is Megan
Klein. I am the president of FarmedHere. FarmedHere is an organic hydroponic indoor farm just 15 miles southwest of Chicago in Bedford Park.

I'd like to thank the Board for the opportunity to present comments and also to let you know that I'm proud to be here with my team. We took a bus from Chicago at four o'clock this morning.

I have five team members from FarmedHere, and I'm also here with Nick Greens who is another urban farmer at the plant in Chicago and he trains another generation of urban farmers in our area.

While I have deep respect for the work that the task force and the NOSB have done on this issue, I don't believe that the mandate has been met to understand organic hydroponics and moreover to visit and see the people that are doing organic hydroponic farming on a daily basis.

So, to that end, I have created some slides to help give a picture to what we're talking about here.
So, here is where FarmedHere is located. We are located in an industrial park in Bedford Park, which is about five minutes south of Midway Airport. We are located in a 90,000-square-foot warehouse in which we farm about 20,000 square feet.

What we love about FarmedHere is that it was an abandoned box factory before we made life into it. So, by the process of our organic hydroponic methods, we can produce over 2,000 pounds of healthy and organic produce a week somewhere where no life was being created before.

That's the outside of our farm. Here is the inside of our farm. These are -- so, we grow organic basil. We grow organic microgreens. We grow broccoli, kale, radish and peas and we make salad dressings out of our ugly organic basil that we can't sell.

We're dedicated to zero food waste and we do the dressings to use our basil stems. And we compost all the other organic waste that we produce.
I'm just going to show you some more pictures of our farm. So, we were certified organic in January of 2012 by Ecocert Ico. At that time, we were aquaponic farmers.

Being an organic farm was always the main tenet of what FarmedHere is. We believe in the organic program, we believe in the organic label, and we believe that it's something that both keeps us honest and it's something the customers really trust. So, we started out as aquaponic farmers in 2012.

And in 2015, we converted to organic hydroponics because it's a more consistent way of growing and a better business model for us. Those are our organic pea shoots. This is -- these are rows and rows of organic basil.

So, our farm consists of grow systems that are 150 feet long and 20 feet high. And we have estimated that our entire 18,000 square feet of floor space with the stacked beds is the equivalent of 22 acres of outdoor farmland if you calculated on an annual basis.
What I'm most proud of is our team at FarmedHere. We have a very diverse team. We are -- over 60 percent of us identify as black or Hispanic. 15 percent of us have some sort of an employment barrier.

We work with two programs you may have heard of from -- and, also, Steve Denenberg is not here and I'm speaking on his behalf, if I could have a few more minutes.

CHAIR FAVRE: I'm sorry, we can't allow that. The way our process works --

MS. KLEIN: Can I say one thing in closing?

CHAIR FAVRE: Please finish, yes.

MS. KLEIN: Okay. I'd really like the task force and the Board to consider the impact that the task force's recommendations would have on minority and urban farmers.

We believe that they'd have a disproportionate impact on a whole generation of people that want to be organic farmers and would not have the opportunity to do so unless we allow
organic hydroponics to continue to be certified organic.

CHAIR FAVRE: Thank you.

MS. KLEIN: Our team will speak more about that.

CHAIR FAVRE: Great. Thank you.

MS. KLEIN: Thank you.

CHAIR FAVRE: Oh, a whole host of questions. All right. We'll start here at the end. This way. Go. Jean first, then Harriet.

MS. RICHARDON: What about the idea of labeling? Let's -- I mean, I don't know what's going to happen. This is my last meeting of the Board, so who knows what they'll do next year, but what if they were to come up with the idea that there would be an organic hydroponic label and then there'd be an organic label?

Do you feel that that's an important thing or would you be supportive of it or not?

MS. KLEIN: Um --

MS. RICHARDON: In other words, there'd be organic tomatoes, and there'd be -- or basil,
and then there'd be organic hydroponic basil.

MS. KLEIN: I'd certainly be more supportive of that than disallowing it entirely, but I think that creates a divide that's not necessary, you know.

I think that our -- we have to use the same organic inputs. We need to follow the exact same standards that outdoor farmers do right now and I don't think that splitting the label up, you know, would accurately reflect both what we do and also the food that people are getting.

CHAIR FAVRE: Harriet.

MS. BEHAR: So, what is the carbon footprint? This seems fairly energy intensive and do you heat your warehouse as well?

MS. KLEIN: No, we don't need to heat the warehouse. The plants and the water create a lot of heat themselves.

I can tell you that, you know -- I'm going to read something, if I can, from the people that know more about energy than I do.

So, you know, we're looking at running
our own methane generator, which we could use to
offset our energy use right now.

The -- we have -- half of our grow
systems are LED lights, half of our grow systems
are fluorescent lights. We would have only the LED
lights except for the expense.

The expense of LED lights is going down
by 50 percent every few years and their energy
efficiency is going up.

In -- let's see. It's -- I mean, it's
a win on every front. We use 95 percent less water
than outdoor farming. The energy efficiencies
will improve drastically over the next five years
as the efficiencies of LED lights improve and, you
know, we're not using any outdoor land and we're
freeing up outdoor land to be used to do more
organic farming.

Of course we're not against outdoor
farmland and we believe that we need more acres of
farmland to feed the nine billion people organic
food.

And we think that using warehouses in
the most sustainable way possible is a good way to provide some of that food source.

CHAIR FAVRE: Zea.

MS. SONNABEND: Thank you.

Do you let your customers know that the crops are grown in artificial light. And parallel with that, have you ever done any testing of the nutritional profile to see if the artificial light produces a different nutritional profile than crops grown outdoors?

MS. KLEIN: Number one, yes. On all of our packagings, we say "sustainable indoor farming." Our website has pictures of -- that you're seeing all over it. So, yes, our customers are aware that we use artificial light.

And the second question was about nutritional analysis. Actually, when we did nutritional analysis of our basil, the nutrient content was higher than the basil that we tested that had been harvested from Mexico.

CHAIR FAVRE: Emily -- was it Emily or Francis?
MS. OAKLEY: I made this point in the spring when issues of water conservation have continually come up. Many of us who farm outdoors need very little irrigation particularly in terms of the spring crops and it depends on where you are in the country.

I just want to make a point of clarification that the 95 percent efficiency over land-based farming is not necessarily accurate and certainly not in all cases.

CHAIR FAVRE: Francis.

MR. THICKE: What are the roots in?

MS. KLEIN: What are the roots in?

MR. THICKE: What are the roots -- what media are they in?

MS. KLEIN: It's the -- it's the jiffy plug that's approved for -- on the OMRI list. It's the -- it's peat.

MR. THICKE: Peat?

MS. KLEIN: Uh-huh.

MR. THICKE: Okay.

MS. KLEIN: It's peat and netting.
CHAIR FAVRE: Thank you very much.

MS. KLEIN: Thank you.

CHAIR FAVRE: Next up is Angel Reyes, with Rob Davis on deck.

MR. REYES: Hi. My name is Angel Reyes and I'm part of FarmedHere. I'm a worker. I started working three years ago.

I really don't know much about growing. I started growing microbeans two years ago, but the only thing I can say is that I support organic.

And then we also need it in the city, because as you guys can see, the farms are getting smaller, smaller. They're getting further, further away from the cities. So, I guess that we just need to keep going with what we've got now.

CHAIR FAVRE: Any questions for Angel? Harold.

MR. AUSTIN: So, the facility that you guys have this process in, do you think that this is a viable, efficient use, an improvement to that area compared to how it was before you guys started to work into it and develop this?
MR. REYES: Yes. We have improved it in many ways, because that's -- when I started, we only had probably like three systems. Now, we have like seven. We got seven systems producing.

CHAIR FAVRE: I have a question for you.

Do you know where your crops are sold? Are they sold in the city?

MR. REYES: Yes. They're sold in Whole Foods and Pete's Market.

CHAIR FAVRE: Okay. Thank you. Thank you for coming.

Next up is Rob Davis, with Stephen Walker on deck.

MR. DAVIS: Hi. My name is Robert Davis. I work for FarmedHere. I started out in organic farming at a place called Growing Homes, which is an outdoor farm. And so, like, I had experience working outdoors and indoors.

As far as FarmedHere, it's a little different and, like, I feel like it's a lot better because it gives us an opportunity to work all year
round and it gives us the opportunity to be local instead of have to wait for the product to come from California, which may take time.

And we can process it and the next day it can be in the store and it can last longer in the store and be better. So, I -- that's what I think of organic processing.

Any questions?

(No audible response.)

CHAIR FAVRE: Thank you.

Next up is Stephen Walker, with Beth Walker Stephenson on deck.

MR. WALKER: Good morning. I'm Steve Walker, MOSA's operations manager. Welcome to the Midwestern GMO hot zone. Let's talk about organic seed guidance and GMO incursion into organic.

We see GMO contamination prevention plans that seem sound, but sometimes their test results show alarming GMO contamination levels. Then it's extremely challenging to find appropriate regulatory responses and it's frustrating when we promote the expectation that
organic is non-GMO and more.

So, we applaud strengthened guidance to aid organic seed supply usage and enforcement, but we also question the overall efficacy of enforcement in the face of ongoing GMO incursion.

The report to Secretary Vilsack needs ears. Clearly, the public expects organic to be GMO free. Organic operators are doing their part. But without meaningful shared responsibility, coexistence cannot work and our organic label is harmed. USDA leadership must promote fairness.

Our written comment gives more specific feedback on key points to strengthen the NOP 5029 seed guidance, including what constitutes a diligent organic seed search, continuous improvement, guidance from certifiers without being overly prescriptive and addressing non-GMO expectations.

When contamination sources are unclear and supplier non-GMO claims are inconsistent and thresholds of concern are not established, then issuing noncompliances is not appropriate.
All organic stakeholders urgently need more valid control data for GMO test results to be a reliable enforcement tool and we must not unfairly burden organic operators.

A tough threshold may improve GMO incursion, but could also affect organic seed supply.

Several organic seed suppliers report that almost all at-risk organic seed has some level of contamination from less than one percent to much higher levels.

A threshold could cause some organic seed suppliers to drop certification. Our process-based standards conflict with outcome-based market expectations.

Unfortunately, today, planting organic seed may not stop further GMO incursion. Until we get our organic seed house in order, it will be nearly impossible for an organic farmer to produce truly non-GMO at-risk crops.

So, this gets at a moral question of who should be responsible for controlling GMO
incursion?

    We won't meet consumers' organic purity expectations unless we have USDA support beyond the NOP.

    We continue this good fight, but it can't just be our organic community making the effort. Otherwise, coexistence is a fantasy especially right here in your breadbasket.

    CHAIR FAVRE: Questions?

    Harriet.

    MS. BEHAR: Does MOSA work with producers and encourage them to trial equivalent organic seed varieties on that, or are they only requiring that they search for three sources of the organic seed they want to plant?

    MR. WALKER: We, yes, definitely encourage trialing.

    CHAIR FAVRE: Thank you.

    MR. WALKER: Okay. Thanks.

    CHAIR FAVRE: Next up is Beth Walker Stephenson, with Martha Vega on deck.

    MS. WALKER STEPHENSON: Good morning.
I'm Beth Walker Stephenson. I'm a wife, mama, environmental fiction author and organic consumer and I love soil. The smell of newly-turned soil in the springtime is intoxicating.

As a child, I spent my days outdoors digging in the earth under a canopy of fir trees. It was a magical world of bugs, earthworms, soil. I helped my dad plant a vegetable garden and watched tiny seeds turn into tasty, ripe tomatoes eaten with supper and in his morning grits.

Years later my husband and I planted bio-intensive vegetable gardens, food for our family. For us, soil is the foundation where much of life begins.

We eat from our garden through the growing season, and we purchase certified organic produce and meat often locally raised.

I think a lot about my family's food. I never thought I'd be debating raising our food other than in the soil. But as I looked at this meeting's agenda, the bioponic debate peeked my interest.
I read the task force report. I am making comment today because of a feeling in my bones that we must carefully consider implications of closing the door on organic alternatives to growing in soil.

Key concerns for me are food safety and security in our uncertain world. I admit my concern has grown deeply after the election. What kind of future are we leaving our children?

I've taught my two children to stand up for what is right, do their best, make wise choices and to think outside the box. This is especially important right now.

The morning after the election, the first words out of my 15-year-old daughter's mouth was "We're all screwed."

I hugged her close, put my hand over her heart and said, "Honey, don't you ever forget that you were born right now for this reason."

In my 53 years, I've learned that life presents many shades of gray. There are fewer absolutes. I see both sides. An open mind can
make decisions difficult.

At the National Organic Coalition meeting, I heard elders' deep concern about impacting economics and principles if we open organic production beyond soil, but now more than ever we must consider new ideas and ways.

I believe we must not close the door to organically raised and symbiotic systems outside the soil. Let us be agricultural innovators in this changing world. Perhaps consider requiring an added statement on the organic label and specific organic bioponic standards.

Beyond all, be careful. Listen to your inner voice. Thank you so much.

CHAIR FAVRE: Questions?
(No audible response.)
CHAIR FAVRE: Thank you for coming.
MS. WALKER STEPHENSON: Thank you.
CHAIR FAVRE: Next up is Martha Vega.
And then after Martha's comments, we will be taking about a 20-minute break.

MS. VEGA: (Foreign language spoken).
CHAIR FAVRE: Do we have someone that can translate that for us?

THE INTERPRETER: Am I --

CHAIR FAVRE: Sure. Go ahead.

THE INTERPRETER: Martha is saying that she's been a farmer with us since May of 2015. She's really proud of her organic work for FarmedHere.

She believes it's important to farm organically in cities --

MS. VEGA: Seeding.

THE INTERPRETER: Oh, she does the basil seeding for us. So, she seeds our organic basil seeds into our peat plugs and she takes great care to make sure that we're following the organic regulations that she's trained on.

And she thanked you for the opportunity to speak here.

CHAIR FAVRE: Thank you.

Any questions?

(No audible response.)

CHAIR FAVRE: I would like to
personally thank you for taking the time to get on a bus at 4:00 in the morning to drive here to speak to us. I appreciate that. Thank you.

(Applause.)

CHAIR FAVRE: Okay. With that, we are going to take a 20-minute break. That brings us back here at 10:25. Thank you.

(Whereupon, the above-entitled matter went off the record at 10:05 a.m. and resumed at 10:25 a.m.)

CHAIR FAVRE: Okay. Our next speaker is going to be Eric Roth, with Steve Rodriguez on deck.

Eric Roth, are you here? Eric Roth.

(Pause.)

CHAIR FAVRE: Eric Roth, are you here?

(Off record comments.)

CHAIR FAVRE: Eric Roth, you're about to lose your spot. You better be running up here to the podium.

(Off record comments.)

CHAIR FAVRE: Thank you very much, but
that does remind me of something before you get started, Eric. I'm talking to each of you. Mute your phones and mute your computers, too, please. There are people that are being distracted by chimes and alarms.

Okay. Thank you, Eric. Please, go ahead.

MR. ROTH: Good morning, everyone. My name is Eric Roth. I'm the director of agriculture at FarmedHere.

And in preparing for coming down here today and reading through, you know, both sides of the story, I think one thing that's commonly misconstrued with organic hydroponics is the complexity of our water, right?

People talk about soil being a vast and beautiful array like a, you know, a microbiome. You have bacteria there that are working in concert with micronutrients and macronutrients to supply plants with the -- I mean, really the backbone of life, right?

In conventional hydroponics, you have
what's known as bio-available nutrients. You deliver them into a mix and then the plants take them up immediately.

So, you have nitrogen that the plants can take up in the form that you're delivering it to the water, you have calcium, all in ionic form.

With organic hydroponics, we have to maintain a steady buffer using nitrifying bacteria, which is the same type of bacteria that you'll find in soil that's converting ammonium and -- more specifically in our case, ammonium into nitrites, and then into nitrates that the plants take up.

So, it's not as easy as pouring a beaker of solution into our water and saying, "Okay, plant, grow." Like, there's constant system maintenance that's required to cultivate, you know, the thousands upon thousands of plants that we grow in our space.

It's not easy. It's actually a lot harder. And to tie back to a point that Megan had made earlier, we are subject to all the same
standards that outdoor growers are and we take a tremendous amount of pride in following those standards.

    We're not looking to cut any corners. We -- it means a lot to us to be organic. And I feel that we're at an operational disadvantage and we work really hard to make it work.

    And the last point I want to make is that I think you guys would certainly know better than me, there's only 30 or 35 certified organic hydroponic operations in the US versus 14 or 15,000 or so farms. I really have a hard time understanding why there's not space for us. That's it.

CHAIR FAVRE: Thank you.

Any questions?

Ashley.

MS. SWAFFAR: So, do you guys just have the Chicago location, or do you have other locations?

MR. ROTH: Just Chicago.

CHAIR FAVRE: Francis.
MR. THICKE: So, what do you think would happen in ten years? How many -- what percentage would become hydroponic in ten, 20 years if it were allowed?

MR. ROTH: So, let's say it followed -- even if it was increasing at a rate of ten percent per year, all right, which I think would be a pretty high estimate because, I mean, the amount of work that went into building this facility is tremendous.

You know, we started, as Megan also mentioned, we started as an aquaponic operation. We invested a tremendous amount of capital to convert it into organic hydroponics.

These aren't things that can just spring up overnight. Millions upon millions of dollars have gone into this building and it's not something that people can just wake up and say, "I'm going to start an organic hydroponic farm."

So, ten years from now would I be surprised if there was 300 in this country? Yes, I would be.
You know, Gotham Greens, they're a -- they're not organic, but just to use them as an example, they started, I believe, building in New York in late 2007-2008.

We're ten years after. They have Dutch investment partners and they still only have five facilities in this country. They have tremendous backing and they're a conventional operation.

So, given the barriers that it would take to open an organic facility, I -- yes, I mean, we're not -- it's not going to take over the industry. Not in this country, at least.

CHAIR FAVRE: Jesse.

MR. BUIE: Are the operational procedures the same from one operation to the next?

Because it --

MR. ROTH: Are you speaking --

MR. BUIE: Hydro -- yes.

MR. ROTH: -- like across the country?

MR. BUIE: Correct.

MR. ROTH: There's different methodologies. There's someone who's going to
speak later today who came with us who does things a little bit differently than we do, but you have a number of choices just like you do with conventional farming, based on what sort of media you're going to use, what sort of organic nutrients you're going to use.

But at the end of the day, yes, I mean, we -- everybody is working within the framework of the organic standards.

MR. BUIE: Yes. And that's kind of my concern, the consistency of procedures here.

MR. ROTH: Well, I mean, do you think that, you know, an organic carrot farm in California is operating in the exact same methodology as an organic cranberry farm in, you know, Wisconsin?

MR. BUIE: Those are the answers I think we want to find out.

MR. ROTH: Well, no. I mean, I'm asking from a conventional sense, not from a hydroponic sense.

MR. BUIE: I'm sure it's not.
MR. ROTH: So, yes. I mean, what's --
I guess I just fail to see the difference so long
as everybody is operating within the same standards
and they're being enforced, you know, evenly across
the Board.

CHAIR FAVRE: Thank you, Eric.

MR. ROTH: Yes.

CHAIR FAVRE: Next up is Steve Rodriguez, with Alexis Randolph on deck.

MR. RODRIGUEZ: Good morning. My name is Steve Rodriguez. I'm a manager at FarmedHere, a sustainable organic hydroponic farm just outside of Chicago.

I grew up in Chicago, a place that is not known for farmland. And probably I spent the last five years of my life working in the organic industry.

In that time, I learned a lot about -- well, as much as I can about plants, deficiencies, if there's pests, you know, and it's been very hard, you know, and very rewarding. And the experience will not be, you know, this experience would not
be possible if organic is to exclude hydroponics.

This is an industry that I have grown to love and that I believe -- that I believe that,
you know -- I don't know. I just, you know, this -- I mean, like, this is for me and I never imagined I would do this type, you know, this job.

I turned down higher paying jobs for this, you know. I go in there and I see plants and, you know, I'm changing my mood. My mood, I mean -- I'm sorry. And I don't want the hard work that myself and so many people put into this just to go to waste.

There's more than enough space for both soil and hydroponic growers to exist in harmony. Thank you.

CHAIR FAVRE: Thank you.

Questions?

Harriet.

MS. BEHAR: Do you think in the marketplace that if you did not have the organic label, but you did express how the crop is grown, that you could retain your market?
MR. RODRIGUEZ: I mean, I think organic means a lot, you know. Like, with that label, I mean, I want -- I'm a father, you know. So, I would rather choose the organic for my kids than the non-organic. So, I feel, you know, like the organic is just important to me.

CHAIR FAVRE: Thank you.

Next up is Alexis Randolph, with Colehour Bondera on deck.

MS. RANDOLPH: Hi.

CHAIR FAVRE: Hi, Alexis.


My comments today are on the greenhouse container discussion document. QAI appreciates the work of the subcommittee to fill in the gaps of the 2010 NOSB recommendation so that container farming may continue in a consistent and enforceable framework.

We certify 16 farmers growing in
container systems. A variety of products, including mixed vegetables, cucumbers, tomatoes, peppers, zucchini, endive, and four of the 16 farmers grow transplants.

The subcommittee asked which of the suggestions in the document should move forward to standards such as container size or a stipulation about liquid versus other nutritional sources.

We feel that the discussion document requires a great deal more work before we can support any recommendation.

Regarding container size, there is already a cautionary tale coming out of Canada. They are currently changing the standards again to reduce soil volume per square foot of growing area.

Furthermore, they are defining the growing area not only as the surface of containers, but also the surface of alleys between rows of plants.

The soil volume requirement is expressed this way, and I quote, "So that growers have a certain freedom depending on the staked
crops they grow, the varieties they grow, the planting density they choose and the alley width they prefer."

We feel that NOSB should be looking more closely at the NOP definition of "organic production," which is a system that responds to site-specific conditions that foster cycling of resources.

Furthermore, mushroom standards have been set aside in these NOSB deliberations and, as a certifier, this is concerning.

Organic mushrooms are certified to the crop scope and are predominantly grown indoors in what could be considered a containment system of its own design.

Many of the issues being raised by the NOSB such as biodiversity and nutrients and crop rotation are part of the crop standard and should be addressed for all products grown under the crop scope.

It is inconsistent for a regulation to allow a mushroom producer to have artificial light
or nutrients added to the substrate, but not be allowed for greenhouse container production.

Therefore, we see this discussion around container growing as having significant impact on the overarching crop scope of the regulation and should be approached by the Board accordingly.

We've submitted many written comments on other topics and during the April meeting, on a multitude of sunset materials.

My only additional comment on these topics is regarding carrageenan. We previously reported 15 of our certified operators are using carrageenan in a variety of beverages and other products.

While the NOSB deliberates, it is important to recognize that this is not one simple material.

Our 15 certified operators are using ten different formulations of carrageenan from several material manufacturers. Thank you.

CHAIR FAVRE: Thank you, Alexis.
Questions?

Tom, and then Zea -- or, no, Zea first.

Go ahead.

MS. SONNABEND: Do you know any specifics of which types of formulations are used in which types of products or even what the exact types of products -- not brand names, but what types of products it seems to be essential for?

MS. RANDOLPH: So, I do have information I can't share because it's confidential business information. I -- there is a variety of beverages being produced. They're not all soy or milk-based beverages. I can say that to you as well.

There's also different gels being created for carrying spice into meat products. And so, these are all different formulations of carrageenan being used.

MS. SONNABEND: But can you say besides soy, that it might include dairy products or nut milks or --

MS. RANDOLPH: Yes.
MS. SONNABEND: -- like those type of characterizations?

MS. RANDOLPH: Yes.

MS. SONNABEND: Okay.

CHAIR FAVRE: Tom.

VICE CHAIR CHAPMAN: I wanted to ask you about a written comment that you spoke to. You submitted comments about inspector evaluations and I know NSF operates in several different certification schemes.

Can you speak a little bit about the in-field requirements for other certification schemes?

MS. RANDOLPH: Sure. So, like the food safety schemes?

VICE CHAIR CHAPMAN: Yes.

MS. RANDOLPH: Okay. Yes. So, NSF, our parent company, does offer food safety certifications. And let me just see. So, we looked into what those programs required. And so, for example, most of the schemes average about an every-four-year witness requirement. That's true
for GFSI and GlobalGAP.

BRC and SQF require an every-two-year witness audit, but they recognize each other's witness inspection. So, once an inspector is qualified through BRC, it could be another three or four years before they have to be -- re-witness if they move from the BRC program to the SQF program. So, it is averaging around every four years.

CHAIR FAVRE: Zea, I thought you had a follow-up. No? Okay.

Carmela.

MS. BECK: Alexis, I was interested in hearing about the Canadian standard with regards to container production.

MS. RANDOLPH: Uh-huh.

MS. BECK: So, I know of many growers who have been asked to look at that standard and mimic what they're doing considering that it's the most kind of old regulation on it.

At what point do they -- will the -- can the Canadian standard be finalized and what kind
of problems were you seeing as a certifier looking to their standard?

MS. RANDOLPH: Sure. So, they did put out their new standard. I think it was September of this year. And that had some specific soil requirements in terms of container size and the amount of soil density required.

However, there were challenges with operators meeting that and the site-specific conditions that they had. And so, now, they're doing a revision already to that proposed -- to that standard and that's currently open for public comment. Should close within a week or two for public comment as well.

And so, you know, I guess the other thing that we're seeing is just they have a different definition of soil in Canada, which is a mixture of minerals, organic matter and living organisms.

And so, I think that the operators up there are trying to come to terms with meeting what the standard was that was put out and the CFI has
recognized that they can't do that in all cases. And so, they're trying to be more flexible in working with the operators. I don't know if that -- I'm sorry if that's a little bit too general, but that's my understanding of it.

CHAIR FAVRE: Thank you.

MS. RANDOLPH: Thanks.

CHAIR FAVRE: Next up is Colehour Bondera, followed by Ib Hagsten.

Hi, Colehour. How are you?

MR. BONDERA: Okay. So, I'll try to be fast. Aloha from Kanalani Ohana Farm in Honaunau, Hawaii and thank you all for your attention.

I want to mention as a not so local farmer, I really want to thank the National Organic Coalition who sponsored my being at their pre-NOSB meeting, and more so thank Beyond Pesticides with whom I now serve as a board member as my primary enabler to be here.

Really, nonetheless, I want to make sure you understand I'm speaking to you as a
small-scale farmer sharing my self-identified integrity.

Ending in January of 2016, I spent five years as a producer with the NOSB and now I speak to you from the other side of the table and to all present NOSB members. Many of you I've worked for many years. I thank you for your work and thank you for using your due diligence to seriously consider and make decisions about topics that can and should be decided at this meeting rather than postponed under both the new administration and with new NOSB members, which means that things cannot be smooth.

As organic grows, it is vital to recognize that we cannot grow if we are not building upon a strong foundation.

I have three points. Before I get to those, let me mention several priority observations.

The Crop Subcommittee must be sure to include in its work plan for the future, both the topics of contaminated farm inputs and the --
inerts reviews perhaps beginning with NPEs, since they were both worked on in the recent past and are due continued attention.

These subjects should not have to go through the processes again. Instead, this is work which has already been done with inerts, with EPA Safer Choice, Inerts Working Group with the now retired Emily, by NOSB finishing up Zea by Jay Feldman and others and on contaminated farm inputs by myself and Jay Feldman before him. Please keep these active.

My first point is about carrageenan sunsetting in November of 2018 as it is yet again being considered for a new sun cycle process. Considering both past reviews and the present recommendation, removal is logical at this time since alternatives including simple elimination have resulted in products that are just as well without so much unneeded and uncertain materials in terms of essentiality and more so human health questions, both strong yellow flags. So, please apply the precautionary principle to this
decision.

Second, as former chair of the PDS, some PDS comments. In April 2013, the NOSB unanimously supported a PDS recommendation under my leadership to enable effective and open means of organic communication between the public, the NOSB and the NOP in transparent manners year round and not only in association with two public meeting per year at the discretion of NOP.

Well, more than an ability of the public to provide comments to the NOSB, the efforts to implement are focused on comments -- on meeting topics from the public to NOSB and not really the two-way and full disclosure aspects as recommended.

And so, my request is this be revisited by the PDS and, therefore, be added to the PDS work plan for the near -- the coming year.

And in terms of internal procedure, the PPM, I really want to point out that in my opinion still to this point, the whole sunset process as put forth by the NOP now incorporated into the PPM
is misleading and I really encourage and suggest that since this is not -- this is the NOSB bible, it's not an NOP employee handbook we really need to make sure we're not following. And I will not do my third point.

CHAIR FAVRE: I have to say I think that's the fastest I've ever heard you talk.

(Laughter.)

CHAIR FAVRE: Good job. Francis.

MR. THICKE: Yes. Colehour, I've got a question.

What is your third point?

(Laughter.)

MR. BONDERA: I mean, I'm happy to share it. It's pretty fast and simple. And it's really while listening and working with producers over many years around the world, it's really important for us to recognize that we have important topics. But if the NOP is allowing certifiers to determine their own implementation of rules like with hydroponics, it's right now that
we need to take action and correct the errors of the past and vote to not permit past, present or future hydroponics operations to be certified organic against the recommendation of the Crops Subcommittee, but I think this needs to take effect immediately and we need to stand up for the whole ecosystem and whole picture, not a container decisions, in terms of what is organic. And that's all of us.

CHAIR FAVRE: Any other questions?

Harriet.

MS. BEHAR: So, in your marketplace in Hawaii, are there hydroponic operations and is it -- do you think that they would be able to still sell products by advertising their system of production rather than actually using the word "organic"?

MR. BONDERA: Yes. Thank you. I mean, I think it's a reasonable question.

I -- my personal involvement isn't that strong with people doing those things, but there are hydroponic and aquaponic operations happening.
And my response and commentary to those people when I interact with them or people talk about them is, that's great, it's not organic, it's local, so sell it locally. We are in a unique situation in Hawaii, but I think that applies across the Board, in my opinion, is sell it as hydroponic.

That's, you know, not a contest of will from my perspective. If people want to buy it because it's local, they should. So, I think that doesn't exactly address your question, because I don't have the statistics on, you know how much there is, but I know there is some and I know people do talk about it and they say that should automatically be considered organic.

And it's like, no, that's -- you're using a different set of principles and you're using a different strategy.

CHAIR FAVRE: Thank you. Thank you for coming.

MR. BONDERA: Thank you.

CHAIR FAVRE: Next up is Ib Hagsten
with Nick Greens on deck.

MR. HAGSTEN: Ladies and gentlemen of the NOSB, thank you for what you so tirelessly do on our behalf, on behalf of the entire organic community, on behalf of the national organic program. We appreciate your style, your cooperative attitude and your willingness to disagree with a smile.

My name is Dr. Ib Hagsten. I serve as vice chair of the International Organic Inspector Association and am an IOIA-accredited inspector.

I wish on behalf of organic inspectors everywhere to briefly address the personnel performance evaluations of inspectors, NOP instructions number 27.

In 2013, it took certifiers by surprise and dismay that observation of inspectors in the field was an essential part.

An annual field evaluation is viewed differently by organic inspectors where they are successfully inspected for multiple certifiers for two decades or in three years have not completed
100 inspections.

Seasoned inspectors find it unnecessary to be evaluated every year as they will not be really hired year after year by several certifiers.

New inspectors realize that it is to their advantage to be a third party evaluated to prove to potential certifiers that they have been trained to perform organic inspections in a meaningful and professional manner.

When 2027 came out, IOIA stepped up to the plate to facilitate a requested evaluation by working with certifiers to create a peer evaluation program by 2015. It was more sensible to have one peer evaluation versus one evaluation by each of the multiple certifiers.

IOIA developed a template to the certifiers to receive a uniform evaluation for even an inspector halfway across the country at a uniform price. IOIA is likely to have an accredited inspector nearby or by pre-scheduled travel.
In 2016 at the request of several certifiers, 100 inspectors uniformed evaluator by IOIA. This service benefits the participating certifiers and the inspectors who, once evaluated, are marketable and verified for the next season.

We at IOIA feel that it's a strong selling point to have accredited inspectors perform the so-called peer evaluation as these seasoned and verified professional inspectors daily are in the shoes of the people they evaluate.

During the conference two weeks ago, Margaret Scoles, executive secretary of IOIA, shared with NOSB the new IOIA inspector training format that is greater encouragement, development towards growing accredited inspectors to further enhance in competency and professionalism of future organic inspectors.

As the NOP continues to add more detailed requirements to the inspection process, the need for additional training and experience is paramount. IOIA continues to expand the basic training to include mentoring and provide
continued education at 100, 200 and the advanced 300 level.

Just this week we launched our new field training model, we struck an apprenticeship working with MOSA in Wisconsin.

A more reasonable not just one-size-fits-all approach to verifying and gaining inspector competency should be encouraged. We encourage a flexible risk-based approach. Thank you.

CHAIR FAVRE: Questions?

Zea.

MS. SONNABEND: Thank you. Sorry. I'm going to ask you a question that's way out in left field.

MR. HAGSTEN: Okay.

MS. SONNABEND: In IOIA, do you think there would be an inspector available should the carrageenan farmers of Indonesia or the Philippines decide to become certified organic?

MR. HAGSTEN: That is out in left field.
(Laughter.)

MR. HAGSTEN: I don't know how we would do that. We're having a hard time figuring out how to do it in even Mexico.

MS. SONNABEND: Do you have members, though, in those countries or in that region of the world from Indonesia, Philippines, probably even Japan, Taiwan, et cetera?

MR. HAGSTEN: At the annual meeting in South Korea earlier this year, we had inspectors from nine different countries show up there. So, yes, we do have inspectors around the world.

MS. SONNABEND: Thank you.

MR. HAGSTEN: Thank you.

CHAIR FAVRE: Can you tell me how you feel as though the peer evaluation inspections have been going this year so far?

MR. HAGSTEN: So far the evaluations have been going well. We have had a hard time meeting them. We started late and certifiers arrived late with some of the requests and the system was overwhelmed trying to stay with
certified -- accredited inspectors was difficult. And I didn't carry my part of the load, because I broke my back this summer. And so, the Midwest was suffering because I should have picked some of that up.

So, I'm still struggling. I have three of them still to do in December to get -- to finish up. So, it's a challenge.

I could also say that we are not going to make this year like we did last year, because we are getting a lot more singles and outliers.

People like myself, it's good for IOIA because -- I had one evaluation that eight different certifiers paid $500 for. So, I'm good for the budget, but others are not. And sometimes you pay a thousand dollars to get some of the outliers, but that's how we agree to do that.

CHAIR FAVRE: Thank you very much.

MR. HAGSTEN: You're welcome.

CHAIR FAVRE: Next up is Nick Greens with Greg Butler on deck.

MR. GREENS: first off, I want to thank
the Board for having me here and thank you for your
time.

I'm Nick Greens. I've been farming
indoors for about nine to ten years already. I'm
also -- I started off as a volunteer over at the
plant in Chicago. It's a business incubator, an
old meat packing company turned into urban farms
and stuff.

I started off there was a volunteer, was
given a program -- a microgreen program to start
up and then it became successful. So, then I ended
up -- started the business up. I was dealing with
a bunch of Michelin Star chefs doing hydroponic
growing. And then it turned in to working with the
schools.

I worked with Schurrs High School.
It's on the north side of Chicago. I built a food
science laboratory in the high school where the
kids for the first time were feeding the food pantry
in the neighborhood. And also, they got to eat
hydroponic -- organic hydroponic inside the
cafeteria. So, a lot of the kids are very
interested in growing.

I'm constantly getting emails almost at least two times a week from kids that are very excited about me, what I'm doing, and want apprenticeships with me and stuff.

I also started working on an organic vegan-based fertilizer. The name of the fertilizer is called Nature Source. They also have a vegan-based probiotics also.

So, what I do with that is I take it and I use it in a vortex brewer before I even put it in my system and I'm spinning it counterclockwise as well.

So, what I'm doing is I'm treating my water before I'm using it so I can have the highest quality of water before it even goes in my system.

When I put it in the system, my pH stays at about 6.2, about what you want hydroponics to be at, and it never leaves there. I never have to add any pH down or anything else.

I've been working on this type of formula for nine years already and it's completely
been balanced. It's a continuous feeding program where I'm always continuously feeding the program. I don't have to change out my reservoirs or anything because everything is plants-based. I'm not introducing no unknown bacterias or anything to my growing operations.

Is there any questions?

CHAIR FAVRE: Carmela.

MS. BECK: So, a comment first, Nick.

MR. GREENS: Yes.

MS. BECK: So, just one thing that's really important to me is access, access of organic food to a wide, diverse population. And also, access to these meetings to individuals that aren't usually represented. And yourself and the individuals that spoke earlier, it's really a pleasure to see folks here being engaged that aren't usually engaged.

I want to know with your programs, are you able to impact an access populations that don't necessarily have access to organic food?

MR. GREENS: That's where the plant is
in the Back of the Yards Neighborhood, which is a food desert. I also partnered up with several programs in the neighborhood bringing high school kids inside my grow room and kind of like a work ethic program where we just work really, really hard and then we sit down and I teach them about the growing stuff.

So, yes, I'm really, really impacting neighborhoods that are food deserts.

CHAIR FAVRE: I'm going to channel Harriet here and ask a question that she's been asking.

Do you believe that if you weren't able to use the designation of "organic," that you would still have a viable market if you explained your production system and your methods that you used?

MR. GREENS: I don't think I would have a problem. I mean, basically I'm growing conscious food for conscious people.

There's a lot of vegans out there that are very aware of how their plants are grown. Because I use a vegan-based fertilizer, that is
another selling point to it. So, I do see another selling point besides the organic certification.

    CHAIR FAVRE: Thank you very much.
    MR. GREENS: You're welcome.
    CHAIR FAVRE: Next up is Greg Butler with Susana Herdia on deck. Greg Butler, are you here? Going once. Okay.

    Susana Herdia also with Nick Greens. Okay. That just helps us stay on schedule.
    Terrance Glenn, as you here? Terrance Glenn. No? Okay. All right. No Terrance Glenn.

    Daniel Heller. Daniel, are you with us? Okay. come on down, Daniel. Next up is Jennifer Heller on deck.

    MR. HELLER: good morning. My name is Dan Heller and thank you for the opportunity to provide comments to you today.

    I've had the privilege of growing up on a small dairy farm in Lancaster County, Pennsylvania.

    My grandfather, Park Heller, purchased the home farm in 1948. Her personified all that
is good about instilling values in a family farm and the values of those were hard work, caring well for animals, stewarding land for future generations and, most of all, valuing others.

These stewardship values are ones that we feel passionate about. I wake up every day looking out over the same farmland that my grandfather and father cared for.

Although we started as a dairy farm, we now have evolved into a diversified farm with horses and poultry.

We have horse boarding stables and we have chicken houses where we raise organic chickens.

I started raising conventional chickens about 20 years ago while in college and I have enjoyed working with poultry and we have grown the farm over the years.

We have been honored to receive numerous regional and national environmental awards for proactive work we have done on our farms including the National US Poultry and Egg
Association Family Farm Environmental Excellence Award.

But to jump directly to my point for the comments today when we moved from conventional chicken raising to organic chicken raising, we were met with some challenges.

One of those challenges was increased ammonia being generated due to the organic feeding rations and increased water consumption.

We enjoy finding creative solutions to -- environmentally-friendly solutions to the challenges on our farm, but this one already has a solution.

Prior to going organic, we used sodium bisulfate, SBS, in our chicken houses. This has had numerous benefits of lowering pH in the reuse litter, controlling bacterias and eliminating the ammonia in the air.

Today, we are struggling to find an effective tool to manage the ammonia without using SBS. We have tried numerous alternatives to manage this challenge and cleaning out after each
flock has a profound, negative impact on using lots more resources to raise the birds.

Additionally, the birds are healthier when raised on reused litter where they can pick up natural immunities.

Increasing ventilation for ammonia control is difficult with swings in temperature and humidity causing the litter to get wetter and the birds to be more uncomfortable.

We have seen and experienced the effectiveness of SBS and were one of the first to use it in our region many years ago.

Another significant challenge we have encountered is necrotic enteritis in the chickens. This has caused losses of thousands of chickens.

We did not experience this while using SBS as part of our flock management. We have tried alternatives such as the OMRI-approved activated Barn Fresh, but unfortunately have not had successful control of ammonia or disease such as the SBS has performed in the past when we were able to use it.
The use of SBS will greatly reduce ammonia in the chicken houses and will be an important tool that we need in order to meet the proposed animal welfare standards. We really need this tool.

And if I can finish just one sentence, we desire to provide a great environment for the health and welfare of the chickens for us and our children that are helping to raise our chickens in the chicken houses.

We really need to be able to provide the consumers with a chicken that has been raised by high standards of health and welfare and we strongly encourage SBS as a product for use in the organic process of raising chickens.

CHAIR FAVRE: Thank you.

MR. HELLER: Thank you.

CHAIR FAVRE: Ashley.

MS. SWAFFAR: So, I want to talk about your experiences. You said you tried alternatives --

MR. HELLER: Yes.
MS. SWAFFAR: -- the Activated Barn Fresh and things like that.

What did you see when you were using those alternative products that are OMRI listed?

MR. HELLER: Unfortunately, we did not see the results that we saw with SBS in the past. We had used SBS for a number of years in conventional poultry raising and saw significant ammonia reductions and significant improvements in the litter conditions for reducing necrotic enteritis. We did not have that challenge when we were using SBS.

When we used the other products, the alternatives, unfortunately we did not see the ammonia control that we did with SBS.

MS. SWAFFAR: Right. But did you see some ammonia control, it's just not at the great level that you wanted and you saw --

MR. HELLER: It was almost nonexistent that we could detain. Again, I'm talking practically from the field standpoint on our farm.

CHAIR FAVRE: Dan.
MR. SEITZ: How big is your operation? How many houses do you have? How many birds and --

MR. HELLER: We have 12 chicken houses there in Lancaster County. We have about 300,000 chickens.

MR. SEITZ: And just roughly, what is the square footage per bird?

MR. HELLER: We're ranging one to one and a half square foot per bird.

CHAIR FAVRE: Francis.

MR. THICKE: Just to clarify, in your paper you said "Barn Fresh" and now you said "Activated Barn Fresh."

Which one were you using?

MR. HELLER: The Activated Barn Fresh.

MR. THICKE: With the citric acid --

MR. HELLER: Yes.

MR. THICKE: -- and the pH down to three. Okay.

MR. HELLER: Right.

MR. THICKE: By the way, I want to make
a comment that somebody in the audience asked me during break if I used Barn Fresh. And the cows that are in pasture, they don't need Barn Fresh.

CHAIR FAVRE: Thank you very much.

MR. HELLER: Thank you.

CHAIR FAVRE: We're running just a tad bit ahead of schedule. I'm not quite sure how to react to that. We haven't done that before.

We're just going to keep going, but I'm going to announce a few names in advance since we're running a little ahead of schedule.

So, we've got Jennifer Heller up next. We've got Patrick Kerrigan after that and then Albert Straus after that. So, come on down, Jennifer.

MS. HELLER: Hi. I'm Jennifer Heller from Flint Rock and Heller Farms. Thank you for the opportunity to provide comments to you today.

Growing up in a suburban neighborhood, I did not grow up on a farm. I have been immersed in farming, though, since marrying my husband who took over managing his family farm while we were
both still in college.

Farming has now become woven into our family as an integral part of who we are producing health food in an environmentally friendly manner is what we are passionate about.

My first priority role is that of a mother. We've been blessed with four sons who provide unending energy and vibrant life to our family. We feel so fortunate to be able to raise four boys on a farm where they can connect with nature and farming in a way that many cannot.

Teaching them what it means to care for our land and resources is very important to us. This year, our stone barn celebrates its 200th birthday. We can only hope that we will steward our time on this farm to preserve the opportunity for someone else to be able to do so in the future.

We also have a horse boarding stable on our farm and we care for 40 horses. I lead a team that provides young people with an opportunity to learn about horse riding in our lesson program and experience life on a farm.
Our family also have poultry houses where we grow organic chickens. We've enjoyed the opportunity to partner with an organic company that's passionate about what it's doing and raises market healthy organic chickens.

A few years ago I fought a battle with Lyme Disease and a few members of our family have fought this challenge as well. This has led to more vigilant -- us being more vigilant about nutrition and what we eat.

Our four boys love to help with the chicken farm and even our youngest, Chandler, begs to go in the chicken houses. Our farm is truly a family affair.

One of our challenges in moving our chicken raising from conventional to organic just a few years ago is controlling the atmosphere in the chicken houses. Hence, the reason for my comments today.

The organic system has many great attributes like the windows and open doors outside which makes chicken tending more enjoyable.
However, a challenge of organic chicken raising is the ammonia generated in our houses. The organic diet contributes to the challenge of higher ammonia in the houses.

Previously we used sodium bisulfate or SBS to control ammonia in the chicken houses. This was a very effective tool and worked well.

Our desire is to raise chickens in an environmentally friendly and sustainable manner that does a good job of providing for the health and welfare of the chickens.

The house environment is more challenging without having ammonia-controlled product. Having SBS as an approved organic product would provide for a healthier environment in our chicken houses.

This is very important for the chickens, but also for my children who are working in there. Ammonia levels can be harmful for them.

So, I respectfully ask you to consider adding SBS to the approved list of products so that we can do a good job of providing organic chicken.
to this environment.

Thank you for the opportunity to provide comments today. It's rewarding to be able to provide farm-fresh, healthy, organic chicken in an environmentally friendly manner for families to enjoy.

I hope your consideration will increase the quality and substantially of organic chicken raising.

I want to allow my children to work in the houses as much as they used to and see healthy birds thriving. I think this can happen with the use of SBS.

CHAIR FAVRE: Ashley.

MS. SWAFFAR: So, maybe I should have asked your husband this, but I'll ask you this.

MS. HELLER: Probably.

MS. SWAFFAR: Do you think that the diet is a lot of the concern because we, in the poultry industry, do not have the opportunity to feed essential amino acids at the level that the bird requires and that's why we might be generating
excess ammonia?

MS. HELLER: All that I know is I'm going from our past experience and we're coming from conventional growth and we've been in organic, you know, chicken farming and we're seeing much higher ammonia levels and to the point that I seriously honestly have to control the amount of time that I let our children spend in the chicken houses.

And when they go in there, unfortunately they're seeing more deaths in chickens as well.

In fact, just the other day our son said to somebody when they asked what he had done for the day, he said, "I was picking up dead chickens."

And of course that comes along with the territory. However, chicken tending didn't used to be -- that wasn't the prime focus. And I feel more and more that we're having more deaths in our chicken houses because of these high ammonia levels that are very hard to control.

CHAIR FAVRE: Harriet.
MS. BEHAR: So, if I drove by your chicken houses on a 70-degree day, you know, a couple hours after sunrise, would I see chickens outside?

MS. HELLER: You would see some. And I will just add on that is that we are in a part of the country that has a lot of cold air coming into our chicken houses. So, that makes it increasingly difficult as well.

As we have the windows open, we're pulling more cold air into our houses. So, that's generating into the -- we have to heat up that cold air which is making the floors more wet, which is only increasing the ammonia.

CHAIR FAVRE: Thank you very much.

MS. HELLER: Thank you as well.

CHAIR FAVRE: Okay. Next up is Patrick Kerrigan. We've got Albert Straus and then Christian Schlect on deck.

MR. KERRIGAN: Good morning. Organic Consumers Association has already submitted our written comments along with our petition which
37,502 of our members signed.

Keeping GMOs out of organic food is of paramount importance to organic consumers. Those with compromised immune systems, allergies, food sensitivities count on the NOSB to remain vigilant on this issue and assisting them in protecting their health.

Preventing GMO contamination of organic foods is already a difficult process and will become even more challenging as complex and new genetic engineering techniques come on line.

As the excluded methods terminology proposal states, the biotech community is rapidly outpacing any regulatory structure. It's more imperative than ever that the organic community be very clear about where the line is drawn regarding genetic engineering.

As the Material Subcommittee moves forward in creating a process for reviewing existing and new genetic engineering technologies and in order for the organic standards to maintain their integrity, all methods of genetic
engineering, including new synthetic biology and
gene netting techniques must be excluded.

The proposed updated GMO genetic
engineering definitions effectively address this
new genetic engineering and gene netting
techniques should be adopted.

The AMS genetically engineered policy
memorandum requires that no proposed rules for
bioengineered food disclosure will require that
modifications be made to the USDA organic
regulations. It is imperative that the NOSB
steadfastly hold the AMS to this commitment.

Finally, the NOSB and our organic
community as a whole must not gloss over the
potentially disastrous effects that the passage of
the National Bioengineer Food Safety Law may have
in preventing GMOs from being excluded from
organics in the future.

The new law directs the Agriculture
Secretary to consider establishing consistency
between the National Bioengineer Food Disclosure
Law and the Organic Food Production Act of 1990 and
any rules/regulations implementing that act.

The fact that the passage of this law would have been -- would not have been possible without the aggressive lobbying of the Organic Trade Association, Whole Foods, Smucker's, Stonyfield, Organic Valley, UNFI and other industry-leading organic companies that were largely responsible for passage of this law outrages the organic community across the country and further erodes organic consumer's confidence in the organic seal.

It's appalling that brands and businesses supported by organic consumers would conspire to keep consumers in the dark about GMOs, replace Vermont's ground-breaking GMO labeling law with a toothless scam that won't label most GMOs and will let companies use anonymous QR codes instead of words on packaging.

It is essential that the NOSB makes clear to the NOP that it has explicit authority to define genetic engineering in all its forms as excluded methods and that the authority must not
be compromised in any way under the guise of consistency with the DARK Act.

Protecting the integrity of the organic seal if critically -- is a critical duty of the NOSB. The OTA betrayal is painful and divisive, but impacts of their action of eroding consumers must be addressed to protect organic integrity.

Thank you for your service, everyone. Thanks for your time -- oh, and then I've got copies of the DARK Act, too, for all of the NOSB members so that you can familiarize yourself with what you have to steadfastly oppose with all your abilities. Thanks for your time.

CHAIR FAVRE: Questions?
(No audible response.)
CHAIR FAVRE: Okay. Thank you very much.

Next up is Albert Straus with Christian Schlect and Lynn Coody on deck.

MR. STRAUS: Hi. I'm Albert Straus. For you who don't know who I am, we start -- we were the first certified organic dairy and creamery west
of the Mississippi River in the beginning of 1994. We now have close to 90 percent of the dairies in Marin-Sonoma County are certified organic and we'd like to call a convention niche market.

The one problem we're having -- well, one of the problems we're having is that the date we're getting from the USDA about sales, organic milk sales, is inaccurate.

It's not based on anything that really helps us as an industry really to manage our volume and our sales.

In California, we have the milk pooling that I sued California for recognizing organic milk production. The only thing we got out of it was them tracking organic milk sales, fluid milk sales in California, which showed a 13-and-a-half percent decline in January, and now -- it's just recovered now --- still a negative two-and-a-half percent year to date.

So, when we're talking about policy -- making policy for dairy or for organic, it really helps to have real information as to what
production of organic milk is in the United States and what are the sales.

And then on organic integrity, look -- I'm finding problems with consistency between certifiers on what they inspect and how they -- that they're not consistent across certifiers.

One example would be how they determine if an operation meets the pasture rule. So, there's opportunities to try to really get more uniformity and consistent across the certifiers.

And along that line, my opinion is if a certifier is a USDA agent, that they should be able to take complaints from the community and elevate it to the NOP rather than having to have neighbors go all the way through to the NOP to make complaints about different organic operations.

On ivermectin --- yes, on ivermectin I think it should be removed as a de-wormer. And I object to the withdraw, to lowering the withdraw on milk to two days.

De-wormers don't have a place in milking cows and it has to be documented, for one.
And then it's just going to cause abuse that people think they can use de-wormers in milking cows.

And then on a positive note is that we've been involved in the true cost of food movement and we've had four of our dairies involved in -- I'll just finish up this slide --- involved in getting metrics about the externalities in farming and equating to milk production, as well as across the Board for different farming methods.

And also ---

CHAIR FAVRE: I'm sorry. I'm sorry, I've got to stop you there. We've got to be fair.

MR. STRAUS: Just ---

CHAIR FAVRE: We've got to be ---

MR. STRAUS: Okay. Forget it.

CHAIR FAVRE: We've got to be fair.

Maybe someone will ask you a question and ---

MR. STRAUS: Okay.

CHAIR FAVRE: -- you can finish that comment.

MR. STRAUS: Thank you.

CHAIR FAVRE: Any questions?
Harriet.

MR. BEHAR: Sorry, it's a different question. Well, first, I want to say that we are working on a discussion document for the definition of "emergency treatment" to try to have consistency between certifiers and to help producers understand what the word "emergency treatment" would actually mean and that it would be absolutely last resort. So, but that will be for spring.

But I wanted to also ask you about the data collection. I know that the new organic survey did have kind of some incomplete and not, I mean, the number of organic operations in Wisconsin on the NOP website was about 15 percent higher than what they said in the survey.

So, I guess it would be more to the NOP and to try to encourage within the USDA that the data that's being collected really be vetted before it's put out in the survey, because if somebody like me can just go on the NOP website and see a difference in the number of operations than what the NASS comes out with, then there's a problem.
MR. STRAUS: I can just talk to the point of there's the Milk Marketing Board, there's the National Milk Marketing Board that tracks all milk production and milk sales in the United States, except for California. So, that's one avenue, but so there're different avenues within the USDA that you could probably get more accurate information, more timely and accurate information.

CHAIR FAVRE: Miles, do you want to respond to that?

MR. McEVOY: Yes. The survey, the NASS survey, uses a different methodology for gathering information on statistics in organic agriculture and has different numbers because they use a different methodology. It's a survey methodology that's established through the way that the Ag Statistics Service does those particular surveys whereas the integrity database is based on information that's provided by certifiers.

So, they're different data sources. They're both important in terms of providing
information on the organic sector.

And, Albert, what you were talking about was probably the AMS market news data, is that ---

MR. STRAUS: Yes, I think so, where they show like a five percent increase in organic dairy sales or something like that.

MR. McEVOY: Yes. So, if you have specific comments on that, if you could get that to me and I could get that to the market news folks, and we can get them to understand what the issue is and make changes as appropriate.

MR. STRAUS: Appreciate that.

CHAIR FAVRE: Dan, you had a question?

MR. SEITZ: A couple questions.

First, could you finish your thought on the true cost of food data that you're developing and how that may affect the work that we do, what the relevance is of that to us. And keep it fairly brief, please.

MR. STRAUS: Right. So, the other part of that is we have a 20-year plan for carbon
farming to sequester a 2,000 metric tons of carbon dioxide equivalent on our farm per year.

What I'm looking at is how can you relate that to organic farming benchmarking and showing that you're actually improving soil and also being a positive part of climate change.

MR. SEITZ: And then the question on the remaining two parasiticides where the withholding time was substantially dropped, my understanding was that that still wouldn't affect the quality of milk even though it was a substantially shorter time, but I'm wondering if you maybe have a different point of view on that.

MR. STRAUS: So, in the 23 years or 24 years that I've been organic, we haven't used a parasiticide on a milking cow in that whole time. And I don't think there's a need for it.

It was a marketing ploy by the pharmaceutical companies to say that you could get more milk production.

So, allowing for a short withdraw time sends a mixed message to farmers that you're
allowing this even though there's no real use for it or it's going to cause more problems for processors to say, you know, how are we going to test for this stuff if it's allowed, you know, it gets complicated and I think it just leads to a broken system.

MR. SEITZ: Thanks.

CHAIR FAVRE: Thank you very much.

MR. STRAUS: Thank you.

CHAIR FAVRE: Next up is Christian Schlect with Lynn Coody on deck followed by Andrea Ferrenz.

MR. SCHLECT: My name is Christian Schlect and I serve as president of Northwest Horticultural Council which is located in Yakima, Washington. And we were founded in 1948.

The Northwest Horticultural Council represents growers, packers and shippers of apples, pears and cherries, both conventional and organic, in Idaho, Oregon and Washington on regulatory issues of federal and international policy.
While the NHC submitted written comments on a number of issues before you today, I am focusing my oral arguments or comments to support for allowing the continued use of EPA list 3 inerts in the National Organic Program.

Of particular interest to our growers, this list includes materials used in the construction of passive pheromone dispensers.

I might add that these dispensers do not touch the fruit nor the soil, which is, I think, from yesterday's conversations, fairly important to a lot of people.

In many ways, the Pacific Northwest is the center for organic palm fruit and cherry production in the United States. Part of this is because of the climate.

Washington state is the national leader in the production of organic apples, pears and cherries. Over seven million boxes of organic apples are now harvested from more than 14,000 acres amounting to over 70 percent of the entire organic apple crop in the United States.
There is also a significant amount of organic pears and cherries with more than 4,000 acres planted across the Pacific Northwest.

Organic tree fruit production is increasing and we have more acres being transitioned to organic each year.

Passive pheromone dispensers are an essential tool for controlling Codling Moth, which is one of the most damaging pests of apples and pears in the Pacific Northwest and elsewhere.

Codling Moth larvae feed directly on the fruit penetrating it. As it tunnels to the core, the larvae leaves behind reddish brown dropping called "frass," rendering the fruit unmarketable.

If left uncontrolled, Codling Moth can cause considerable crop damage often infesting 20 to 90 percent of the fruit and costing growers millions of dollars annually.

I could add also that, and most of you know this, but trees only have one crop per year. So, if you lose that crop because of insect problems
like Codling Moth, that grower has lost the ability
to have any income for 12 months, unlike some
vegetable crops that could be rotated.

Codling Moth can be hard to control
especially if the population has been allowed to
build up.

In the Pacific Northwest, there can be
two to three generations of Codling Moth per year.

Passive pheromone dispensers are used
for mating disruption of Codling Moth is a very
specific control tactic that does not harm natural
enemies or other pests. There are no other
alternatives to control Codling Moth.

CHAIR FAVRE: Thank you.

Questions? Harold.

MR. AUSTIN: Chris, I've got two
questions for you.

First one is if we didn't have the
ability to utilize mating disruption in organic
production in the northwest, would we have organic
tree fruit production in the northwest?

MR. SCHLECT: You might have some, but
it would not be commercially viable. Apples can
grow, as you well know, and have grown throughout
history. But to be a commercially viable
industry, it would be impossible, in my opinion,
to have our organic industry and growers growing
organic crops without this particular product.

MR. AUSTIN: Second question. With
the recent implementation of FSMA, what impact does
that have on our organic crop production, as well
as our organic handling from a food safety
perspective as that pertains to the sanitizers and
disinfectants that are currently allowed for use
in organic production?

MR. SCHLECT: Well, that's an
important question that I think this group is going
to have to wrestle with into the future is FSMA,
the Food Safety Modernization Act, as many of you
know, sets new federal standards for production of
food and specifically in the produce industry.

Those regulations that are coming out
now and or becoming finalized require a great deal
of attention and require obviously that the food
be supplied, be safe. And that requires sanitizers and warehouses. It requires other materials and, you know, and it would be our hope and expectation that those kinds of products would be allowed to meet the public need as required by FSMA and by the consuming public.

CHAIR FAVRE: Harriet.

MS. BEHAR: Since the actual List 3 list of inerts no longer exists or it's not being maintained by the EPA, are you finding that -- because you're probably just -- the items would be what had been on the old List 3. So, I'm just wondering if that is stifling the possibility of new materials being used, because we can't go beyond what had been there.

MR. SCHLECT: You know, I don't know the answer to that. I'm not a scientist or a technical person on that subject, but we can get you an answer.

Obviously, the more of these materials that are available --- all we're concerned with is having the pheromone trap in the orchard, and I
don't know how you get there other than, you know, keeping the present materials available.

If there's materials, we're open to it, but I'm not an expert enough to answer your question.

CHAIR FAVRE: Thank you very much.

MR. SCHLECT: Uh-huh.

CHAIR FAVRE: Okay. Next up is Lynn Coody with Andrea Ferrenz and Marni Karlin on deck.

MR. COODY: Hi. My name is Lynn Coody, and I'm presenting comments for the Organic Produce Wholesalers Coalition which is comprised of seven businesses that distributes fresh organic produce to customers located across the US and internationally.

In our comments to the NOSB, we work to express our own ideas, as well as to provide a channel for the voices of the many certified growers who supply our businesses.

OPWC agrees with the Crop Subcommittee about all the petitioned materials being considered at this meeting. None should be added
to the National List except for soy wax for which we provided a suggestion about a change in its annotation.

We do support relisting of all of the 2018 crop sunset materials, particularly peracetic acid, as a sanitizer and disinfectant and for controlling phytopathogens.

In our internal polling process, both growers and handlers specifically mentioned the need for using peracetic acid against fire blight now that antibiotics are prohibited for that purpose.

Our comments mainly focused on the bigger issues of bioponic and container growing. After a lengthy discussion, we asked that the four defined classes of ponic operations be considered individually to determine specifically which of their practices meet organic standards and which do not.

To respond to the discussion document on container growing, we took a slightly different approach than did many other commenters.
We looked for points of commonality between all types of growers who have been working in good faith to comply with organic standards and we presented an example of a middle ground principle approach for regulating container systems that reflects organic principles.

We think that at this juncture, the decisions on containers and hydroponics are likely to have a negative impact on both bioponic and field-based growers because so many ponic operations have already been certified.

This situation is troubling to us. We see it as a direct outcome of the NOP's accreditation program allowing certification of operations for which standards are insufficient to address the needs, conditions and concerns related to specialty production practices.

This is a failure at the top of the regulatory system, not at its foundation. However, until this problem is addressed, we fully expect this same dynamic to occur with regard to other scopes of certification as well;
unfortunately, with operators bearing the brunt of the functioning in an uneven environment.

We urge the Board to send the hydroponics issue back to the Crop Subcommittee to be considered in light of the information submitted by the container and greenhouse discussion document, which is part of a continuum of practices with hydroponics.

In addition, we ask the CACS to reexamined implementation of a continuous oversight system for NOP's accreditation program as a way to identify and correct systemic accreditation problems before they result in the organic version of too big to fail.

CHAIR FAVRE: Thanks, Lynn.

Harriet.

MS. BEHAR: So, I'm wondering if you're suggesting that it's maybe somewhat similar to aquaculture when we did have, started to have, some organic aquaculture operations in the US and then we decided there really was not good standards. And so, the USDA seal was no longer allowed and
certifiers were no longer allowed to certify.

And we went back and did that sort of reassessing and developed a, well, we're in process of developing a scope for organic aquaculture products.

Do you think hydroponic, bioponic and all the ponics should go through a similar process?

MS. COODY: I think there's a significant difference in those two situations, because there has already been a signal from the USDA that it's okay to certify hydroponic operations and there are some already certified as organic whereas under aquaponics, that was not the case.

There was a little bit of a difference in that we were experiencing threats or incursions from other certification systems about aquaponics.

So, I do not think that there should be a moratorium on certification at this time until -- I think we need to think about each of the individual types of ponic operations, decide which ones --- if there are inherent differences or
problems with some, or some individual practices, and actually write standards that tell whether or not certain types of container and hydroponic operations are within principles of organic.

And I think we need to take a look at all of the information that's come in from growers that have been using these systems in this lovely process of public comment that the NOSB has provided.

The hydroponics paper that the NOSB put out was proposed before this information was available from the public. So, I think it's good to go back and rethink it.

CHAIR FAVRE: Harold.

MR. AUSTIN: Hi, Lynn. Thanks for the comments that you submitted. They were great.

If we were to refer this back to the subcommittee for review and further work, should we leave it as it exists and have all of the various processes lumped under bioponics, or would we be better served to break that up into individual categories?
MS. COODY: Well, in our written comments, we did express that we were thankful for the definitions of the four types of ponics operations that you provided. And we feel that that is a better starting point than having them lumped together, because they're significantly different in the way that they use different media and the way that they are actually managed.

Some, in our view, are more aligned with organic principles than others. So, we think that there should be more differentiation and a more careful approach.

CHAIR FAVRE: Dan.

MR. SEITZ: Just a clarifying question based on Harriet's question. Are you saying that there should be a moratorium on more certifications? No. Okay.

MS. COODY: No. I think that since the NOP had given a signal to certifiers at least that some of the certifiers understood that it was okay to do certification at this time until there is clarity about exactly which types of operations
should be, can be considered to be organic, that certification should proceed as it is right now.

Although, I think that certifiers need to understand that this is a fluid situation and fully explain that to operators before they are putting these millions of dollars of investment into ponic-type operations.

I think there needs to be a lot more open and transparent discussion about this at every single level, because the problem is we moved forward without having standards. You cannot run a regulatory system without clear standards, and that's where we went wrong, in my opinion. Thanks.

CHAIR FAVRE: Francis --- wait. Hang on, Lynn. Francis hiding behind the pillar over here.

MR. THICKE: Well, based upon what you said, though, my concern is, though, do you have that concern that if we put it off for another year, that there will be more certified hydroponic operations that may have to then be taken away later? Would that make it more difficult?
MS. COODY: I do have that concern, and that's why in my comments I expressed that it would hurt --- that the situation that we're in now will hurt both ponic growers, current ponic growers, and current field-based growers.

I think we're in a really tough situation and I'm not worried that there would be more ponic-type operations. What I'm worried about is that there would be more that would end up being noncompliant with the eventual standards that will promulgate so that a subset of them will probably be deemed to be noncompliant.

And so, yes, I am concerned about that. That is the damage that I feel will occur to the growers that have put in good faith, have proceeded with organic certification as explained to them by both their certifiers and the NOP.

CHAIR FAVRE: Okay.

MS. COODY: Okay.

CHAIR FAVRE: Now, You're free to go.

MS. COODY: Thank you.

CHAIR FAVRE: Thank you, Lynn.
Okay. Next up is Andrea Ferrenz and then we've got Marni Karlin and David Colson on deck.

MS. FERRENZ: Good morning. My name is Andrea Ferrenz. I'm regulatory director and associate general counsel with Innophos.

Innophos is a US company that manufactures ingredients for foods, dietary supplements, pharmaceuticals and other markets.

Our ingredient products include botanicals, enzymes, minerals and, if you haven't already guessed from our name, phosphates.

Through various corporate owners, names, acquisitions, the company I work for has manufactured phosphates in different compound forms for over a hundred years.

We know phosphates. We know how they work in foods, because we have spent decades perfecting our phosphate products by making in our food testing lab thousands of muffins, cakes and cookies, thousands of pounds of meats and cheese products and thousands of liters of drinks.
Phosphorus combined with sodium has a different food chemistry than phosphorus combined with calcium even though both compounds are phosphates. That is why there are multiple phosphate compounds on the allowed list.

Simply stated, they do different things in different types of foods for a diverse US food culture.

We know how phosphates taste in foods. If you use too much or too little, phosphates change a food for the worst because of flavor and/or mouth feel.

We know this, because we have run hundreds of food taste tests. Our staff is well-versed in how too much or too little phosphates could make a food unappealing, unappetizing or plain awful.

The National Organic Program has a philosophical goal of organically-labeled products being made of wholly organic agricultural ingredients. That is not achievable right now.

Phosphates are needed for organically
labeled foods that need non-yeast leavening, foods
that need to keep insoluble ingredients in
suspension and foods that need to retain moisture
and texture of the shelf life of the product. I'm
talking about prepared organically-labeled foods,
ot not raw organic foods.

Right now, there are no organic
alternatives or even non-organic agricultural
alternatives that can do what phosphates can do for
prepared organically labeled foods.

Phosphates make it possible for
consumers to access the convenience of prepared
foods with organic ingredients. That would not be
an option if it were not for the phosphates in the
allowed list today.

USFDA --- oh, sorry. Here we go.
USFDA has found the phosphates on the allowed list
to be safe when used at typical levels in the US
daily diet, a diet that relies heavily on prepared
foods.

The Handling Subcommittee's conclusion
that there is a cumulative impact of phosphates and
that high levels of phosphates can result in a range of human health problems is not supported by the weight of scientific evidence as that fact found in CATO research review of 110 peer-reviewed articles is impossible to make those conclusions based on that unbiased analysis of the science.

The notion that phosphates are hidden described in Technical Report Question 7 is that they are present in significant amounts in processed foods without appearing on the products ingredient list is simply not the case.

The US insignificant food ingredients labeling exception is narrow. It does not apply when phosphates are used for the functional effects I have described. Thank you.

CHAIR FAVRE: Good job.

Harriet, followed by Harold.

MS. BEHAR: So, I have two questions. One is, how many different phosphates are there in use in foods? And the second is, my understanding is especially in dairy products, that at times the phosphate binds with the calcium
making it unavailable to the consumer of the product and that some people then move to like a sodium citrate for the emulsification in, like, dried cheese, for instance.

MS. FERRENZ: As to your second question, I'm going to have to say I'm a regulatory attorney, so I can't answer that piece. But if you'd like more information, I'm sure we can get you some.

As to your first question, another IFAC member, Dr. Korff, spoke yesterday. I think you asked her the same question and she said about 20 to 30. I think that's about right.

CHAIR FAVRE: Harold.

MR. AUSTIN: So, in the different studies that were reviewed and the information that was gathered, did you guys happen to stumble across any information that would show is there a difference in the level of phosphates used in conventional-produced food versus that of organic-produced food, consumer ready?

MS. FERRENZ: I don't recall seeing
that in the literature.

CHAIR FAVRE: Thank you very much.

Next up is Marni Karlin with David Colson and Marco De Leonardis on deck.

MS. KARLIN: Good morning and thank you for the opportunity to testify before you today. It feels kind of like a family reunion to be back.

My name is Marni Karlin from Karlin Strategic Consulting, and I am here today on behalf of Munger Farms, a multi-generation, family-owned, certified organic blueberry farm located near Bakersfield, California.

I am here today to testify in support of your continued work clarifying what is necessary for container operations to be certified organic.

Munger Farms is dedicated to responsible organic farming, including organic container production.

We support your continued work to create transparent and enforceable regulations regarding organic container production so growers can confidently continue to invest in clearly
defined practices that certifiers can consistently certify.

As you know, the OFPA requires organic production to respond to site-specific conditions by integrating cultural, biological and mechanical practices that foster cycling of resources, promote ecological balance and conserve biodiversity.

As you continue your important work on this issue, we urge you to approach it from this perspective, not with arbitrary and overly prescriptive rules about the size of the container or the quantity of compost, but by considering the merits of each system and its adherence to the organic principles.

Organic is about this set of principles that farmers meet by having a clear understanding of the specifics of their location, their plants, their needs.

This, of course, makes the work of organic farming and organic certification difficult, because there's no one-size-fits-all
answer, but it also makes organic meaningful because it adheres to a set of principles rather than just meeting an arbitrary list of numbers.

My colleague, Robert, will speak later today about specific practices used by Munger Farms and its partners to foster cycling of resources, promote ecological balance and conserve biodiversity.

For now, I'll just note that their practices create biological activity in the containers, use borders to attract beneficial insects, conserve irrigation water, conserve the use of organic fertilizer, use less land, maintain or improve soil organic matter content, provide erosion control and reduce runoff into our waterways.

Container production relies on biological activity for its success and we urge you to continue your important work to draft a clear recommendation for guidelines for organic container production based on the principles underlining the OFPA and the USDA organic
regulations. And I'd also encourage you to convene a panel of scientific experts to inform your work along those lines.

Thank you all, again, and particularly those of you whose terms are ending this meeting, for your volunteer service to the organic sector as a whole. We appreciate your time and your dedication to ensuring a vibrant future for the organic community. Thank you.

CHAIR FAVRE: Thanks, Marni.

Questions?

(No audible response.)

CHAIR FAVRE: Thank you very much.

MS. KARLIN: Thanks.

CHAIR FAVRE: And next up is David Colson. We've got Marco De Leonardis and Suren Mishra on deck.

MR. COLSON: Good morning and thank you for your work on behalf of organic agriculture and the National Organic Program.

My name is David Colson. I'm the agricultural services director for the Maine
Organic Farmers and Gardeners Association, but I'm speaking to you today as an organic farmer growing and marketing in Portland, Maine for over 30 years.

When I became interested in agriculture in the early 1970s, I chose a path of work and school to prepare for a potential future in farming.

During my first year at Ag school, the soil science teacher declared soil was necessary on the farm in order to hold up the plant while we fed it chemical fertilizer.

It seemed to me and a small group of friends, that the soil was much more than that. And we formed a study group to investigate that idea.

Organic farming, at the time, was a threatening subject to many of my fellow classmates and I ended up leaving Ag school to pursue other alternative learning situations, including working on both conventional and organic farms.

Fast forward five years and I was fortunate enough to purchase a worn out farm north of Portland, Maine. While the soil was relatively
deep and stone-free for Maine, the earliest soil tests showed a depleted soil mined of its nutrients and in need of serious restoration.

Over the next three decades, my wife and I worked to rebuild our soil not just by adding some needed nutrients at specific times, but by utilizing cover crops, crop rotation and farm-made compost to build soil nutrient reservoirs and microbial life within our soil.

Our goal in this regeneration was not just to add nutrients to grow that year's crop, but to build the soil so that it provided a resilient buffer against climate and nutrient availability factors that helped maintain the resiliency and success of our farm.

No soil, no damage? This argument misses the point. Producing crops indoors in naturally-degraded environments or covering the soil with landscape fabric for container production may not cause soil loss through erosion, but does nothing to regenerate the soil for food production for future generations.
A cousin of mine once characterized farmers as dirt charmers. While a humorous phrase, this also characterized the true nature of agriculture based on the soil.

While I have no issue with hydroponic production in its many forms, I believe that to characterize it as organic goes against the true nature of organic agriculture.

CHAIR FAVRE: Thank you.

Questions?

Harriet.

MS. BEHAR: Do you think that organic consumers, your customers, buy your crops because they see you as a solution to some of the problems, or only because you're not using toxic materials on your crops?

MR. COLSON: Well, I think to characterize the consumer as any one thing is difficult, but I think, in general, consumers recognize that there are a myriad of reasons why they buy organic and why farmers choose to buy organic and the environmental piece of that is
certainly one.

CHAIR FAVRE: Thank you very much.

MR. COLSON: Thank you.

CHAIR FAVRE: Next up is Marco De Leonardis. And on deck is Suren Mishra and Gregory Cunningham.

MR. DE LEONARDIS: Good morning. My name is Marco De Leonardis and I have a Master's degree in Agriculture. I am research and development manager at Freeman Herbs in Ontario, Canada.

I am here to support the concept that organic container-grown plants are legitimately organic.

Firstly, what is organic agriculture? Organic agriculture is a sustainable, holistic, production management system which promotes and enhances agro-system health, including biodiversity, soil biological activity and recycling of material and resources to the greatest extent possible with the intent of protecting the environment, decreasing pollution and promoting a
sound state of health.

At Freeman Herbs, we grow plants in compostable, certified organic rice-husk pots, using the soil substrate composed of peat moss, turkey litter compost rich in microbes, which are responsible for the release of the nutrients to the plants.

Therefore, I can confidently assert our plants are grown in a healthy, biological active soil not different at all from the soil found in the crust of the earth.

Water conservation due to global warming is a matter of concern. By recycling our water, we follow the principle of sustainability. We need much less water to grow our plants than if we were growing in the crust of the earth.

Furthermore, nutrients do not leach away and pollute the natural water system as it often happens, if not, in open fields.

Using a compost soil media and an integrated pest management program based on the release of beneficial insect, we prevent problems
rather than react to them creating an ecologically sound environment where there is a balance between predators and pests. Thus, promoting and conserving biodiversity.

Secondly, why consumers buy organic food? Nowadays as we are experiencing a continuous increase in allergies and cancers, consumers are becoming more and more health conscious and organic food is, in the majority of the case, chosen because it's pesticide free and a healthier choice.

Being able to buy a certified organic potted plant gives them the opportunity of planting it in their garden, if they have one, during the spring and summer.

Alternatively, it can be kept in a pot and harvested whenever needed during fall and winter.

The demand for organic food is, for this reason constantly increasing, and only through organic certification the consumer can be certain that they truly buy organic food as certified
growers are inspected on a yearly base.

Our recultivatable land, however, is becoming scarce and more expensive. And if you consider it, already over 40 percent of the organic production is come from greenhouse -- greenhouses, I believe it's impossible for the field-grown organic product to meet the increasing demand.

I believe it's unfair to deprive the end consumer of sustainably-grown, potted, organic certified, live plants.

I would like to thank the members of the National Organic Standards Board Committee for the opportunity for me to talk such an important matter.

CHAIR FAVRE: Thank you.

Questions?

(No audible response.)

CHAIR FAVRE: Thank you. Thank you for coming.

Next up is Suren Mishra, followed by Gregory Cunningham and Reza Pahlevi.

MR. MISHRA: Good morning, all of you.
I represent Tetra Technologies and I manage business development for them. I have but a very simple question to the Board.

We have been allowed calcium chloride application for full year, but not for soil and I would like to just visit the subject. Our petition is pending for soil application.

If you look at calcium chloride, how it has been allowed, if you read it--- if you look at that, what does it say?

It allowed, calcium chloride was allowed, with provision. The provision was calcium chloride brine process is natural and prohibited for use except as Ufolia spray to treat physiological disorder associated with calcium uptake.

What does that mean? It is only allowed for soil application, and that's what I read.

I would like you to go back, look at how potassium chloride has been allowed. And if you look at potassium chloride, the provision is unless
derived from a mine source, as a matter of fact, both of these products, calcium chloride and potassium chloride, which have been allowed, they are all mined products. Of course, both can be manufactured, too. And applied in a manner that minimizes chloride accumulation in the soil, yes. Applied in a manner, right? That means it can be applied to soil.

I would like to compare these two products. Both are essential, the fact potassium chloride is allowed and calcium chloride is not. That's the question.

Both high electrolytes, both are highly soluble, water soluble. Calcium, potassium, chloride, all are known to be nutrients.

As a matter of fact, potassium chloride — potassium is a primary, calcium is secondary, and chloride is well-established as a minor nutrient as well.

If you look at calcium chloride, usually we do not use anything around --- it can go only up to 350 pounds per acre. But if you look
at potassium chloride, it can go a thousand pounds per acre.

So, what does that mean? It means if you are looking at the chloride problem/issue, then you have more a problem with potassium.

And I would, I will request the Board ---

CHAIR FAVRE: I'm sorry, we ---

MR. MISHRA: -- to review it again.

Petition is pending and that's all my -- I have made submission and you like to look through that, please.

CHAIR FAVRE: Thank you.

MR. MISHRA: Thank you.

CHAIR FAVRE: Zea, you had a question, followed by Francis?

MS. SONNABEND: Yes. Are you aware that we have a petition process that you could use if you would like to have it changed? And all you have to do is file a petition.

You can talk to either Lisa Brines back in the corner there, or Jessica Walden when she gets
back, and maybe Lisa wants to say something about it.

DR. BRINES: Yes. Thank you, Zea. Yes. Just a clarification for the Board in terms of what the status is of the petition.

So, Mr. Mishra did submit a petition in 2015 that the NOP had evaluated and sent to the Board for review. And a determination was made by the Crops Committee at that time, that that petition was ineligible based on the lack of new information from the previous review for this material.

Since then, there has been another petition that was submitted, I believe it was sometime in the summer of 2016, which is still under NOP review for eligibility.

So, we're still going through all of the background information to determine whether there's adequate, new information to have the Board take another look at this material, but it has been submitted and is under review by NOP. Thank you.

MR. MISHRA: Thank you.
CHAIR FAVRE: Francis, did you have a question?

MR. THICKE: Yes. I'm just curious where you got the number, a thousand pounds per acre is allowed of potassium chloride? Where did you get that number from?

MR. MISHRA: Yes. Potassium is a primary nutrient ---

MR. THICKE: I understand, but you said ---

MR. MISHRA: -- and it can go up to a thousand parts per million, a thousand pounds per acre.

MR. THICKE: In organic?

MR. MISHRA: Yes. That's--- potassium chloride can go up to that.

MR. THICKE: I'm not familiar with that.

MR. MISHRA: If you're looking for potassium nutrient ---

MR. THICKE: I understand that.

MR. MISHRA: -- you can go higher.
MR. THICKE: I guess I would also say as a side comment, perhaps one of the reasons why originally it was this way is that calcium is available readily through other sources in organic like calcium carbonate and calcium sulfate, whereas potassium has more limited options, I think.

MR. MISHRA: With due respect, they are there, but they are not available. And soil conditions are not always, you know, good for that availability. It has to be acidic. You have to acidify them to get those carbonate into calcium form. But in case of calcium chloride is soluble, it will be available.

And it can be available at the PHA level. And I don't think we're farming up to that level.

MR. THICKE: Well, actually calcium sulfate is more soluble in --- non high-pH condition sulfate.

MR. MISHRA: Well, calcium sulfate is comparatively very, extremely solid.
MR. THICKE: Exactly. And that's why organic does not go for highly-soluble nutrients.

CHAIR FAVRE: Okay.

MR. MISHRA: As a matter of fact, I would love to talk to you on that subject. Thank you.

(Laughter.)

CHAIR FAVRE: Yes. Maybe take that one off line. Okay.

MR. MISHRA: Thank you.

CHAIR FAVRE: Thank you very much.

All right. Next up is Gregory Cunningham, followed by Reza Pahlevi. And then we've got ---I can't read your writing, Michelle. I think it's Ani Hurtado. Thank you.

MR. CUNNINGHAM: Good morning. I am Greg Cunningham, manager of regulatory affairs representing the Scotts Miracle Gro Company.

Established in 1868, Scotts is the world's leading supplier of consumer lawn and garden products.

We provide conventional, organic and
hydroponic fertilizer in growing media products to consumer gardeners.

The requirements for organic certification under the NOP are established in the Organic Food Production Act.

The OFPA prohibits use of certain synthetic substances and establishes a framework for NOP regulations governing processing and handling requirements to prevent synthetic residue on certified organic products.

The OFPA has, however, never required predetermined inputs or mandated any type of growing media and was never conditioned on consumer expectations.

Interpreting the regulations as prohibiting hydroponic and aquaponic operations from being organically certified is inconsistent with the clear statutory framework and purpose of the NOP.

Specifically, the OFPA never limited organic certification to any of those operations using soil as growing media.
The mention of soil in the statue merely references a factor to be considered as part of the organic plan, not as a prereq for certification. Likewise, while producers must ensure soil fertility is not depleted during production, this does not require soil to be present in the organic operation.

In fact, hydroponic systems meet these provisions by preventing exposure to prohibited synthetic substances while also ensuring products are grown in a sustainable and environmental-friendly way.

Further, consumer expectations are not a determining factor in organic certification under the OFPA or NOP. There are numerous examples where consumer expectations do not align with the regulatory framework.

This was apparent in the recent discussion at the USDA FDC roundtable which highlighted the varying consumer expectations of what organic means in a non-ag context.

In summary, the NOP should continue to
allow the USDA-accredited certifying agents to evaluate hydroponics and container growing operations to ensure that they meet all requirements of the NOP and OFPA.

If it is deemed that hydroponics should not be allowed, we look forward to participating in the rulemaking process with the USDA to specifically add regulations specific to hydroponics and aquaponic operations.

We also look forward to the discussion regarding container growing requirements in any rulemaking process in the future. Thank you for your time and consideration of our comments.

CHAIR FAVRE: Emily.

MS. OAKLEY: Hi. Thank you.

Could you tell me what your hydroponic fertilizers are composed of, what materials in particular?

MR. CUNNINGHAM: So, hydroponic fertilizers that we have for the hydro market, we don't have a lot of hydro fertilizer. We do have, you know, the coco coir, some of the growing medias
that are used in the hydromarket. I'm trying to
think here real quick.

    I believe we have a soy protein, but we
don't have extensive hydro line of working
fertilizers.

    MS. OAKLEY: It seemed in your comments
that you were saying that you do provide
fertilizers for the hydroponic industry.

    MR. CUNNINGHAM: We do supply
fertilizers. It's not a significant amount of
different types, but we also on the container side,
we provide a lot of organic potting mixes and
substrates. So, that is where the bulk of our
providing to the home gardener is.

    MS. OAKLEY: So, you would say that
your hydroponic fertilizers are limited to coco
coir and soy protein?

    MR. CUNNINGHAM: I can get you a better
list.

    MS. OAKLEY: That would be great.

    MR. CUNNINGHAM: Okay.

    MS. OAKLEY: Thank you.
MR. CUNNINGHAM: Yes.

CHAIR FAVRE: Thank you very much.

MR. CUNNINGHAM: Thank you.

CHAIR FAVRE: Next up is Reza Pahlevi, followed by Ani Hurtado and James McKim.

MR. PAHLEVI: Board chair and board member, good afternoon. My name is Reza Pahlevi Chairul. I am the trade attache in the Indonesian Embassy in Washington, D.C.

First and foremost, I would like to thank you for the opportunity to speak to you today and Indonesia looks forward to strengthening bilateral cooperations with the United States government and work with members, including in relation to carrageenan.

In my comment, I just would like to note a number of matters that need to be prudently considered as the Board makes recommendations on carrageenan.

Carrageenan is a matter of important for Indonesia, because my country is a major producer of this product and some of which are used
as raw material to produce carrageenan.

Indonesia is also home to hundreds of thousands of small seaweed farmer who rely on the economic opportunities presented by seaweed farming.

The seaweed industry provide seaweed farmers who are living in coastal area, an opportunity to harvest and live off marine resources.

This is one of drivers of Indonesian economy growth and rural development. This has led Indonesia to identify seaweed as one of the strategy communities because it has a high economic value for our citizens while its production support the livelihood and development of coastal communities.

Having noted this point, I want the Board to be mindful that de-listing carrageenan would likely substantially affect demand for carrageenan around the world and will impact seaweed farmer livelihood in Indonesia.

A reduction in demand for seaweed will
lead to job loss for these farmers. So, the Indonesian government is concerned about these consequences of the National Organic Standards Board decisions, and hopes the Board will consider them when making decision about carrageenan.

As such, we respectfully request the Board to re-list carrageenan on the National List as permitted ingredients in processed organic food in the United States.

I thank you for your cooperation and am looking forward to the positive result of your wise decision. Thank you.

CHAIR FAVRE: Jean, and then Emily.

MS. RICHARDON: The question I have for you is that of all of the carrageenan that's produced in Indonesia, what percentage of that goes to organic uses?

MR. PAHLEVI: I think, thank you. I think this is a very good question. We don't have exact data, actually. But based on the data from US Custom, Department of Commerce, Indonesia export seaweed to United States just 1.5 million
last year in 2015. And for carrageenan, almost five million.

So, I don't know exactly from this data exactly to the processed organic food in United States. Just assume all, I think is not too big. I don't know. This is just the data for export. Smaller amount, probably, but this has potential and economic and social demands/effects for Indonesia.

CHAIR FAVRE: Emily.

MS. OAKLEY: I think my question should have been a precursor.

So, what percentage of Indonesian seaweed farmers are harvesting carrageenan?

MR. PAHLEVI: In 2015, the production around 11 million tons. And 50 percent going to China. 20 percent we manufacture locally. And 30 percent we send to others, like Philippines and the other countries.

So, I think now we try to develop this industry because is not only about food product, but also like the other industry like cosmetic and
--- cosmetic and medication.

So, that's why we welcome international collaboration on this and we believe that we will have, for example, like joint international certification program for USDA. It will be good to have cooperation between the two countries.

MS. OAKLEY: So, is a hundred percent of the Indonesian seaweed farming from carrageenan, or is it from other seaweed sources?

MR. PAHLEVI: Sorry, what do you mean?

MS. OAKLEY: I mean what percentage of the seaweed that is farmed in Indonesia is from carrageenan versus other seaweed?

MR. PAHLEVI: Based on the data so far, I need to double-check, but as long as I know, it's around 70,000 farmers. And carrageenan will benefit them, you know, to support their life. And then we'll have multiplier effect to benefit the entire communities.

CHAIR FAVRE: Okay. Dan, followed by Harold.

MR. SEITZ: Can you tell us about the
Indonesian laws and regulations that promote sustainable and ecologically sound harvesting of seaweed?

MR. PAHLEVI: Yes. I think right now what the recent precedent by Joko said that we will like to become American country because if you see, we have 17,000 islands in Indonesia. Almost a total third of our area is sea.

And we now try to create a roadmap right now to develop this industry. And of course the issue of sustainability, we need to focus on this.

But because we are developing country, we have so many problem, but of course the issue of sustainability issue, but environment we are taking seriously on this issue.

And even for the global climate change we are a member of global climate change conference. So, I think we've put seriously consideration on the issue of sustainability.

CHAIR FAVRE: Harold.

MR. AUSTIN: So, based on the fact that we've had this conversation as a board, those of
us that are on it, two times now in the last five years, if we were to consider relisting carrageenan for one more session, one more sunset cycle, would the Indonesian government be willing to work with the grower population and the manufacturers that produce the end product, the carrageenan that's ultimately used, to try to work with those growers to establish a process to where they could look in and take an approach to consider trying to help those growers become organically certified seaweed farmers in this process?

Would that be an option? Otherwise, we could either choose to de-list it, which does those people no benefit, or we could say what if we gave you an additional five years, but now we're throwing the onus back to you to begin to look at a way to help those guys try to achieve organic certification.

MR. PAHLEVI: Yes. Thank you. And, like I said, we welcome international collaboration especially under the new administration for President Trump.
And if I may say that actually for Indonesia, there are two aspects. The first aspect is about the potential of this industry, you know, because seaweed is to meet the increasing demand for increasing populations. And so, like I said, seaweed is our future.

And the second aspect is about the social and economic dimension for Indonesia. First, this is lucrative cash crop and benefit, again, 17,000 farmers for Indonesia. And cost to of environment Indonesia is viable and commercially meaningful to develop seaweed cultivation farming.

So, like I said, so that's why it— I mean, we welcome international collaboration and we need support on this, your suggestion to have certification program with Indonesia.

CHAIR FAVRE: Okay. Last question from Harriet.

MS. BEHAR: So, is your concern about the loss of, you know, the economic impact if carrageenan came off, is it from the loss of the
use in organic, or the perception by the non-organic food processing community that since organic has chosen not to use it, that perhaps they may choose to remove it from their label and their process as well?

MR. PAHLEVI: Well, here, I bring the petition from almost 17,000 Indonesian farmer who said -- who expressed their concern about this because it will impact -- it will impact their life. They have a chance to get better life. They have a chance to send their children going to school to get better education. So, I don't know. And I believe even still small number, but it will have a big impact. Immediately impact them.

More importantly, we will impact globally. And also probably, in my point of view, it will make food companies upset about -- who use carrageenan upset about this issue, because they listing -- or relisting.

So, I mean, there are two perception. First one in perception with carrageenan because now if you see on the social media negative impact,
I think we need to respond. If proof -- if proven carrageenan is not good, okay. But if not, is not fair for us.

And the second one about the president, if the Board take a decision to de-listing carrageenan, other companies, for example, EU will follow and it's not -- it's not good for Indonesia. I mean, it's not fair.

CHAIR FAVRE: Thank you very much.
Next up is Ani Hurtado, followed by James McKim and Peggy Miars.

MS. HURTADO: Good afternoon. I am a recently retired scientist with more than 30 years of experience advising seaweed farmers of crop science and management.

I'm here at the request to speak on the importance of carrageenan, being able to retain its organic status in the upcoming sunset review.

The Philippines seaweed carrageenan industry is a 45-year-old industry which involves 1.2 million seaweed farmers, 16 carrageenan processors and production of 1.5 million in 2015
second largest export commodity worth $264 million US dollar with USA, China and EU as the major buyers. The Philippines is the top producer of carrageenan.

After 45 to 60 days of growing, the carrageenan are harvested and brought to the drying platform using a boat or a canoe.

These are dried for three to five days after desired moisture content is obtained using the method described in the slide. No reported post-harvest activities negatively impact the environment.

A science-based seaweed farm that is managed and operated correctly and properly will ultimately provide more advantages to the marine aqua system especially in biodiversity.

This is the case of farming and carrageenan processing in the Philippines.

Integrated aquaculture of organisms like combined with the culture of inorganic nutrients like seaweeds or organic matter shellfish it is slowly gaining acceptance in the
aquaculture industry of the Philippines. Both commercial and experimental activities are present respectively.

Seaweed has nutrient biofilter and role in the aqua system which primarily increases environmental sustainability, provides economic diversification and reduces economic risk.

The economic efficiency of farming seaweed in the Philippines is attested by this. The capital cost per unit production has this method showed relatively high economic efficiency vis-a-vis other countries.

Experiences were handed down from generation to generation is a manifestation of its economic stability for 45 years.

Economic benefits derived from seaweed farming of only access through education, but also to other basic needs of the family like modest and decent shelter, regular food, clothing, health services, communication, and recognition as community leaders. Seaweed farming serves as an alternative to poverty.
Without seaweed farming, life would be devastated. No health services. In short, life is hopeless. Thank you.

CHAIR FAVRE: That's a tough way to end the comment.

Zea.

MS. SONNABEND: Thank you. I'll ask you the same question I've asked several others. What would be the challenges to having the seaweed certified organic? Why is it not certified organic right now if it's sustainable?

MS. HURTADO: Yes, it will be a big challenge on the part of the Filipino farmers. But meanwhile, there is still organic certification. We are having the best aquaculture practices in terms of farming seaweeds.

MS. SONNABEND: To put it another way, if we removed carrageenan from the list, it would still be able to be used in products if it were certified organic, is that something you could achieve?

MS. HURTADO: Yes, it can be used, but
mostly the majority or the bulk of carrageenan issues. If it is used for pharmaceutical or medical purposes, it's only a small amount. But for food ingredients, it is a big bulk.

MS. SONNABEND: Thank you very much.

MS. HURTADO: Oh, by the way, I have also the petition of the seaweed farmers all over the Philippines.

CHAIR FAVRE: Okay. Thank you.

You have it? Okay.

Next up is -- okay. Michelle has it.

Next up is James McKim, followed by Peggy Miars and Linley Dixon on deck.

MR. McKIM: Good afternoon. My name is Dr. James McKim. I am currently the president of IONTOX Laboratories. I'm a biochemical and molecular toxicologist. I'm board certified in the general area of toxicology and I've spent the last 15 years working on the development and validation of in vitro or cell-based models for understanding chemical toxicity.

I'm here today to talk to you about a
body of literature that tested carrageenan in in vitro or cell-based models and reported that it induced inflammation by very specific pathways.

The problem with this information is that the reports don't match the dietary feeding studies in which carrageenan was used and reported as safe.

In addition, the proposed effects are not consistent with known physical and chemical properties of carrageenan itself.

So, as a result, I was asked -- my laboratory was asked to evaluate these in vitro findings, these cell-based findings to determine the relevance.

We did this in the slide that I'm showing you now, by comparing exactly and very meticulously the work that was done at the Chicago Group. And the studies were designed to repeat and extend the work that was done in those studies.

So, on the left, you can see their work. On the right, you can see the work done in my laboratories. We use the same cell lines, the same
doses. We extended our dose ranges above and below. We used the same exposure times and we have the same key markers. In this case, IL8 and reactive oxygen species.

In addition, in our laboratory we use key positive controls that show that these intercellular pathways are present and functioning -- the other laboratories did not -- and we could not find one reproducible event.

So, here's where we get down to it. These are the mechanisms that are proposed or have been hypothesized from the University of Chicago Group.

The key is that carrageenan has to bind to a receptor on the cell membrane in the liver or in the intestine. And that cell receptor is TLR4.

Once it binds to TLR4, it's proposed that it activates a signaling pathway, which is shown here, that causes the genes to be over expressed and produce pro-inflammatory cytokines, IL8.

In addition, they're proposing that the
pathway crosstalks with insulin signaling pathways, that's the pathway shown on the right, and as a result, you inhibit insulin signaling pathways.

While our work has shown in multiple cell lines that we can't bind carrageenan to TLR4, we can't see any induction in IL8, and if those pathways aren't functioning, there can't be effects on the insulin signaling pathway. It's that simple. And this work has all been published in peer review journals. The citations are listed and I'd be happy to answer any questions.

CHAIR FAVRE: Zea.

MS. SONNABEND: Thank you, Dr. McKim, for your work on this and for coming here to talk to us twice. I have two-part question.

So, I think most of at least the Handling Subcommittee has pretty much accepted your study as verifying that these results achieved by other people have not been able to be replicated. And, yet, we are -- have gotten dozens and dozens of reports from people who experience severe
intestinal distress and other health problems from consuming foods with carrageenan in them.

Some of the carrageenan proponents have flatly stated that the people are making it up and that this is invalid, but -- so, the two parts of this question are, are you aware of any sort of population studies that are done to explore the issue of the food sensitivity there, or do you think it is possible that some people just have a genetic makeup that would lead them to have the food sensitivity to carrageenan? Because no studies have come in to us on this subject.

MR. McKIM: Right. So, I think we'd all be speculating, but I can say that, first, just as a scientist, that anecdotal stories, you know, are tough to deal with. They don't follow a scientific process.

And while I can definitely empathize with people's discomfort, it's really difficult to draw any evaluation from the data.

For example, how do you know that other things in the food weren't involved? How do you
know that they don't have other predetermining conditions that would cause an event? We don't know these things. And so, I don't put much credence in anecdotal stories.

I don't know of any regional or geographic studies that have been done. And you ask is it possible that people could have sensitivities. Well, I suppose just like people are sensitive to peanuts, yes, it's possible. I don't have any data about that.

CHAIR FAVRE: Thank you very much.

MR. McKIM: You're welcome.

CHAIR FAVRE: Next up is Peggy Miars, followed by Linley Dixon with Sam Welsch on deck.

MS. MIARS: Good afternoon. I'm Peggy Miars, executive director of OMRI, the Organic Materials Review Institute.

Today, I'm commenting on something that's not on this week's agenda, but was discussed years ago by the NOSB and was recently addressed by the NOP. I'm talking about NOP 3012 interim instruction on material review.
OMRI appreciates the efforts of the NOP to provide instructions for certifiers when approving inputs for use in organic production and handling.

For two decades, certifiers have relied on the OMRI products list for compliance decisions on input products.

The ability for certifiers to accept decisions from material review organizations, or MROs such as OMRI, is a vital part of sound and sensible certification programs.

NOP accreditation of material review organizations must be pursued. In 2011, the NOSB unanimously recommended that the NOP regulate MROs by creating a new accreditation scope for material review.

OMRI supports this NOSB recommendation and has requested that the NOP create a new material review accreditation scope.

Accreditation of MROs by the NOP is the only solution that will achieve the four following goals identified by OMRI. One, provide
consistency among MRO criteria and decisions which would benefit consumers, organic operators and input manufacturers.

Two, support organic producers and handlers who use MRO decisions in production planning.

Three, provide the NOP with legal authority over MROs including the ability to suspend accreditation issued on conformance, et cetera.

And four, provide protection for MROs and product listing decisions.

NOP 3012 is not effective to accomplish these goals for the following reasons. It's directed at certifiers and lacks instructions for MROs to conduct technical review of materials and communicate the compliance status and restrictions to the certifiers who accept their decisions.

It does not require MROs to make their material review policies and procedures transparent to all stakeholders.

It does not give the NOP authority to
oversee and enforce compliance of MROs and does not provide MROs with due process for appeals.

OMRI understands that it will take time and resources to develop and implement a new accreditation scope, including, possibly, amending OFPA.

In the meantime, NOP 3012 can be a temporary tool for ensuring consistency among certifiers and MROs.

NOP guidance and classification of materials must be finalized. I was happy to learn yesterday that the guidance on classification of materials is almost ready to publish. This guidance is critical for material classification policies to be consistently applied and enforced and should reduce the instances of materials with different review decisions.

OMRI supports the 2012 NOSB recommendation which asks the NOP to provide detailed guidance to MROs and certifiers to ensure the consistency and integrity of material review decisions, including clear expectations about the
depths of review.

Thank you for the opportunity to comment. We appreciate the NOP's and NOSB's work on these important matters.

CHAIR FAVRE: Jean.

MS. RICHARDON: Thank you, Peggy.

I'm glad you brought up the MRO issue again. It's a few years since we've thought about it and I'm hoping that we can perhaps bring this issue to the Material Subcommittee at least as perhaps something that we should put back on the work agenda in order to take it up again.

CHAIR FAVRE: Harriet.

MS. BEHAR: I know this to be a very important issue as well, because many producers do talk to me about, "Why does that certifier allow this and the other one doesn't and how do they make that decision?"

And so, that transparency just builds more confidence at the producer and consumer level.

CHAIR FAVRE: Miles.

MR. McEVOY: Yes. We've gone about as
far as we can go in terms of the recommendations on that 2011 and 2012 NOSB recommendations.

We don't have the authority under the Organic Food Production Act, to accredit or develop an accreditation program for material review organizations.

So, we would need that authority to enable us to move forward with an accreditation program for MROs.

The authority would come from Congress. You don't have that authority under OFPA at the current time.

CHAIR FAVRE: Thank you, Peggy.

MS. MIARS: Thank you.

CHAIR FAVRE: Next up is Linley Dixon, followed by Sam Welsch. And our final speaker before lunch will be Kelly Damewood.

MS. DIXON: I'm Linley Dixon, a Ph.D. scientist at Cornucopia. A few years ago I abandoned my USDA research latex gloves for farming gloves to produce vegetables in Colorado.

I had a speech for you. But after
yesterday, I was uninspired. So, I figured I'd tell you to please read our well-researched-written comments and instead, unlike some of the others that have come before me, tell you about who is paying me to be here.

The answer is thousands of organic farmers around the country who believe the well-conceived organic standards are being interpreted wrong.

They are frustrated that monoculture has certified that organic poultry isn't going outside, that organic cows aren't getting enough pasture. The hydroponic systems are now called container systems and certified. They're frustrated that the lights have gone out in the barns in their communities and they see us as the people that are fighting for the economic justice and can help turn those lights back on.

There are few of these farmers who are here to remind you what organic farming really is, but the majority of them tell me to go get them so they can keep farming. They pat me on the back and
tell me to give hell to the folks that are ruining their label.

Just as hydroponic folks should be proud to label their products hydroponic, I'm really proud of who I represent.

Cornucopia's farmer members, our board and our policy advisors are organic farmers inspiring the next generation to farm sustainably to follow their example in working towards a locally-based truly sustainable food system that is labeled organic. This is what consumers are looking for.

I have also found the language used in this room to be intentionally misleading. United for food science is the carrageenan lobby. They are the reason why the science isn't united on this one.

I'm submitting over 40,000 signatures from people asking for carrageenan to be removed from food. Don't belittle their intelligence by thinking they're blindly taking our word for it. No one does that.
They look at the published studies and decide for themselves. We have an ongoing dialog, email communications with them and I just give them the studies. That's misleading language.

Container systems using inert media like coco coir and peat moss have always been described in the scientific literature as hydroponic. Now, suddenly those container systems aren't hydroponic systems anymore. They are sustainable systems.

The Coalition for Sustainable Organics is mostly the big hydroponic growers, container growers that distribute produce from the desert to the entire country.

Contrast that with our firm's low-input high tunnels that are also in the arid southwest. We grow on a scale that provides for our family and helps feed our community.

True sustainability includes the techniques that we've come up with as farmers and those that have been passed down to us from our farmer heroes, some of which you've heard from
yesterday, developed with truly sustainable morals.

That's real organic farming. Continuing to strive for perfection, not only doing what's most profitable. And that's what will grow organics, inspiring that next generation of farmers who will turn the lights back on in the barns of their communities, because they're inspired by the wisdom that came before them.

CHAIR FAVRE: Questions?

(Applause.)

CHAIR FAVRE: Dan.

MS. SEITZ: So, one of the things that people have said in support of the container or hydroponic approaches is that there are places where you couldn't grow in soil because it's too arid or the soil composition is not -- it's wrong for that type of approach.

And here, you have a picture of a growing tunnel in -- you said this is in the arid southwest. So, can you just clarify where it is that you can still do in-ground, but with, say, a
different technology versus where you would actually have to have a container or something like that?

MS. DIXON: Yes. I would argue that I shouldn't be feeding in the arid, dry southwest the entire nation, but I am sustainably feeding my community.

And the soil is very high in organic matter. I have all the, you know, companies that collect leaves in the fall, drop them off at my farm. So, I water about twice a week in these tunnels, drip irrigation for a half an hour.

There's a lot of organic matter there holding moisture and it's because of the work that I've done.

MR. SEITZ: Where is that?


CHAIR FAVRE: Ashley.

MS. SWAFFAR: So, I want to talk about what you just talked about a little bit, carrageenan. So, there's been a lot of work done
in the organic industry to remove carrageenan from a lot of products, consumer demand.

What is your stance on all of the alternatives that they're using, all the gums, you know? Is it you want rid of those also, or where do you -- where do you stand on the gums?

MS. DIXON: The research doesn't show that those gums are harmful right now. So, I have spoken with her quite a bit. She feels, first of all, that her conditions weren't replicated in the McKim study. So, I would hope that McKim would talk to her about what's going on there. I don't have the details.

As far as the other gums, degraded carrageenan is used, you know, to study anti-inflammatory drugs. There's evidence that degraded carrageenan is in food grade carrageenan from the industry. That's not happening with the other gums. This is unique.

MS. SWAFFAR: So, a thumbs up to the other gums?

MS. DIXON: Not necessarily, but a
thumbs down to carrageenan for sure.

CHAIR FAVRE: Thank you very much.

Next up is Same Welsch. Our final speaker will be Kelly Damewood.

MR. WELSCH: Hello again. I'm Sam Welsch with OneCert.

I want to remind you that the requirement for soil and organic is not simply a matter of opinion, belief or philosophy, it's a matter of law.

OFPA states an organic plan shall contain provisions designed to foster soil fertility primarily through the management of the organic content of the soil.

It also requires -- the OFPA says an organic plan shall not include any production or handling practices that are inconsistent with this chapter. You have to look at the whole thing if you're going to be certifying organic.

This section is perfectly clear and it is mandatory. Certifiers cannot and should not be ignoring this part of the law. Neither should the
NOP.

We must inform hydroponic operations that they do not comply. There are many conventional inputs, methods and systems that people would like to be allowed in organics, but the more of those things that we allow, the less distinction there is between conventional and organic.

Allowing conventional practices in organic production is not innovation or progress, it's fraud.

Certification of hydroponics must be stopped now. Otherwise, we destroy the fundamental core of what it means to be organic.

Organic gets its name from organic matter. When you -- in the soil. When you get rid of that, you lose the core basis of it.

I'm a certifier. I refuse to certify crops that are not grown in soil. I've lost a lot of business by not doing so, but I cannot certify a system that does not comply with OFPA. It's a matter of personal organic integrity.
When Mils came to our office in Nebraska a few years ago, we took him to task on why the NOP was not enforcing this part of OFPA.

He finally answered somewhat candidly, it was because the USDA wanted to encourage urban agriculture. You know, that is not -- the NOP, you know, this is supposed to be in the age of enforcement. It should have been an age of compliance on the part of the NOP.

Proponents of so-called bioponics claim their systems use soil biology. At best, they can only mimic a tiny fraction of the complex biology in soil usually in an artificial environment, as we've seen pictures of today, that excludes the natural biodiversity found on true organic farms.

You've seen pictures of container systems in the desert. The crops in those containers are fed with soluble fertilizers.

OneCert has certified growers in desert areas who use cover crops, compost and crop rotation to build organic matter in the soil and
provide fertility to crops.

When one of those growers wanted to use an unapproved liquid nitrogen product to feed their crops instead, we told them no. They -- well, you'll have to ask if you want to know the rest of that story.

(Laughter.)

CHAIR FAVRE: Questions?

Emily.

MS. OAKLEY: I'm just going to go ahead and ask so I can hear the rest of that story.

MR. WELSCH: It's not that long. So, they used it anyway. We proposed suspension. Another certifier approved that product and granted them certification.

The operator appealed our proposed suspension to the NOP. The NOP told us to negotiate a settlement with them, because the other certifier allowed that even though the product was not an approved product.

The person who approved that product now works for the USDA.
CHAIR FAVRE: Tom.

VICE CHAIR CHAPMAN: So, the remaining fragment of the sentence you cited earlier in the law speaks to that maintaining of our organic content through the proper tillage, crop rotation and manuring.

So, would you then contend that all organic operations need tillage, crop rotation and manuring?

MR. WELSCH: I would.

VICE CHAIR CHAPMAN: Thank you.

CHAIR FAVRE: Harriet.

MS. BEHAR: So, if someone is growing in a container, but using soil for half the year, then they pour -- and it's an annual crop and they then compost that soil, would that be acceptable to you?

MR. WELSCH: Well, there are some areas that could be allowed. We do allow because the regulations discuss the certification that need to have organic transplants, you know. So, that clearly -- that's, you know, clearly allowable.
There are some other areas that are somewhat in a gray area that are -- they're not sprouts, but they're -- microgreens are sometimes grown in trays of compost. We have certified that type of operation.

At this point, we have not certified people who are purely growing containers -- or crops to maturity in containers like tomatoes and berries and that sort of thing. So, all of our growers grow it in the soil.

We may be missing opportunities, but we think that's the way organic was conceived of. When the rule was written, I don't think anybody ever thought that people would be certifying hydroponics. And so, they weren't as explicit about hydroponics being prohibited. It was an oxymoron, the whole idea of organic hydroponics.

CHAIR FAVRE: Last question. Ashley.

MS. SWAFFAR: So, do you consider container production, hydroponic production?

MR. WELSCH: Well, not all container growing is hydroponic, but there's container
growing that is hydroponic.

MS. SWAFFAR: Okay.

MR. WELSCH: It depends on the fertility -- source of fertility. If they're getting it from liquid nutrients, it's hydroponic regardless of the substrate.

You know, this -- the whole thing about substrates and biological activity is a smokescreen to confuse people to make it sound like they're organic when they're not. If there's no soil, there's no organic involved.

CHAIR FAVRE: Thank you.

Our final speaker before lunch will be Kelly Damewood.

MS. DAMEWOOD: Thank you for the opportunity to address the Board. My name is Kelly Damewood, policy director for CCOF, California Certified Organic Farmers.

We appreciate the work of the Board to update excluded methods terminology and to strengthen the use of organic seed. We also encourage the Board to consider establishing a seed
purity standard.

As for hydroponics in containers, CCOF has never had a formal position on whether these systems should bear the organic label.

Rather, absent a clear prohibition on these types of systems, CCOF certifies a range of operations that meet the requirements of organic standards.

We see producers who are facing six plus years of drought looking at their site-specific conditions and asking how they can maintain and improve their natural resources.

We see them planting beneficials among their containers using the trimmings and cuttings and leftover media in their in-field production or in their composting. We see them putting more land into wildlife habitat. It's clear they are taking a whole systems approach to food production.

Now, I completely understand that the origins of organic were all about the soil and I have deep respect for the farmers. I've had one-on-one conversations here and the public
testimony expressing a clear desire to keep organic soil-based in the strictest sense of the term. And CCOF certainly has members who agree with that sentiment. We have members who disagree as well.

Knowing -- of course not a founder, I was not there to help write the organic standards, but I am committed to carrying organic advocacy well into the future, but I am concerned.

I am concerned about our inability to move this issue forward to look up and see the big picture and face the realities of producing food in the world we live in today.

With climate change, severe labor shortages, rising cost of compliance there is a number of challenges that we are seeking to collaborate and innovate and evolve to meet the demand for organic.

CCOF's vision is a world where organic is the norm. It's lofty, but it resonates with me. We believe in uplifting and supporting producers to achieve the highest level of integrity they can
in producing food.

    And we are looking to the NOSB to provide guidance and clarity to these producers who have embraced organic and who hope to continue to produce food well into the future. Thank you.

CHAIR FAVRE: Thanks, Kelly.

Any questions for Kelly?

(No audible response.)

CHAIR FAVRE: Thank you very much.

MS. DAMEWOOD: Thank you.

CHAIR FAVRE: Okay, folks. By my official clock, I have at 12:45. We're taking 60 minutes for lunch today. So, everybody back here at 13:45. Thank you.

(Whereupon, the above-entitled matter went off the record at 12:46 p.m. and resumed at 1:46 p.m.)

CHAIR FAVRE: Okay. We're going to get started back with public comment. I hope our presenters are keeping a sharp eye on the time because we may pass them by if they're not here. Okay, first up for public comment is Kyla Smith.
Kyla, are you here? And then on deck is Mabell Rivas.

MS. SMITH: Good afternoon, my name is Kyla Smith. I'm the certification director of Pennsylvania Certified Organic. I also serve as the vice chair of the Accredited Certifiers Association board of directors. PCO certifies approximately 1,200 operations in the mid-Atlantic region of the U.S. We employ nine certification specialists, four of whom conduct inspections, and we contract with 30 independent inspectors. I'm commenting on the CACS document regarding NOP 2027 personnel performance evaluations.

I wanted to reiterate a few points from PCS written comments. One, performing field evaluation of inspectors is important. Two, PCO is and has been evaluating inspectors by reviewing all inspection reports, as well as by evaluations submitted by certified operations. While the regulations require ACAs to conduct annual evaluations of inspectors, the field evaluation is just one piece of that evaluation process. Three,
prior to the issuance of NOP 2027, PCO was conducting field evaluations of a portion of our inspectors based on risk.

Over the years, we have been able to catch the minor mistakes that might have been evident based upon our other evaluation tools -- such as open meetings not being as detailed as expected. Four, conducting field evaluations of all of our inspectors has come with several logistical and financial challenges, which are provided in detail in PCO's written comments. Five, increasing the number of field evaluations to include all of our inspectors has not increased the number or type of findings as compared to our risk based approach.

So what do we do? What --- sorry, do what do we do as a community to ensure high quality, confident inspectors without overburdening certifiers and certified operations. As many certifiers have suggested, a risk based approach could serve this role. PCO welcomes the opportunity to work with other ACA's to develop a
consistent set of criteria that all certifiers
could use to assess inspectors to aid in
determining whether an inspector is deemed as high
risk. High risk inspectors would be field
evaluated annually, while low risk inspectors
would be field evaluated every two to three years.

We are also willing to collaborate on
additional resources, such as best practices and
a uniform evaluation form, perhaps through the work
of the Accredited Certifiers Association.

Yesterday, Tracy shared the quote, "Don't let the
perfect be the enemy of the good."

I love this quote and find it applicable
in this situation. Again, our experience in
evaluating every inspector every year hasn't
increased the number or type of findings from our
previous risk based approach. We've heard a lot
over the past couple of days of the other challenges
our industry is facing, such as increased
complaints.

Just as the NOP has had to divert
resources to handle the increased number of FOIA
requests, PCO is diverting resources to fully implement NOP 2027 that could be used elsewhere, such as to investigate complaints in a more timely manner. We look forward to the continued dialogue and thank you all for your service. Thank you.

CHAIR FAVRE: Thank you. Questions?

Harriet and then Scott.

MS. BEHAR: So this has nothing to do with inspectors, except I know the PCO does review many chicken houses. Have you noticed high mortality rates in your chicken facilities with, you know, for -- from ammonia? Or necrotic enteritis?

MS. SMITH: I -- we have -- I don't, you know, define high. We have noticed mortality rates, for sure. I'm not able to provide a really great comment for you, but I can get some information if that would helpful.

CHAIR FAVRE: Scott?

SCOTT: I wonder if you could just briefly describe that --- you mentioned about a review of the inspections in other ways besides the
witness on it, if it's looking at the inspection report and how you guys did that.

MS. SCOTT: Yes, so all of our file reviewers complete an evaluation form for every inspection report that is reviewed. So all 1,200 operations plus the unannounced inspections. So, you know, there's more than just the 1,200 inspections that occur, and so all of those inspection reports get followed up by a reviewer filling out an evaluation form.

We also ask that inspectors leave an evaluation form with a certified operation, some of which get returned and some don't. And then we compile all of that into an evaluation that is provided annually to the inspector.

MR. RICE: Thanks.

CHAIR FAVRE: Thank you.

MS. SMITH: Thanks.

CHAIR FAVRE: Next up is Mabell Rivas, with Julia Barton on deck.

MS. RIVMS. SWAFFAR: Good afternoon,

I'm Mabell Rivas, Senior Reviewer of Quality
Assurance International, QAI. Thank you for the opportunity to comment on behalf QAI, the USDA accredited certifying agent and one of the leading providers of organic certification services worldwide.

My main comment today is about research priorities, but first let me briefly comment on phosphate. There are currently over 50 QAI certified clients using calcium phosphate -- mono, di, but primarily tri-calcium phosphate. We also do have at least several clients using sodium and potassium phosphates.

We have additional clients that are --- that use tri-calcium phosphate in salt as an anti-caking agent. Also, sodium phosphate might be used in many stabilizers used by our clients.

On priority research -- on research priorities, here is the primary message that we want to share with today, organic research is vital to the success of organic, of the organic movement. We commend the board for putting together a comprehensive list of research priorities.
The organic movement must continually strengthen organic practices in support of environmental stewardship and consumer trust in the organic seal. And the best way to strengthen organic practices is to deepen the scientific knowledge about those organic issues that are persistent, challenging, controversial, and lack primary research.

We feel that our clients would particularly benefit from further research in the following priorities. First, preventing GMO contamination in organic crops, developing alternative methionine sources for organic poultry production, developing sources of organic celery powder and finding alternatives to the source of -- to the use of chlorine.

In addition, although this is not a topic that directly relates to QAI-certified operations, we would like to suggest that the NOSB should research an alternative to the use of ethylene gas in pineapple production in this list of priorities.
This material created some heated debate during the last fall meeting. In light of NSOB's deciding to encourage cooperation among the stakeholders in developing solutions to these present issues, QAI would like to offer some possible collaboration on chlorine research through our parent organization, NSF International, a non-profit, scientific organization with extensive toxicology and foods experience -- food safety experience.

NSF has developed more than 90 public health and safety standards, including food, equipment, water, and waste water standards. All of us in the organic community need to work together to support the further strengthening of the scientific basis of organic agriculture so that the public will continue to reap the benefit of that science, including a rich environmental stewardship, well-deserved consumer trust, and the economic stability of the seal of loyalty. Thank you.

CHIEF FAVRE: Good timing. Questions
anyone? Thanks Mabell.

MS. RIVMS. SWAFFAR: Thank you.

CHIEF FAVRE: Next up is Julia Barton with Bob Verloop on deck.

MS. BARTON: Good afternoon. My name is Julia Barton and I'll be presenting comments today on behalf of the Ohio Ecological Food and Farm Association. There are three items I'd like to discuss with you. The first has to do with the hydroponic proposal and was not part of our written comments.

Organic production systems must promote ecological balance and conserve biodiversity, as recognized by the creators of OEFFA and clearly stated in the organic rule. OEFFA believes the maintenance and management of organic matter in the soil, along with the diverse populations of organisms that are essential to soil ecosystems, are the foundation of organic farming.

In the absence of clear, applicable standards OFFEA has chosen not to certify hydroponic operations up to this point. We thank
the crop subcommittee for the work you all have done and we appreciate the three-part plan to address this topic in phases.

Further, OEFFA supports the subcommittee's preliminary vote that bioponics, including hydroponics, aeroponics and aquaponics, are not consistent with organic production.

The second item has to do with GE impacts on organic farmers. OEFFA is working to collect information from our certified operators and members who are investing extra time, money, and productive growing space to try to protect their organic land and animals from GE contamination. And contamination from inputs that are typically used in GE and other conventional production systems.

It is our hope that I -- that by collecting this information we can demonstrate the harm that's being done to organic producers and we can begin to build a case for accountability on the GE side of the fence.

We know we're not alone in this and that
the organic community has largely unified around issues related to GE contamination and accountability. We'd like to ask you, NOSB members, to build upon the leadership you've already taken on this issue. In your report to the Secretary, please prioritize the development of policies around shared responsibility. Prevention and contamination costs should not be borne by organic farmers.

Finally, we too have been hearing from our organic green growers regarding the sharp rise in grain imports coming from Eastern Europe. We understand that the NOP is working on this issue, and we thank you, Miles, for your presentation yesterday. In our opinion, the NOP cannot work quickly enough to address this issue.

NOSB, within your means, please make sure that NOP is taking swift and deliberate action to insure that organic imports are indeed organic. Thank you for your time and your work.

CHIEF FAVRE: Thank you. Questions?

Harriet?
MS. BEHAR: What led OEFFA to decide not to certify hydroponic operations?

MS. BARTON: That was -- decision was made prior to my time at OEFFA. But my understanding of that decision was that, in the absence of clear standards, we didn't feel that that was something within our purview. It's hard --- yes, our job is to work from the regs and we don't have applicable standards in the regs, in our opinion.

CHIEF FAVRE: Thank you.

MS. BARTON: Thank you.

CHIEF FAVRE: Next up is Bill --- Bob Verloop with Bill Wolf on deck.

MR. VERLOOP: Thank you and good afternoon. My name is Robert Verloop, I yield from Monterey, California. It's the first time I've been to St. Louis. It's warmer here than it is back home, kind of a surprise. I have a BS in Fruit Industries, which is an agronomics degree.

I also have a master's degree in marketing, or agricultural sciences, ten years'
production experience in a variety of crops, and 28 years as the DP in marketing at the California Avocado Commission, Sunkist Growers, the Citrus Co-op, and Nature Right Farms -- the second largest berry company.

I'm here today as a representative of Munger Farms. But Nature Right Farms, who I worked with just recently, is a partnership consisting of 750 family farms throughout the United States and Latin America, and we have 1,200 individual farms, both organic and conventional.

So as I said, I'm here today on behalf of Munger Farms, which is one of the owners and is a -- of Nature Right Farms -- and is a vertically integrated, third-generation family farm that's based out of California.

We grow organic blueberries, 250 acres are field grown, 300 acres are field container grown. We farm significantly more conventional blueberries, but the focus today is on the organics. A lot of the organic practices though are being perfected in our organic fields and being
used in our conventional fields. So there is actually some really good symbiosis there.

We started growing in field containers because, frankly, we had 160 acres of blueberries that were not growing well due to the soil conditions. They had very high salinity, sodium, and then lime that were not allowing our plants to thrive.

The container soil is -- and I had a list of ten things I wanted to talk about. But since over the last day and a half you've heard so many things, I really wanted to narrow it down to a couple of areas. Actually, on the screen you see a picture of what our container fields look like. It's drastically different than, I think, some of the things you might have seen or have a perception of.

Our container soil is coco coir, peat moss, vermiculite, and perlite. We introduce natural soil organisms into the substrate, monitor soil biological activities on a constant basis, look at the carbon/nitrogen ratio, and then manage
accordingly. So we're constantly looking at what's going on below the soil, as well as above the soil where we do a lot of tissue analysis.

Our fertilizer regime includes organic compost, fish emulsions, plant-based proteins, and foliar applications -- again, on an as needed basis.

I know some of you had questions about how often we fertigate. It really depends on the time of the year, the status of the crop, where we are in the cropping season, but typically we'll irrigate anywhere from two to three times a week.

There are times when we irrigate without fertilizer. Again, we let the plants and the soil conditions dictate that.

At the time of startup, container production allows us to get into production that much quicker, especially when you take a look at the transplant and the stress period that's involved with that.

The picture that you see here is actually a brand new planted field in April of this
year and that will be in production next year. In a typical organic field, that would take three years to get to that point. So the economic viability certainly starts to come in our favor.

The other aspect that hasn't been talked about very much is this a complete, a complete system that is a systems approach. And as you can see can in here, we have a tremendous amount of open land that we actually incorporate our organic materials into.

CHAIR FAVRE: Thank you. I know it's hard to stop at three minutes. Jean?

MS. RICHARDON: So is this picture that we see, is this certified hydroponic?

MR. VERLOOP: No, this is certified organic. It's not hydroponic.

MS. RICHARDON: Okay.

MR. VERLOOP: This is container soil.

MS. RICHARDON: So in the, so in your containers, which are a substrate mix -- you described what's in it -- how long will that be utilized for growing the blueberries? And what
happens to it after that?

MR. VERLOOP: You know, typically a blueberry bush will last anywhere up to 25 and 30 years. With the new varieties that we're breeding, we actually anticipate replanting anywhere from seven to 15 years. But the containers will stay in the same place. We'll just remove the plants and then put the new ones, the new varieties in there. It allows us a lot more flexibility that way. The land actually stays much more productive as a result of it.

CHAIR FAVRE: Harold?

MR. AUSTIN: So rather than faking it and putting this substrate into the containers -- and I'm going to compare this -- I want you to try to explain to me why you would go to this methodology rather than to take, like -- we farm blueberries in the Pacific Northwest -- and we would take and use the soil itself.

We would use a compost mix, plus maybe a mulch mix, blend that, build our berms, and then plant into that. What's the advantage of doing it
this way rather than doing like we would be doing in our operations?

MR. VERLOOP: Yes, that's a good question and we do exactly what you say in the other 300 acres that are organic produced. The advantage to this one really was quicker -- or the ability to get through production quicker.

This land also was not conducive to exactly what you were talking about. Even though you would be berming and blending in all of these organic materials, it's still going to take a while for that carbon nitrogen to start kicking in and really make more of the nutrition available.

So this gets us into that whole cycle quicker. This also happens to be in a very early season, and if you're a producer you understand the importance of getting in early.

This type of a system also allows us to use the rainwater down the center of the rows where -- when you have rainwater and you have moist conditions in the center, you actually attract more solar radiation, which helps you get into bloom
much quicker because the soil temperatures are higher.

Later in the season, the same thing -- you have -- the higher moisture content helps you to cool the fields down. So this is where this is much more of an integrated system, and we see the same things in our traditional organic as what you were describing with the berms, but this gives us four times as many plants per acre. So it's that much more intense with a lot more water savings.

CHAIR FAVRE: Thank you very much.

MR. VERLOOP: Thank you.

CHAIR FAVRE: Next up is Bill Wolf, followed by Johanna Mirenda on deck.

MR. WOLF: Thank you. I'm going to ask for a pause, for a moment of silence to thank all of you for your dedication and hard work and especially to express appreciation to the retiring members for your five long years of service.

I'm Bill Wolf of Wolf, DiMatteo & Associates. Incidentally, I've also been
harvesting and researching seaweed for 45 years and am the founder of Thorvin, a NOP certified organic kelp company.

I'm going to go up to 30,000 feet for a moment and talk about the NOSB. The NOSB has a very challenging job, making decisions based on converting a philosophy into regulation.

Add to that that organic is the only production standard that covers all crops, animals, and climates from seed to table, plus the NOP is the most public and transparent rule and process ever attempted so we should all stand proud.

Organic can be the shining model for transforming agriculture or it could become known as the luddites of the 21st century. You have to decide what tools are really necessary and useful in organic systems.

So I ask you to consider the following during your deliberations. One, the National List is a toolbox. Don't make shrinking this list a goal. Be open to innovation and creativity that
fits the organic philosophy, the precautionary principle can cut both ways. Will your vote help increase organic acreage and earthworms?

Finally, I encourage you to carefully select what the NOSB takes on as topics. The NOSB can't continue to be the lightning rod for every contentious issue someone wants to find a forum to discuss. It's becoming overwhelming, there are solutions to that.

NOSB needs to focus on certain nationalist decisions. Don't get me wrong -- do everything you can to encourage organic farming, which is leading away from -- getting back to the nationalists, some of our written and oral comments including asking that you fix the biodegradable mulch film problem now, quickly implement the EPA safer choice program, implement the guidance document on materials, approve OMRI's decision tree on GMO, require organic field seed over non-GMOs, and apply commercial available to the entire National List. These would all be good steps. I welcome questions, thank you.
CHAIR FAVRE:  Good job.  Questions?  
Zea?

MS. SONNABEND:  Bill, how exactly do you suggest are the solutions to us being overwhelmed?

MR. WOLF:  Well, let's go back to the basic terminology of FACA. You are an advise -- you are a federal advisory group. And what's happening now is that the volunteers are having to address and prepare documents on a voluminous number of issues, and selecting those issues.

Perhaps some of that work should be returned to paid staff, to draft proposed guidance work on these issues and then bring them forward for comment by the Board. That's one step that would change the work plan strategy.

There are other things that could be done, one of them is to take a look at what some of these issues are that come forward. And perhaps monitor and manage how much time is spent on them. Some of the single issue materials that have come up and been beaten on meeting after meeting could
have been, kind of, put into a box where okay, we're only going to talk about that for a certain amount of time.

I mean, I'm, frankly I, one thing I've learned about carrageenan is now I know how to pronounce it. But in the last three meetings I've heard way more than I ever could have imagined hearing, and I think it's only one small material in one issue.

I don't downgrade the seriousness of the concept, but it got overwhelming. And there's a way to, kind of, put it in a box and say we're only going to allow 15 minutes of public comments or get the written comments in in a certain way. I'm not picking out on that one issue alone, but there's ways to do this so that the Board has a chance to deliberate in front of the public.

CHAIR FAVRE: Thank you very much. Thank you, Bill.


CHAIR FAVRE: It's hard to believe, I
MR. WOLF: Thank you.

CHAIR FAVRE: Next up is Johanna Mirenda with Lisa Stokey on deck.

MS. MIRENDA: Hi, I'm Johanna Mirenda, Technical Director of OMRI, the Organic Materials Review Institute. I'll be speaking on the general theme of needing increased transparency and consistency of materials on the National List.

OMRI does not take a position whether substances should be added or removed from the list, rather we provide these comments to insure a clear understanding of the NOSB's intent so that their recommendations, if enacted, can be consistently enforced by all certifiers and material review organizations.

First is the issue of chlorine. The Handling subcommittee is considering a petition to add sodium chlorite for the production of chlorine oxide gas to the National List. The choice to list the sodium chlorite precursor instead of the final chlorine oxide gas substance is inconsistent with
listing of other chlorine materials, which lists the final substance as used by the operator with limitations on precursors identified in the annotation.

The choice to list only the sodium chlorite precursor also raises questions about the allowance of other materials, other than sodium chlorite, that are used to generate the final substance.

We encourage the NOSB to provide transparency regarding their expectations for reviewing these other materials, and also to consider the petition's substance within the context of other issues regarding chlorine materials that we identified in our written comments.

That being said, the approach of listing individual precursors, with annotations that specify the intended end use, could improve the transparency of reviewing substances that are ultimately made by the operator onsite since the precursors reflect the products actually purchased
and used by the operator, and therefore reflect the products that are reviewed by the certifier or the material review organization.

This sort of approach, however, if pursued should only be implemented as part of the comprehensive review of all onsite-generated chlorine materials on the National List to insure consistency across all of these related materials.

Second, is the issue of allowed synthetic substances that appear on 205.605(b) that may be available in non-synthetic form, but do not have a companion listing on 605(a).

A literal interpretation would imply that non-synthetic forms are prohibited because the substance doesn't specifically appear at 605(a) as an allowed non-synthetic, but it goes against the generally accepted convention that non-synthetics are preferred over synthetics.

The handling subcommittee's latest work on tocopherols and Xanthan gum at this meeting's agenda muddy the water on what's expected of non-synthetic forms of 605(b) substances.
The subcommittee added, moved to add a listing for tocopherols at 605(a) to indicate that non-synthetic forms are allowed, but did not do so with the Xanthan gum, which is also available in non-synthetic forms.

We encourage the NOSB to provide transparency regarding your expectations for the allowance of non-synthetic forms of Xanthan gum and other allowed synthetic substances that may exist in non-synthetic, non-agricultural forms, but do not have a separate listing at 605(a). Thank you.

CHAIR FAVRE: Questions? No questions. Thank you very much. Next up is Lisa Stokey with Melinda Hemmelgarn on deck.

MS. STOKEY: Okay. Hi, my name is Lisa Stokey and I am a co-founder and co-director of Food Democracy Now, which is an Iowa based, grassroots organization. We represent about 650,000 people. They're citizens and farmers, and I'm here to represent them today primarily.

I didn't prepare any comments officially, I just feel like I need to be a
representative from the community of the people that rely upon, you know, organic, you know, for their diet and for their health.

I'm also a board member, a third year board member, of Organic Seed Growers and Trade Association, which is based in Maine. And it's a farmer-run organization, you know, of organic farmers obviously, and our goal with OSGATA is to maintain seed integrity in our organics, organic seed integrity.

So I also want to tell you that we had 14,000 people in 24 hours, from our membership, tell us that they do not want hydroponics in organic. It's my feeling, you know, from our membership and also from being out there in the world, you know, as a mom and as a consumer -- I have four kids that I've fed organic for 25 years -- that people are not really aware that there is hydroponic allowed in organic.

And as we are moving forward -- our organization, Food Democracy Now -- I know there's other organizations here that also represent the
consumers. There's a few of us here represented today.

You know, as well, we have been the biggest advocates for organic and maintaining the integrity of organic. You know, it's also our role to be the biggest critic of organic, should that be called for. So when people, I think, look to these meetings and look to the composition of the National Organic Standards Board, you know -- I'm sure that you all take this into consideration.

But I would just also like to remind you -- in light of a lot of the comments we've received here today, that I've witnessed, that people see you as the guardians. You know, that you're here to watch over the details and make sure that we stay on the principle, the foundation of organic, which is -- what we're discussing today -- is by all means soil and it's organic farmers.

And as we have done our policy work, we see that without organic farmers, farming the land and the soil and tending to the soil and creating
carbon sequestration, for example, and highly nutritious food—if we are not doing that, and if organic does not maintain itself as that haven for that, then we will be in much more trouble in our future. And so we are looking to you to be the guardians of that, to hold the integrity, to not allow genetic engineering, to be guardians and not allow synthetic chemicals and make sure that we have, you know, healthy food for our children and our future. Thank you.

CHAIR FAVRE: Jean?

MS. RICHARDSON: Thank you for your comments.

MS. STOKEY: Yes.

MS. RICHARDSON: So as a consumer and thinking of all the people that you represent, when you think of hydroponics what do you think? What does it look like to you? You've been in the room I assume, at least for part of the last couple of days, so which of the pictures, to you, are hydroponic?

MS. STOKEY: Well, I guess, you know,
I mean we have this here as an example. And, you know, when I have visited farms -- I know so many amazing organic farmers across the country, you know. And someone who I'm really proud to call my friend, for example, is Fred Kircshenmann, you know, who was instrumental in drafting the organic standards.

And so when I look to what it is, I think more -- I guess maybe to answer your question I think about more of what organic is as opposed to what it is not. And so when I talk to farmers I think -- and I visit farms and I buy food for my children, I'm thinking about the soil and I'm grateful that the farmers are tending to the soil. And hydroponics contains very little soil, right?

MS. RICHARDON: So let me interrupt you then because you saw the last gentleman, he had a picture of the blueberries and they were growing in containers.

MS. STOKEY: Right.

MS. RICHARDON: And they're not certified hydroponic, they're certified organic.
But they're not growing in the ground so how -- is that okay?

MS. STOKEY: Well, if you're asking me my thought and my opinion, which obviously you are, I find that to be a complete turn-off. That's -- if I were to go there, and to get food for my children, I honestly wouldn't do it. It's not a place where I would go to, like a berry patch, and have food for my kids, you know.

I think that, I think that the micro vitamin in the soil is very important and the nutrient quality that we get from that. And there's so much that we don't even understand yet, right, about soil?

You know, there's a magic and a beauty and a quality to it that lends itself to the food, and then that is then translated to us. And that's how, like when I'm thinking about my children for example -- and I know there's a lot of women out there like myself, and parents -- that that's what we want to give our children. We want to give them the vitality, not something that's really grown in,
you know, plastic or coconut hulls.

CHAIR FAVRE: Dan, you had a question?

MR. SEITZ: So you mentioned that you heard from 14,000 of your members who weighed in on hydroponic.

MS. STOKEY: Yes.

MR. SEITZ: How did you solicit that, was there a question that you sent out to them? What was the prompt from your organization that brought you that feedback?

MS. STOKEY: Our -- we do a lot of policy work, so our membership relies upon us to educate them about policy. You know, whether it's the Food Safety Modification Act or the farm bill or, you know, issues in organic, you know.

So we have a, you know, a list of people that we regularly email about these issues, and so we will educate them on the issue and provide links and so forth. And so this was a petition and people agreed with the petition to not allow hydroponics in organic.

And also we included in that petition
synthetic biology, and so if people agree with that petition that we wrote, they will sign their name and then we submitted that to the NOP.

CHAIR FAVRE: Thank you very much.

MS. STOKEY: Yes, thank you.

CHAIR FAVRE: Next up is Melinda Hemmelgarn with John Shope on deck.

MS. HEMMELGARN: Good afternoon, welcome to Missouri. My name is Melinda Hemmelgarn, and I am an independent consulting registered dietitian based in Columbia, Missouri.

And I support and promote organic food and farming for two major reasons, one to protect our environment and two to protect public health -- especially reducing the risk of cancers and gastrointestinal diseases.

And I most often work with consumer audiences explaining the benefits of organic food and trying to convince them that it's worth their extra money to invest in organic foods and why they should feel confident in the organic label and pay more.
I spend a lot of time defining what organic is and defending the label, and that's why I really need your help here in protecting in the integrity of organic.

I answer a lot of questions that consumers have about organic and one of them is about carrageenan. And I didn't know anything about carrageenan, so I did some research, and mostly I contacted my colleagues who worked with patients with gastrointestinal disorders.

And I said what do you tell your patients, do you tell them to avoid carrageenan? And they said yes, absolutely.

So when there is an ingredient with known or questionable safety, and that ingredient is included in an organic product, the consumer loses faith in the integrity of the organic label. And they say to me, well why should pay more for it then?

So mostly, I want to protect that organic label. And when I talk to consumers about promoting organic, I want to make sure that I can
answer their questions about well what is this doing in a product if it's not safe. So my ask is that carrageenan not be allowed in organic foods based on my colleagues' assertions not to use it.

Second, I am asking that we expand our discussion of contaminated inputs to manure from animals fed antibiotics, as well as irrigation water. I am especially concerned about antibiotic residues and antibiotic resistant organisms.

November 14th through 20th is actually the World Antibiotic Awareness week, and there was a report that came out yesterday from the Food and Agriculture Organization warning that this is one of the biggest global health threats to our nation and world.

So while we need more research in this area, there is concerning evidence that crops can absorb antibiotics when soil is fertilized with manure, even after composting. And a colleague of mine, who's a doctor of veterinary medicine, said that even if antibiotic resistant organisms are dead, live bacteria have the ability and are known
to pick up genetic elements from dead bacteria and incorporate it into their genome -- including antibiotic resistance.

So I would ask that manure from animals that have been fed antibiotics not be permitted to be used on organic farming systems. I have one more ask if I might, and I ask that recycled water from fracking waste water not be allowed on organic farms due to chemical residues which are known endocrine disrupters. Thank you.

CHAIR FAVRE: Questions? Thank you very much.

MS. HEMMELGARN: Thank you.

CHAIR FAVRE: Okay, good job. Next up is John Shope with Barry Baker on deck.

MR. SHOPE: I am John Shope and I am an organic farmer. Falling Waters Farm was formed to produce organic, locally grown food in a controlled, indoor environment utilizing recirculating aquaponics and the associated nutrient rich and biologically active water.

We are a year-round urban food
producer. To our customers, USDA Organic represents food that is independently certified as free of synthetic chemicals and non-GMO.

Aquaponics in our facility is a symbiotic cultivation of fish and vegetables in a closed recirculating system, realizing the benefit of strong yet well-balanced natural nutrients.

Our current fish inventory is about 420,000, we add no fertilizer, and we recover and reuse about 98 percent of our source water. Primary crops include leafy green vegetables such as lettuce, chard, basil, and kale, as well as peppers.

Falling Waters also cultivates micro greens and wheat grass. Controlled environment agriculture and LED lighting create an ideal growing condition for year-round availability of locally grown produce, even during harsh winter months. Demand in our area for organic, fresh produce far exceeds that which we can produce.

We are planning to expand. Our monthly output can increase from roughly $100,000 to over
$2 million in the same facility. Higher output will begin to address the need for healthy organic local produce.

I have read and understand the recommendations facing this panel. As a relatively new entry in this conversation, allow me an opportunity to pose a basic question of asking why.

Why would the NOSB disqualify our containerized, indoor method as per the committee recommendations? Our commercial method of growing was not contemplated by the original authors, as noted by the absence of specific exclusions.

Why make the determination that my method does not produce food rich in some particular nutrient without such data, or despite data to the contrary? There are crops that grow equally well, if not better, in heavily irrigated environments -- rice, watercress, real wasabi, herbs, leafy greens.

Why focus exclusively on how produce is
grown rather than how well produce is grown? Why should the NOSB approve?

We produce organic food that is symbiotically grown with our ecosystem, our environment, our precious limited resources in mind. Because we produce organic food that is grown close to consumers -- we are in a food desert -- through the commercial wholesale distribution system our organic food is consumed at restaurants or in homes within 36 hours of harvest, deeply embedded with its natural nutrients and crisp, vegetative goodness because we produce food that is equally healthy for human consumption -- non-toxic in every way that citizen consumers expect when selecting the USDA 100 percent Organic Produce.

If my comments resonate with allowing the expansion of organic methods, please take the time to re-design the language and use this to continue to assure our consumers that 100 percent label Organic is everything that matters, methods aside.
CHAIR FAVRE: Thank you. Questions? Dan, and then Harriet.

MR. SEITZ: Where is your facility located?

MR. SHOPE: We're in Indianapolis in an urban setting in a 1960s facility, about five miles from the center of town.

CHAIR HAVRE: Harriet?

MS. BEHAR: So looking at the pictures, for me, I see organic as somewhat of a natural system and working within nature. And this does not look like a natural environment to me, so how would you respond to that?

MR SHOPE: It's a good question. We are utilizing an older building, 1960s construction building, that otherwise is surrounded by homes. And the facility itself, even if torn down, represents a piece of property, a piece of ground which could not be used for production.

Yet we're surrounded by over a million, a million and a half people within a small radius of our facility. So we are using that environment
and we are trying to maximize those same natural
cycles, the biological activity from our fish. We
feed our fish and our fish feed our plants. That
water is extraordinarily active and the plants come
out vivacious.

CHAIR FAVRE: Thank you very much.

MR. SHOPE: Enjoy your day.

CHAIR FAVRE: Next up is Barry Baker,
followed by Gwendolyn Wyard on deck.

MR. BAKER: Thank you very much. My
name is Barry Baker, I'm from Kanalts B.C. I'm
here to represent absorbent products and speak
about sodium bisulfate.

Now, since the goings-on yesterday I
know we heard a lot of fire and brimstone. And I
think what this discussion has turned into is this
false dichotomy between whether we should be using
sodium bisulfate or whether we should be using
activated Barn Fresh. But in fact, that isn't the
discussion we should be having.

We should be looking at whether or not
sodium bisulfate, which is a very harsh acid -- and
it's a legacy chemical that has been used in conventional for 20, 30 years -- whether that should be used or whether an entire host of management practices could be used instead.

So taking a look at the list here, there's so many different ways that we can increase bird health. Reducing stress, first of all, will help with gut health, providing access to sunlight outdoors, dust baths, pecking blocks. We have a familiarity with that because we also provide some of these mechanisms.

More frequent bedding changes, ventilation, controlling moisture, wind-rowing. I think that Peter, earlier and in his written submission, showed that in-house wind-rowing can kill off more than 99 percent of the Clostridium perfringens that lead to necrotic enteritis.

Species selection, we work with some producers who have actually selected species of birds because they are heartier. And so they don't experience the same kind of challenges or mortality that other conventional species might.
Bird density, that's definitely a big one, diet and gut health, and a shift from deep litter because really, deep litter has really been able to continue over time because there have been products, these really heavy acids, like sodium bisulfate, that make it a growing medium that actually works quite well, before you ever even look at another kind of a product.

And I know it sounds like maybe I'm trying to talk myself out of a job here, but there are so many different management practices that can help producers, organic producers, manage not only ammonia, but some of the horrible bacteria that we've been hearing about today before you look at activated Barn Fresh or relentless plus like Andre brought in yesterday or even Penergetic K.

I think that we've been targeting the wrong products. There was a young lady who showed that she'd done an in-house study from Miller Poultry that showed that Barn Fresh didn't provide -- or it didn't control ammonia very well.

I can tell you straight right now that
that -- that those -- that activated Barn Fresh has never made it to her area through our distribution network. There -- we have over six, we are working on a seventh -- different Barn Fresh products, and some things -- sometimes these get mixed up.

It could've been, and I expect that it was, Barn Fresh, which is straight diatomaceous earth so no acidifying whatsoever. And Barn Fresh Plus, which does have an antimicrobial, but is actually focused on the dairy space, which has a completely different kind of microbial burden than you would find in poultry.

So I would really advise the board here to just discount that report completely because I don't think it's valid in any way, shape, or form because it doesn't look at an acidified product.

Also, one -- I'll just finish off with one thing. There was a paper presented at the end of the day, yesterday, showing a letter from a large producer in the West Coast supporting sodium bisulfate. This chart here shows you an outbreak of salmonella that that same producer experienced
in 2013 and 2014 while they were using PLT in their birds.

CHAIR FAVRE: Okay, all right we need to have you stop there. Thank you. Questions? Francis?

MR. THICKE: Thank you, a question about the acidity. When you have the acidified product put on the litter at the recommended rate, what would be the pH of the litter on the surface? Would you -- do you update on that?

MR. BAKMS. ROSEN: Yes, although it's really going to -- it really varies so much. I've spoken to producers who have, and we heard you here yesterday from Miller, that they had -- I think that they were looking at bedding that had been in the house for four or five years. Sometimes it's in there for one year. The oldest litter I have ever heard of in place is 15 years old, so you can imagine what kind of ammonia and microbial burden is going to be living within that.

So it's really just a -- it's a shot in
the dark to say exactly what that is going to be because so many different factors play into it, whether it be moisture, ventilation, the age of the litter, whether its rice hulls, whether it's going to be sawed up shavings or what have you.

MR. THICKE: Okay, thank you.

CHAIR FAVRE: Harriet?

MS. BEHAR: Have you had any of your customers be frustrated by not being able to control the ammonia or having large mortalities in their houses?

MR. BAKMS. ROSEN: I have never heard about problems with large mortalities, that kind of feedback has never come back.

What I have heard is that it doesn't work as well as Poultry Guard or PLT, okay? But my response to that is, typically -- and you can find it right on the PLT bag, right, if there -- if different kind of things have happened.

If you've recently wind-rowed, okay, if you've turned over the litter -- different situations like that -- or if it's old litter, you
need to apply more. So what I tell my customers is that, well apply more and that's really it.

But until today I have never heard any kinds of concerns. I know that necritis is an issue throughout the industry. It is not an issue just with organic. Conventional barns are struggling with this too.

I really don't believe that there is a single silver bullet. And one of the things that Dr. Johnson mentioned yesterday is that heat -- she mentioned three things that can handle the Clostridium perfringens, and one of them being heat.

In-house wind-rowing has been proven to kill that very effectively. So it really comes down to management practices and, as somebody said the other day, the best fertilizer is the shadow of the farmer. And I really think that a more hands-on approach and a more long term approach to building aviaries is the solution that is going to help these birds thrive.

CHAIR FAVRE: Ashley?
MS. SWAFFMS. ROSEN: Okay, so the other guy from Barn Fresh talked, you have 2 million birds a week, currently down on the ground, where you're using activated Barn Fresh or all types of Barn Fresh?

MR. BAKMS. ROSEN: That would be activated Barn Fresh. Barn Fresh is typically used only in situations where you want to dry out. So activated Barn Fresh is a combination of food grade diatomaceous earth and food grade citric acid.

Barn Fresh, for the most part, the market for us there is in Canada. We don't get the big accumulations of ammonia and so on, so it'll be used to help dry out litter if wetness does occur.

MS. SWAFFMS. ROSEN: And -- sorry, Tracy, some follow up -- so do you know typical parts per million ammonia ranges that those producers are seeing using your product?

MR. BAKER. Yes, so in the commercial organic spaces it is typically well below 20 parts
per million. Now, that's a -- and I've got to say -- that is a very significant change from when they moved to using our product initially.

And I've certainly been in barns, whether on the east coast on the west coast, I've been in some barns where it makes your eyes burn, right? Up here, I can't imagine what the ammonia is going to be at down here. But we're very confident that applying an appropriate amount of activated Barn Fresh will bring it down where it needs to be.

MS. SWAFFMS. ROSEN: As an inspector you're supposed to take ammonia readings at bird height.

MR. BAKMS. ROSEN: Yes, I know, I know. It makes a lot of sense. So are there any other questions? Just one thing I'd like to add, there is such a rich tool kit at your disposal, at the disposal of the producers, organic producers. I really think that we need to leave the tools from the 80s alone, right?

My kids, like, I watch Netflix. I can
watch an entire series over the weekend and that kind of thing, instead of waiting once a week to watch Happy Days. So we can leave a lot of different things back in the 80s that were appropriate for the 80s because organic shouldn't be about maintaining the conventional status quo.

CHAIR FAVRE: All right, that's fine.

MR. BAKMS. ROSEN: Thank you very much.

CHAIR FAVRE: Thank you. Next up is Gwendolyn Wyard with Ann Marie Hourigan on deck.

MS. WYARD: All right. Well, good afternoon, my name is Gwendolyn Wyard. I'm the vice president of Regulatory and Technical Affairs for the Organic Trade Association.

First, I also want to extend my gratitude to the outgoing board members, Zea, Tracy, Carmella, Harold, Jean -- where'd you go, you're in the dark back there. Thank you so much, you are all amazing and your work has just been absolutely spectacular so thank you so much.

Okay, you have our written comments and you also have our resource booklet featuring the
National List criteria and the three -- balancing the three-legged stool.

And I really encourage everybody in the room to take a look at the introduction and read that so that you can really understand the challenging consideration that the board must go through, and must give, by law, to each material that goes on or off the National List.

With respect to our comments, you have them, I'm not going to belabor them, but I do want to just highlight a few to inspire any questions that you might have. Strengthen the requirements to use organic seed, yes. Organic seed is a critical foundation to the success of organic agriculture. Please continue your work on this topic and we have several suggestions.

Tocopherols, yes, list non-synthetic but revise the annotation on both listings to require organic preference. Work on classification of Xanthan gum, yes. Please give non-synthetic forms a chance, excluded methods not allowed. Our existing definition in the
regulations is most important, guidance however is needed.

We believe the definitions and principles in the proposal also matter the most and will carry the water for the long haul. We also think that the definition of principles support the chart. If you’re certain that the chart is correct, pass the proposal, all of it.

Sunset reorganization, yes -- every input, every five years, according to National List criteria -- 2018 sunset, does three-legged stool stand on one leg? No. Does a three-legged stool stand on two? Not when I sit on it. It takes all three. So I admire your work, you have a tough job, and here's to a sturdy three-legged stool. Thank you.

CHAIR FAVRE: Harold?

MR. AUSTIN: Thanks Gwen, thanks for all the work that you guys do too and understanding all the effort that the five of us are about to sunset off it, and trying to put into our efforts on the board. Could you elaborate a little bit on
your comments on Xanthan gum for us, please? Got you.

MS. WYARD: Sure, you know, Xanthan gum -- I haven't given it a lot of thought in the last couple weeks, but I certainly did prior that. So I think Xanthan gum, from reading through the technical review, it sounds like there are in fact non-synthetic forms. And the common manufacturing processes that are being used to make Xanthan gum are non-synthetic.

So I think it's important that if, in fact, non-synthetic forms are being made, that that be taken into consideration and non-synthetic forms be placed on the National List.

And I would also go as far to say that there should be an annotation or something that requires that the non-synthetic form be used, and perhaps the synthetic from not allowed, period.

I think that this is really important because from the organic versus natural perspective too, there's a lot of products that people consider them to be natural when they
contain Xanthan gum.

If you get into the discussion about organic versus natural and you have a product that would meet the requirements and could be labeled as organic. But, let's say, you were to use the current policy under FDA with respect to natural, it would contain a synthetic ingredient --- that being Xanthan gum -- and you wouldn't be able to call it natural.

So it just seems like there -- this is one opportunity that kind of jumped out at me for, you know, all the obvious reasons as well as that one. Because I'd recently been working through comments to FDA on the definition of natural.

CHAIR FAVRE: Tom and then Zea.

VICE CHAIR CHAPMAN: I'm looking at your stool here and I'm glad I'm on a more comfortable chair. But we've received a lot of comments about consumer input and I was wondering where -- or consumer preference -- and I was wondering where that sat on that three-legged stool.
MS. WYARD: I'm glad I brought it up here because I can't see that far even with my new glasses. So, yes, I think that -- so alternatives, health and environment, and suitability. Suitability is a term that we gave -- it's actually, in the law it's compatibility. Suitability just seemed a little easier to digest.

In the introduction we have talked about the challenges for each of the three criteria that are in the law. And when you look at suitability or compatibility, it's definitely, it's arguable that that is the most nebulous.

Suitability or compatibility, specifically says it's compatible with organic production or handling. And there isn't any more specificity in the law or in the regulations for what that means.

However, in the PPM there is in the Appendix A there --- or yes, in the annex there -- there is a recommendation that was passed in 2004, I believe. And that has a long list of criteria that I believe you're using, and it's
where you go to to understand whether or not
something is compatible with organic production or
handling.

And there's one specific question that
asks whether or not the substance satisfies
consumer perception, in terms of organic integrity
and, I think, authenticity. So I mean I would
argue there's three reps on the board, consumer
reps on the board, and there's that compatibility
in reference to that recommendation that was
passed.

So absolutely consumer preference
plays into it. I think you have to balance
science, you have to balance consumer preference,
you have to look at the alternatives. And that's
the whole meaning of balancing this three-legged
stool, is that it's not just science alone, it's
not just alternatives alone, it's not just
compatibility alone.

CHAIR FAVRE: Zea?

MS. SONNABEND: Thanks. Back to
xanthan gum for a second. And when you were a
product, a processing review coordinator in your past, would you being able to tell if xanthan gum was manufactured from a non-synthetic source versus a synthetic source? Or would passing such a restriction place a pretty strong hurdle to certifiers to determine that?

MS. WYARD: I think synthetic and non-synthetic determinations are made all the time. I think, yes, we definitely, including myself, have the expertise to be able to determine synthetic versus non-synthetic. We'd ask for that information.

It would help if the final classification guidance on synthetic and non-synthetic were available. But, you know, I think we probably would have been using that draft form. But, yes, I think that's a requirement of certifiers to be able to make that determination.

I'm not saying it's easy, but, yes.

CHAIR FAVRE: Thanks, Gwen. Next up is Ann Marie Hourigan, with John Ashby as our last public comment.
MS. HOURIGAN: Good afternoon. My name's Ann Marie Hourigan. I'm with Earthbound Farm, a dedicated organic producer and handler of organic packaged salads.

Earthbound Farm supports the relisting of both peracetic acid on 205601 and cellulose on 205605. Peracetic acid is an important tool which we use in our irrigation lines and to disinfect equipment. It's more effective than other approved sanitizers currently available and decomposes quickly.

Cellulose is a nominal ingredient in the organic shredded cheese that we use in our various organic salad bowls and salad kits. It's a plant-based fiber found in all plants. It has a technical anti-caking agent effect on the shredded cheese, which keeps the cheese from clumping.

In addition, Earthbound Farm would like the NOSB to send a proposal to develop provisions for the bioponic production including hydroponics, aeroponics, and aquaponics back to the
The greatest challenge to the organic industry is the maintenance of a reliable and dependable organic supply chain. For Earthbound Farm, that supply chain starts with organic produce which is grown sustainably and with integrity.

Just to be fair, Earthbound Farm does not currently use hydroponic production to grow any of our produce nor do we have any plans to do so at this time. In fact, we proudly organically farm almost 30,000 acres of land.

However, in drought-ridden California, we must be mindful of the resources we use, specifically water. As we look to the future and as water becomes more and more scarce, we need to be able to carefully consider all of our growing options.

It would be detrimental to the organic industry to prematurely exclude any growing methods that could conserve water consumption and other natural resources based on the medium in which a plant is grown.
At this time, Earthbound Farm encourages the NOSB to send the hydroponic proposal back to the crop subcommittee for further deliberation. Although the 2016 hydroponic and aquaponic task force presented various perspectives from across the industry, there's still a lack of consensus clearly defining these various methods.

As such, we encourage the crops subcommittee to carefully evaluate the various growing methods including bioponic practices which have successfully integrated organic growing methods and sustainable practices.

In the spirit of consumer transparency and choice, we would support hydroponically or bioponically grown crops to be labeled as such once these terms have been clearly defined. Please consider the further growth of the industry as well as the preservation of precious resources.

In closing, I'd just like to thank the NOSB Board for your time and for the opportunity to come in here today.
CHAIR FAVRE: Thanks, Anne Marie.

Questions? Dan?

MR. SEITZ: So it seems that in a number of other regulatory processes cellulose is not allowed. And I was just wondering why that is that in some other places there hasn't been any -- or it's much circumscribed, say, just for -- as a filtering agent.

So here it's broader and I just was wondering why in, say, Europe or whatever it hasn't been as necessary a substance to allow.

MS. HOURIGAN: Oh, I couldn't speak to why it wouldn't be as necessarily important in other markets.

MR. SEITZ: okay.

MS. HOURIGAN: Thank you.

CHAIR FAVRE: Thanks, Anne Marie.

Last public commenter will be John Ashby. Hi, John.

MR. ASHBY: John Ashby with California Natural Products. I'm here for, I think, it's the umpteen-bizillionth time for address silicon
dioxide and enzymes while I'm here. And, in fact, it's been so many times I can't even talk about it anymore. So instead, I'm going to sing it.

(Singing.)

You'll never know how much you really love me. Oh, yes, you do. Until I'm gone and then you'll miss me so -- doo-doo-doo-doo-doo-doo -- listen. Ooh-ooh-ooh, do you want to save organics? Ooh-ooh-ooh, would you rather kill it dead? Whoa-oh-oh-oh, closer. Woo-hoo-hoo, let me whisper in your ear. Woo-hoo-hoo, say the words you long to hear. I'm in love with silicon dioxide and enzymes too-ooh. I've known this secret for a decade or two. Can't make our products with these two-ooh-ooh. Ooh, listen. Ooh-ooh-ooh, do you want to save organics? Ooh-ooh-ooh, vote for silicon and enzymes. Whoa-oh-oh, closer. Mmm-mmm-mmm, please do whisper in my ear. Mmm-mmm-mmm, say the words I long to hear -- you'll keep them on the list -- enzymes and silicon dioxide, so organics can continue to thrive and I
can keep my stupid job alive and come back this spring and never have to sing again.

(Applause.)

Long live enzymes and silicon dioxide.

And thank you, guys.

CHAIR FAVRE: I just sort of dare anybody to ask a question.

(Laughter.)

There you go. We got the bold one. Go ahead, Emily.

MS. OAKLEY: Well, I can't sing my question. And without singing your reply, could you elaborate, just briefly, on silicon dioxide for me?

MR. ASHBY: Yes. You know, this -- what you see currently on the list was a compromise that was worked out by me and the owner guy who provides the organic rice hulls because silicon dioxide can do some things that rice hulls cannot.

It can deal with some really hygroscopic products. You just can't make most of
the products we make without having the silicon
dioxide because it keeps it from just forming into
a sugar brick instantaneously.

And that having been said, I'm not
against the rice hulls. And we, in fact, have
another product that we're making at our plant. In
about a month we're going to do a trial to see if
we can, for that product, take the silicon dioxide
out and replace it with the rice hulls.

But the basic solids that, you know,
rice solids that our company invented, literally
decades ago, were organic when there wasn't even
anything close to a definition of what organic was.
They've been around that long. They're just
critical in some products.

You just can't make a whole lot of
products just with sorbs. You've got to have
solids along with the sorbs. And it's the silicon
dioxide that's the flow agent that keeps it flowing
so the manufacturer can use it in their location.

CHAIR FAVRE: Okay.

MR. ASHBY: Thank you.
CHAIR FAVRE: Thank you, John. All right, folks. This concludes are public comment section of the meeting. And we're running about 25 minutes late so we are just going to shake it off and plunge right in to our next agenda item.

Our next agenda item is the NOSB discussion of suggested NOP priorities for fiscal year 2017. Michelle's going to put up that on the screen for us. Right, Michelle?

So let me give you folks some background on this. So every year the NOP puts together a work plan for their fiscal year which starts October 1. And this year I think we've got a really good line of communication between the Board and the program. And I think we've all worked hard to ensure that opportunity was there. And the programmer approached us and said we have a pretty voluminous list which Miles talked about yesterday on the outstanding items, the recommendations that the Board has sent to the program or activities or tasks that we sent to the program.

And there's only so much bandwidth.
And so the program asked us to give further comments on where their priorities should be on the list of things we'd already submitted as a board.

And so what we did here was go through essentially the outstanding list. And each subcommittee had an opportunity to deliberate what those various items were and to provide some feedback to the program on where we would, as a board, like to see them put their focus.

So -- and I want to say, again, this is the first time that we've had the opportunity to contribute to this conversation. And I think we have agreed, at least in principle, that this is something that we want to keep as an ongoing practice.

So what I'm going to do now is I'm going to turn it over to each of the subcommittee chairs for them to give feedback on what their subcommittee reached as recommendations or suggestions for priorities. And we're going to start with handling first.

MR. MCEVOY: May I say something?
CHAIR FAVRE: Yes, I'm sorry. Before we do that, Miles wants to say something.

MR. MCEVOY: Yes, as I described yesterday, and I've described in numerous presentations to the Board at the board meetings, we have a long list of projects to do to implement the NOSB recommendations.

Some of these things take a long time. Some of these take a lot longer than I ever imagined when I first started this job seven years ago. And we have both limited resources and that narrow regulatory pipeline for getting things through the regulatory lists.

So we have plans in terms of how we're approaching that prioritizing various projects, various NOSB recommendations. But we thought it would be good to both share with the NOSB the list of NOSB recommendations that are still outstanding and the ones that are in process and to get some feedback from the Board on what they see as the priorities in terms of these outstanding recommendations so we can then adjust our plans.
appropriately to address the needs and the priorities
of the organic community and from the Board's
perspective.

CHAIR FAVRE: Thanks, Miles. Okay, I'm
going to turn it over to Harold to discuss the
handling comments.

MR. AUSTIN: Okay, thanks, Tracy. The
first item is actually not a draft item but it would
be the classification of a materials guidance which
would help us with the determination to decide on
the materials what's agricultural, what's not
agricultural and then also what's a synthetic
versus a non-synthetic by the use of those decision
trees.

A second point that we would like to see
is calculation percentages of organic ingredients.
We've been waiting on that one for a little while.

And third point would be infant formula
substances, nutrient vitamin minerals -- accessory
nutrients that we, the NOSB, have already voted to
prohibit. And we're still waiting for actions to
be taken upon those.
CHAIR FAVRE: Okay, thank you, Harold. Next up, I'm going to turn it over to Zea for Crops.

MS. SONNABEND: Thank you. We on the Crop subcommittee also decided that the classification of materials guidance was the most critical thing and also what we've been waiting on the longest, since it's been my whole term that we've been waiting for this to come out.

Other issues that we identified are fixing the sodium nitrate issue which dates back from before my term started -- wrote and owned and something we adopted in 2013.

And to proceed with the annotation change for the EPA list for inerts, along with that is keeping forward motion on the work of the inerts working group to work with the Safer Choice program.

And lastly, we concluded that apiculture standards are quite important for crop production, even though it falls on Livestock because we can't, of course, produce crops without bees. Thank you.
CHAIR FAVRE: Thanks, Zea. Okay, Livestock. Ashley?

MS. SWAFFAR: So our top four that we determined, in no particular order, that were important to us on the committee was zinc sulfate for hoof treatment, the origin of livestock rule, apiculture standards and the methionine averaging for poultry.

CHAIR FAVRE: Okay, Materials. Lisa?

MS. DE LIMA: We just had one, similar to others, classification of materials.

CHAIR FAVRE: Okay. Carmela, CACS.

MS. BECK: And ours it's listed the calculating percentages of organic multi-ingredient products. But we got the good news that that's forthcoming, so that's good news.

CHAIR FAVRE: And, Tom?

VICE CHAIR CHAPMAN: None of the proposals before were related to the PDS so we had none.

CHAIR FAVRE: Okay. So I just want to open this up briefly for any board members to
express whether they have any additional comments based on the recommendations that came from the subcommittee.

VICE CHAIR CHAPMAN: None of the proposals before were related to the PDS so we had none.

CHAIR FAVRE: Okay. So I just want to open this up briefly for any board members to express whether they have any additional comments based on the recommendations that came from the subcommittee. Any feedback? Okay, thanks.

I think generally we had very good robust discussions about this on the subcommittee and debated various items. It was interesting to me to find that classification of materials actually played pretty high as did the apiculture standards.

And so I think this exercise proved to be useful in that we did actually find some consensus across the subcommittees where we felt like the program could put some resources. Do you have any final comments?
MR. MCEVOY: No. Just thank you very much. It's great feedback. Appreciate it.

CHAIR FAVRE: Okay, carrying on, we are going to start our subcommittee deliberations. The first up is going to be CACS. I want to again, just remind everybody, since we've gotten back after lunch, just to make sure you silenced your cell phones and muted your computers, please.

And also, just as a reminder to everyone including the board members here, that these motions are coming to the floor as seconded motions, already, from the subcommittee. So with that I'll turn it over to Carmela.

MS. BECK: Thank you, Madame Chair. So this past semester we worked on two documents or, excuse me, two topics, the first being inspector onsite evaluation requirements as outlined in NOP Instruction 2027. And the second one was eliminating incentives to convert natural ecosystems in organic production.

So I'm going to go ahead and ask Dr. Jean Richardson to present on the first topic. Oh,
perhaps --

DR. RICHARDSON: Okay, thank you.

MS. BECK: Thank you.

DR. RICHARDSON: Okay, this is a very interesting one to be involved in because I've been an inspector for 16 years. So -- and then on the Board and all those kinds of things. So I can see organics from a number of different points of view and done training with IOIA.

So what we're looking at here, we're not going to be voting on anything today but we will be -- Scott and I will be giving you some feedback as to what it is we're going to do with the information we've received here.

The USDA regulations at 205.501 specifically say that the certifying agent must conduct annual performance evaluations. And I stress those terms because I'll bring them up again. The certifying agent, the -- whoever it is, has to do annual performance evaluations. And you expect that from your boss. You expect to get an annual evaluation.
For anyone who's doing -- for anyone who reviews applications for certification performs onsite inspections, et cetera. We're all aware of that. And then it obviously wasn't being done super-well and the -- or at least it wasn't being done consistently.

And when the NOP noted that not every certifier was really necessarily doing a good job in either training or their inspectors or when -- and when they went out and the NOP did field audits, it was not happy with the performance of some inspectors sometimes.

So in 2011, after public comment, the NOSB had analyzed this, got public comment, got further information and I was on that committee at that time as well. And the statement we came up with was that there would be witness audits. And, again, I want you to notice that word.

Witness audits take place by the ACA's or -- next slide up. Doesn't want to go up. Michelle, it's not going -- there you go. Thank you.
That the NOSB said there should be a witness audit every 300 inspections or every 300 years. And the dates that it had come up with were three to five years. John Foster, for example, was one of the people that was working on that, was one of the lead person at the time. And they said the results must be documented -- problem? Are you going to do it for me? Oh, good. Thank you.

And again, we use the term witness audits. Witness audits may be conducted by certification management senior inspectors or senior reviewers. So that was what -- we only know what NOSB said based on input from the broader stakeholders after public comment.

Then the NOP took what we said, and without further public comment or coming back to us, promulgated in 2013 2027 which required annual in-field inspections which they then revised slightly in March to say field evaluations for inspectors only should take place onsite by a supervisor or a peer, another inspector, at least
annually -- so every year, everybody and they're using the word, evaluation. The field evaluation should be conducted at the certifier agent's expense. And the certifiers may use the field evaluation of another certified, accredited certifier and certifiers may submit alternative proposals for field evaluation to their accreditation manager. That last clause there, point 3, hasn't worked out yet. And we need to address that when we -- I'll come back at the end to say how we might further address that aspect that hasn't successfully led to changes yet. So -- oh, you're going to stand there and do it for me. It's just sticking. Oh, the battery's wearing out? Okay.

So then what happened next is in 2015 the IOIA, realizing that this had to take place, developed an evaluation form, recruited evaluators and in consultation with several certifiers, implemented a fee-for-service program which continues.

And we've heard comment on that. You
heard comment on that again today, and Margaret on
the webinar the other day, Margaret Skoals.

Meanwhile, in December, on December the
8th, 2015, the NOP issued NOP 2501, evaluating
auditor performance. And those are for NOP
auditors. This requires in-field evaluations for
those folks every three years. And they use the
work, witness appraisal. Witness appraisal
should be conducted at least once every three
years.

If you then look at other kind of
in-field evaluation of assessor's, auditors,
inspectors, whatever they're called by the various
entities like GAP or SQF or NSF, they're anywhere
from two to four years, typically, that take place.

So once every single year for every
inspector is an unusual situation. And I
understand having -- we invited Sherry Courtney to
come on to our CICS call. And we -- she was very
clear that, from the field work that the auditors
had done, is that they were very, very concerned
about low quality of some inspectors.
So I can really appreciate the concern that the NOP had given their need to assure the integrity of organic work worldwide. No simple matter.

So how is it actually working though? We did a sort of pilot, as you heard from Abe again this morning. There was a pilot of a hundred inspectors last year using the IOIA form and other forms of evaluation and many, many this year. I don't remember how many.

But a lot of us were inspected through either IOIA or through our certifiers because there are a large number of inspectors, not just on staff but contracted worldwide. And so there's a lot. We don't actually know how many of us, inspectors, there are, which would be an interesting database to start from, but still.

Okay, so we got a lot of public comment, substantive public comment. I mean, not masses, not thousands of papers like we did for other things but we got very substantive comment provided from seven certifiers from the accreditation organization
itself based on a survey which had been conducted
and from consumer groups from IOIA and not really
very much from inspectors or industry per se.

So what can we say about the benefits?
Obviously, there have been some benefits. There's
no question about it. I believe it's reasonable
to say that certifiers are no longer hiring poorly
performing inspectors. Or if they're marginally
okay, then they're being retrained or sent off to
IOIA boot camp and hopefully coming back to work
for the certifier but with better ability to do
their work.

So from that point of view, the NOP
edict, so to speak, has -- or policy, I should
say -- has worked quite well in shaking people up.
It is also, I think, as we've heard from public
comment, allowed certifiers to identify where
further training is needed.

And that is very important because a
critical aspect of any form of evaluation must be
the professional development of the inspector. In
this case, we're talking inspectors. And,
obviously, we, all of us, have been evaluated in all of workplaces, all of our careers, I'm sure. And we know how much we do appreciate hearing how we can do better and being helped to go and get that training, hopefully paid for by the people that you work for.

So professional development has been identified and I think that that is certainly -- there's been an improvement.

The other thing that we noticed in public comment is that it's opened a broader dialogue between the certification staff and the inspectors. And I think that's absolutely terrific. That's really been good.

You know, we inspectors are always talking to each other and, you know, on the phone calling each other up. And I think that it's increased the likelihood of -- especially when you're out, you know, you're in the middle of nowhere and you're -- the agency that you're working for is on the West Coast. You're on the East Coast. You may need to call someone
in-between.

But you're calling staff. You're calling each other. And I do think that that's been a really good benefit.

We think that there's been, it's led to more of an increased consistency between certifiers. They had to agree on the evaluation instrument, for example, that IOIA put together that some folks used. And it's also led to more sort of cross-conversation between certifiers and the reviewers as to what should be being looked for and how to measure it.

I think that it's increased oversight and accountability for inspectors. Although, as we've heard from the people at, these certifiers that came to this meeting, everybody has had or at least all the ones that have presented at this meeting and that received comment on, have their own evaluation programs in place.

Now there are a lot of certifiers that are not here in this room and that haven't provided information. And so, hopefully, they will be
caught in this net of improving their certification -- their evaluation of their inspectors once the word gets out as to how it has to be done, if we make, decide to make some changes.

So if we go to the next slide, thank you.

So those are the benefits. Then we look at the costs. If you look into a cost-benefit analysis in terms of me analyzing this policy document, there are a lot of costs and challenges associated with this NOP 2027.

We heard from pretty much everybody that it's resulted in a disincentive to hire contract inspectors who only do a handful of inspections. It's just -- it's too expensive and logistically too complex. And we've heard that, I would say, a hundred percent of stakeholders that have been involved in it would agree with that.

And so it's meant that there's been a disincentive to accept new clients, new producers, either locally or in distant location, because they just -- they don't have enough inspectors and they can't necessarily afford, either logistically or
for financial reasons, to do reviews of inspectors either locally or distant.

Again, we heard that here at this meeting as well as in the written material we received. It's also -- it's, obviously -- it's very expensive. Everybody, countrywide, in organics has always tried to be very, very low in the costs that charge producers, especially the vegetable, dairy farmers.

You know, maybe it's different for handlers. They can perhaps, the large processors can afford more in terms of fees. But the industry as a whole has kept costs as low they possibly can do.

So if you start adding in annual costs per inspection, then you're looking at anywhere from $400 to $2,000 to review an inspector on an annual basis. These are numbers that are provided to us and the written documents that came here, if you want to check them all out.

This, for many, larger certifiers, especially, this has resulted in huge annual budget
changes and how to -- whether or not this can be sustainable is really questionable. You can do it for a year, but can you do it every single year and keep pushing these costs somewhere, down to the farmer, up to the consumer, is this is a really good benefit.

When, remember, we heard a perfectly articulate presentation from one of our certifiers pointing out that when they looked at the difference between the evaluations that they were doing a couple of years ago and last year compared with the ones that they'd been doing now using these evaluation instruments that, you know, for example the IOIA one, is that they really have not found that it's told them anything new, that they didn't already know.

So it may not be a very effective way to do what we hope to do, which is to retain high quality inspectors. So not cost-effective, one certifier, for example, said that they have 70 inspectors who do almost 5,000 inspections a year between them. And these, the number of
inspections an inspector might do is anywhere from only one to 200. So this is a very conflicts-logistic burden for that certifier and for many other certifiers.

We also noted we specifically wanted to know how things were going on internationally. And we did not get any information whatsoever as to whether or not this annual -- every inspector annually, every year, worldwide is taking place. So far the information that I've been provided with does not indicate that any international inspection evaluations have taken place, as they're required to, under this NOP 2027. Obviously, the cost of that would be enormous. And yet, as you've heard of the issues on Turkey, for example, that we've come up with at this meeting, inspection of inspectors overseas is obviously -- would be a very -- I would see those as being high risk.

Last one on this page is sharing files through unsecured email service places client confidentiality at a risk. I've asked this
because I'm an inspector and I think that the agencies are a bit naïve if they don't think that this is a serious problem.

We did hear from IOIA and from certifiers that they don't see that the use of sharing files is a potential for sending around documents that are suddenly available for whoever likes to hack into things. There are people around the world that like to hack into emails, as we know.

My experience with this is that it is not secure. And I was requested to send the -- all the inspection materials of a clinic by my Gmail account, which is unsecured, to the person that was selected to be the person that was going to do my inspection.

I refused to do that because I didn't want the liability. And I requested that my certifier do that and not me. And so I'm Absolutely certain that there are files going around where, if the producers knew that the reports from their inspections and their files which contain, frequently, confidential business
information are being shared through unsecured emails they would not be happy.

And it would increase your liability, folks. So, let's see, do we have another one? Let's move to the next slide. Oh, we think it's going to work now. She's changed the battery. There you go.

Okay, so sharing evaluations between certifiers, we find, is not consistent. Some certifiers don't want to take the cost of buying from IOIA so they would really work out how they could just call another certifier and get copies of Jean's reports or Jean's evaluation, et cetera.

So we've been, we've heard that there's lack of consistency in the sharing of evaluations between certifiers. And, of course, if you don't hire or you want to buy the report that was done on Jean, you have to buy that form IOIA if you haven't hired IOIA to come and do the inspection of Jean, if you see what I mean.

So it leads to a certain amount of inconsistency. And, of course, there's
inconsistency in the kinds of instruments that are being used because not everyone is using the IOIA template.

There's also confusion over the terms personnel evaluation versus witness audit. And I referenced that at the beginning because when the CACS looked at this and analyzed public comment and reviewed it a few years ago, we specifically used the word witness audit. I think it's a big difference between me coming in here and doing a witness audit of my friend, whoever. Harold Austin, if he's the guy out there doing it, I can witness what he does. But I, personally, would not want to be putting the responsible position of actually doing a personnel evaluation of him.

I think that's not appropriate. I think that personnel evaluations should be done by the people who hire you and pay your income. Because I think that what we're finding is that it's leading to inspectors being placed in rather difficult professional relationships with fellow inspectors and inconsistent evaluations.
And we're had -- that is reported to us, in the written comments that sometimes they'll just come out. Yet, sure, ten out of ten, they're great. That's my friend. Ten out of ten, they're great -- which doesn't help anybody really, even though it may be true.

Also the IOIA evaluation instrument, it's long and detailed and it's been agreed on. But it really isn't designed with the goal of improving the inspector. And that should be the goal of what an evaluation or is, a personnel evaluation side, of what we're trying to do.

We received information that it increases time, cost and stress for both the clients and inspectors, typically taking longer than the normal inspection. And even though the way which it was set up, which I found pretty cumbersome -- the way in which it's set up, you tell the client that it's really not going to be more expensive for them. It is because you get paid by the hour and if it takes twice -- if it takes 11 hours instead of 5 hours, that's quite a large hunk
of money that that client then has to pay.

So if certifiers were to adopt a risk-based plan to conduct in-field witness audits -- and that's the terminology I think should be used -- of all inspectors over a period of three years -- so rather than one year -- how will the overall consistency by obtained and maintained throughout the industry?

And that's the, sort of the challenge that then gets thrown back to the ACA organization and to individual certifiers. It's going to be really important that whatever it is that you come up with to address the needs, to demonstrate that you are -- that you have a plan in place -- I think that that is -- we need to make sure that whatever's being proposed is consistent so that you can satisfy the NOP that we will really be leaning hard on inspectors to improve the quality of them.

So steps forward, I believe that the subcommittee will quick prepare a proposal to make recommendations to the NOP to revise an update NOP 2027 based on public comment, recommending a
risk-based way of approaching inspector witness audits as part of their annual evaluation.

And we hope that it gets -- the changes take place sooner rather than later. And we will be using some of the phrases, a lot of the phrases that have come directly from the public comment provided for this meeting.

What I'll do at this point is I'll turn it Scott who's been working with me on this topic.

MR. RICE: Thanks, Jean. You hit a lot of the points that, obviously, we talked about and that I've talked about with fellow certifiers.

I just want to reiterate the -- that there's consistent agreement that these are helpful -- it's a helpful practice to go through the witness audit process. And also just wanted to also reiterate, you know, there is a constant feedback loop in that certification.

So if, in addition to these witness audits, we're also seeing, as Jean noted, the review of inspection reports, comments from certified operations. VCO mentioned, I think,
that they leave a postcard behind with a feedback card that can be mailed in. And that's also useful, as well as a lot of periodic training both in-person and via webinar and, of course, IOIA's boot camp which it is, and in a good way.

And I think as far as Jean's last point, ACA, the Accredited Certifiers' Association, and certifiers in general are very open and eager to work together to present an alternative to that every inspector, every year requirement that we have right now. That would still be as rigorous but allow the flexibility that that diverse certification kind of landscape that we work in requires.

DR. RICHARDSON: Yes, Miles? You have a question?

MR. MCEVOY: Yes, so it's really important that there are -- it's a requirement that they're qualified personnel that do the certification work and especially that the inspectors are qualified and do a thorough inspection. So that part of the requirement's in
the accreditation criteria.

As we have been doing audits for a long time, one of the things that we were noticing, there are some weaknesses in the inspections, inspectors that we were seeing out in the field through witness inspections and as well as in review audits that we also conduct. And we saw a variety of different practices that were occurring in terms of the requirement that there's an annual performance evaluation.

Some certifiers were doing in-field evaluations of the inspectors and some were not doing any at all. So in order to improve the overall quality of the inspection process and ensure that all the inspectors are meeting the expectations of a thorough and complete inspection with the quality that's necessary, we issued this instruction to certifiers to say an annual, in-the-field appraisal of the work that the inspectors are doing is really, really important.

We're open to other ideas. But it is a requirement that there is this annual performance
evaluation. We feel that you -- in order to really evaluate the competency, you have to see somebody actually doing the work. And just reviewing the inspection reports themselves is not getting a complete picture of the work that an inspector is conducting. But we're certainly open to other ideas as we continue to work on this topic. Thanks.

DR. RICHARDSON: Tom?

VICE CHAIR CHAPMAN: I guess the question I would pose to the program is why would food safety systems that require two to four years be sufficient? It's such an important topic to determine an inspector qualifications and not have a similar program in place that would be in place for organic inspectors.

MR. MCEVOY: I can't speak to why the food safety programs have a two-year review, but it is a requirement in the organic regulations that there's an annual performance evaluation of everybody involved in the certification process. From our perspective, at this point in time, we feel
that it is important that that's done in the field on an annual basis.

MS. BECK: Some more -- Zea?

MS. SONNABEND: So I guess this is a comment and a question. Have you looked at what a risk-based assessment would actually look like in practice? Because it does seem to me, for instance, that it would be as simple as a rating of 1, 2, 3.

And people, you know, I, for instance, have been inspecting for 30 years now. And if my witness audit occurred and everything seemed to be fine and I have a long track record, that I was given a 3 which would mean that I don't have to be a witness audit for another three years where as a new inspector who might need improvement would get a 1 and they could just have to be inspected in the field every year.

I mean, that just seems simple.

DR. RICHARDSON: Yes, we did get some of the public comment does include specificity in terms of what a risk-based would look like. We do
recognize, however, that there's going to be a need to be consistent because there would be concern that if Certifier A has such-and-such a plan and we know they're doing a pretty good job but then Certifier B comes in and suggests something slightly different, we want to have consistency.

So when we write the proposal which we will do following this meeting through CACS that would go, that would be proposed for the next meeting, we will include some of those examples of what a risk-based might look like.

MR. MCEVOY: Yes, that would be a potential reasonable approach, as having a risk-based approach, as you suggest. So if we can specify that that could be a way to move forward on this to lessen the burden on certifiers.

I also wanted to respond to Jean's comment about certifiers working outside the U.S. They have the same requirements. They're also required to do an annual evaluation, and that is happening. It was not happening before this and now it is happening at that annual in-the-field
evaluation of all inspectors, which is occurring.

DR. RICHARDSON: We didn't get any public comment on that. The one comment we got was from a very large certifier which said they had not done any of these annual overseas because they couldn't afford to do it. So, okay. So you obviously have more data -- which we need.

CHAIR FAVRE: Harriet?

MS. BEHAR: So I think though even for the, in the risk-based, in the in-between years for the in-field, I mean, I agree that you never know when an inspection report is missing, if you weren't there to know what's on there.

But especially if it's a client who's been certified for numerous years, you could -- it's almost like doing a desk audit. You can look back at previous inspection reports. You can look at previous, at numerous client feedback loops.

I mean, there's a lot of document that will help you decide who's at higher risk and are they actually doing a good job. So I think that
there's more than -- it's not just only the witness audit can really tell you what's going on out there on the farm. There's many ways to at least point to the people that really need a little more oversight.

MS. BECK: Is there any further -- oh, Francis?

MR. THICKE: Yes, I'd just like to give the farmer perspective and that is that, being certified many years and inspected many years, is that you can see right away who knows what they're doing and who doesn't.

And some of them are really good and they're really thorough and farmers don't really like them because they take all day. But you can see it right away and they don't -- I think this idea of a risk-based thing would be perfect for them.

Others, you can see they're struggling along and sometimes farmers like them because they get out quick. But nevertheless, those kind -- it seems to me like if they had a couple annual
evaluations and they -- you could go by the evaluation. When they get up to snuff you wouldn't have to do it so often.

And farmers don't like to have too many inspectors running around the farm anyway. It takes longer and --

VICE CHAIR CHAPMAN: It's true on the handling side as well. You can tell within about ten minutes whether you have a good inspector or not.

MS. BECK: Emily?

MS. OAKLEY: I want to echo Francis' comment about having a good inspector just increases your confidence in the label that you're certifying to and that you're paying for as a farmer. So I applaud all efforts to increase the competency and evaluation on inspectors.

MS. BECK: Oh, okay, any more discussion? Okay. I want to thank Jean, Dr. Richardson, and Scott. And we're going to go ahead and do a verbal update. Harriet, would you mind?

MS. BEHAR: Okay, so there is a
discussion document in process on eliminating the incentive to convert native ecosystems to organic production. But this is a detailed subject and it needs a fair amount of depth of thought on both its impact, if it's put in place and its impact if we don't.

So we are somewhat focusing on defining what these native ecosystems look like as well as what disincentives might look like along with, as Joann had presented, what is going on in other countries on this subject.

And I have to say, as the lead person on this issue, I'm very gratified that many people did give public comment that they were interested in this, that they thought this was important. And we really look forward to your comments once we have something to share with you.

MS. BECK: Is there any discussion on this topic at this time? Emily.

MS. OAKLEY: I know I've already expressed this. I just feel unbelievably strongly in support of this effort and I take most stringent
path possible and have offered my services to help work on this even though I'm not on this committee. So thanks, Harriet.

MS. BECK: Is --

MS. BEHAR: One of the challenges is -- and we've heard this from the program, that it might need maybe even more than a rule change because this is basically kind of overseeing what's being done before the organic certification process is coming on to the land. So there's an issue of what we're viewing. So what we're trying to see how we can best approach that issue.

MS. BECK: Any further discussion? Okay, so that closes out our topics for the day.

CHAIR FAVRE: Thank you, Carmela and subcommittee. Next, we're going to turn it over to Harold Austin and the Handling subcommittee. Harold?

We have some folks complaining up here that we need a break. What do you all think? Do we need a break? All right, we are now roughly two
hours behind schedule though, so let's make it a --

FEMALE PARTICIPANT: Two hours?

CHAIR FAVRE: That's what he just said.

Oh, all right, 45 minutes. He's like Dr. Doom up here. You know, you're running behind schedule.

You're an hour behind schedule -- all day yesterday.

All right, we're going to take a 15-minute break. Have everybody back here at five till -- or ten till.

(Whereupon, the above-entitled matter went off the record at 3:36 p.m. and resumed at 3:55 p.m.)

CHAIR FAVRE: Okay, without further ado, I'm going to go ahead and turn things over to Harold Austin on the Handling subcommittee.

Harold?

MR. AUSTIN: Thank, Tracy. I'd like to welcome everybody back for the Handling subcommittee's presentation to the, of our work to the entire NOSB Board, the NOP and all of you organic stakeholders that are gathered here today.
The Handling subcommittee has a responsibility to oversee those materials on the National List at 205-605, Non-agricultural, Non-organic Substances, a, non-synthetics allowed, b, synthetics allowed; and also at 205-606, Non-organically produced agricultural products allowed as ingredients in or on processed products labeled as organic.

While we've had a busy semester, I think we can all agree that it pales in comparison to what we went through last year when trying to deal with the Sunset 2017 workload. Yet we've been busy nonetheless. In fact, we've actually added Tracy back on to our subcommittee, even though she's our Chair, to help with the workload, especially to help shepherd the two tocopherol documents along with the new L-methionine petition for handling, two materials, she just doesn't seem to be able to outrun. About the only way is to get sunsetted off the Board, Tracy.

Before we move on to the work and do the
work-up for today's presentations, I would like to
take just a moment to bring you up to date on what
we've been working on on the status of some of the
items on our work plan that we won't be going into
great detail on today, but just to give you a brief
update.

One, on BPA packaging substances, we
recently received the TR from the contractor. We
will begin work on the TR sufficiency on that before
we begin the work on the discussion document
preparations.

Reclassification of magnesium
chloride, this is on hold while we await the
finalization of the materials classification
guidance. Also we're going to have a TR in
development on that particular material as well.
Sodium dodecylbenzene sulfonate, the last time
I'll probably get to say that one, Jean, SCBS, as
you all may recall, it was referred back to the
subcommittee at the spring meeting for further
review.

We're currently waiting for a TR to come
back. That's due sometime in December and then we'll begin to work on further subcommittee discussion and proposal for the future meeting, probably, I'm going to guess, it won't be before the fall meeting.

We also get a review of the '16 Sunset 2019 materials to determine which of those might need a TR to be requested for them. We did request TRs be developed for magnesium chloride as well as potassium acid tartrate. We did not request a new TR be developed for sodium phosphate since we did a broad scope TR that covered all of the phosphates in preparation for the discussion document that we'll be discussing in a little while.

We did this review to help expedite the prep for the spring meeting in 2017 since the subcommittee will only have six subcommittee calls after this meeting to do their subcommittee work, and that will only afford the new incoming members two subcommittee calls before the deadlines of the work to be submitted before the spring meeting.

So it give you kind of a quick overview
on the timeline and the fast learning curve that these five new members are going to be undergoing once they arrive onto the Board officially.

We also received two new petitions this summer, one for L-methionine. I've heard that name before. And another, for short, DNA tracers. So that's a quick overview on the other stuff that we've been working on.

And now, moving in to the Handling subcommittee's work for this past semester as they pertain to our presentations today. First we'll be discussing the Sunset 2018 materials beginning with those listed at 205-605 a, non-synthetic.

The first material we'll be discussing will be agar-agar. And, Dr. Brines, if you would be so kind.

DR. BRINES: Thank you, Harold. All right, to introduce the first substance under Review for Sunset 2018 for this meeting, we're at Section 206-605 of the National List as non-agricultural, non-organic substances allowed as ingredients in or on processed products labeled
as organic or made with organic-specified ingredients or food groups.

The first substance under non-synthetics allowed is agar-agar. And the most recent technical report for this substance was submitted in, was developed in 2011. Thank you.

MR. AUSTIN: Thank you, Dr. Brines. Turn it over to Lisa De Lima to present this --

MS. DE LIMA: Oh, sorry. Okay. All right, so agar-agar uses include thickener, gelling agent and absorbent. It's derived from red algae, primarily the Gelidium and Gracilaria -- sorry, I butchered those -- species.

Agar-agar is permitted for use in organic production known internationally by CODEX, the EU, IFOAM and Canada. The subcommittee is aware that, at the last review, questions were raised about its classification and we will take a look at this once the NOP finalizes guidance for materials classification. The 2011 TR did not find the substance to be harmful to human health. In terms of impact on the
environment, the TR reported limited evidence to suggest that the harvesting of the algae used to make agar-agar may be harmful to biodiversity. And the discussion document that the subcommittee has put forward on marine materials, as it progresses, it might look at harvesting of marine plants and deem that aspect to be further explored.

We requested that the public inform us of any new developments with alternatives to agar-agar. We received little response. We did hear that it has stronger setting properties than animal-based gelatin, that it's less temperature-sensitive than other alternatives and we were also told that an alternative stabilizer would be carrageenan.

So the subcommittee did vote to retain agar-agar on the National List.


DR. RICHARDSON: Yes, more of a comment than anything else. I mean, I will be voting to
retain it on the list, but I would like to point out that the agar-agar, as it's pronounced, can be both wild and cultivated.

And I believe that we should be sending out a message to industry that we would like to encourage them to move towards organic certification of the seaweed whether either from wild harvested or from the cultivated formats. And so it's just sort of a message to the audience out there that that, we believe, having done all the marine plants, that this would help to improve the -- both the quality and the quantity and the long-term sustainability of this material.

Because we know that there has been an excessive demand for agar-agar worldwide over the last ten years, and it's been very difficult to meet that demand.

MR. AUSTIN: Thank you, Jean. Any other further comments or questions? Seeing none, I'll turn it over to you, Tracy, for the vote. And I would point out that this comes to you as a motion with a second, from the subcommittee, motion to
remove.

CHAIR FAVRE: Yes, thank you. We're going to start the voting down with Francis.

MR. AUSTIN: No.

MR. BUIE: No.

CHAIR FAVRE: Objections? That's fine. That'll work. Okay, sorry. Sorry. Yes, we're starting there. Go ahead. You did it right, Jesse.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

DR. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: That's zero yes, 14 no.
The motion fails.

MR. AUSTIN: Thank you. Moving on to the next item on the subcommittee's presentation, 2018 Sunset materials, is -- are animal enzymes. Dr. Brines.

DR. BRINES: Thank you. This substance is in the same section of the National List, same paragraph under a non-synthetics. And the listing and annotation reads, Animal enzymes, rennet, animals-derived catalase bovine liver, animal lipase pancreatin, pepsin and trypsin. Thank you.

MR. AUSTIN: Thank you. Lisa, if you would be so kind to present our document.

MS. DE LIMA: Animal enzymes are used in very small amounts to carry out naturally occurring biological processes used in the processing of food or ingredients. For example, rennett's used as a coagulant to curdle milk to be made into cheese. They are traditionally made from the fourth stomach or other animal organs. Their use is currently permitted in organic
processing in Canada, CODEX, EU, IFOAM and Japan. Enzymes do contain other ancillary substances which function as dilutants, preservatives to control microbial contamination and stabilizers to prevent the loss of enzyme activity.

They may be GROS or be FDA-approved food additives for this use, so they must be. The subcommittee asked the public to comment on availability or organic animal enzymes and comment indicated that none has been found so far.

Public comment was generally in support of retaining animal enzymes on the National List with some cheesemakers commenting that animal enzymes are essential for the production of certain cheese types.

Other public comment requested a continued exploration for organically produced animal enzymes. The subcommittee did not find any new information to indicate harm to human health or the environment. And the subcommittee voted to retain animal enzymes on the National List.

MR. AUSTIN: Thank you. Any questions
or comments from the Board? Harriet.

MS. BEHAR: Well, there's quite a few ancillary substances used with the animal enzymes. I know we haven't really talked about like having a preference of certain ones over others. But that might be something for the future.

I know that some of the enzymes have preservatives in them but some of the same enzymes are also available as freeze-dried which don't then need any of those preservatives. So I'm just putting it out there. I'm going to vote for this, but it's kind of a larger picture issue.

MR. AUSTIN: Emily and then Zea.

MS. OAKLEY: This is a question to Handling. Would you recommend a TR in the next round, assuming that this stays on the National List?

MS. DE LIMA: With any specific questions? Any focused questions for the TR that you have in mind?

MS. OAKLEY: Well in terms of its necessity and specifically if there are
alternatives for the cheeses that are saying that it is continuing to be necessary.

MS. DE LIMA: I mean, we haven't discussed it as a subcommittee, but we could talk about it.

MR. AUSTIN: There were some comments, and I don't remember exactly which products that were, but there were some comments that came in that said their materials would not be able to be formulated without the use of animal enzymes. I do remember that but I don't remember the specific --

MS. OAKLEY: You mean specific cheeses?

MR. AUSTIN: I can't remember the specs.

MS. OAKLEY: Because there were Romano and a couple blue cheeses that were specifically named.

MR. AUSTIN: Yes, there were -- I'm not sure which ones. I can't remember right off, off-hand. Zea, then Jean.
MS. SONNABEND: Maybe I'm getting this mixed up with another thing. I thought we had talked about the ancillary substances and decided to bring a proposal for additional ones forwarded at our next meeting.

MR. AUSTIN: That's going to be on cellulose.

MS. SONNABEND: Oh, okay. Then, because I know that we -- the chart we submitted for the 2017 enzymes did include the ones for the ancillaries for animal enzymes as well. And unless we got any new ones in then they would considered approved.

MS. DE LIMA: No, we didn't get any new ones in. And we did the, you know, what we were supposed to do per ancillaries. And no new information, so that chart is in the posting and will go through with the listing.

MR. AUSTIN: Lisa?

DR. BRINES: Thank you. Just one clarification on the technical report since didn't give it in my introduction for this substance. So
there was a limited scope technical report that was requested by the Board during the last round of sunset for enzymes, which was not animal enzymes but it was part of the Sunset 2017 review.

But as part of the scope of that report we did include enzymes and animal enzymes both. And that report did address specific questions from the Board about the use of ancillary substances and enzyme products. Thanks.

MR. AUSTIN: Thank you for that clarification. Any further comments or questions? Seeing none, Tracy, I'll turn it over to you for the vote.

CHAIR FAVRE: Okay, Harold, we're going to start with you.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No. MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.
DR. RICHARDSON: No.

MS. BEHAR: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: That's zero yes, one absent and 13 no -- 14, no. The motion fails.

MR. AUSTIN: I think just for clarification purposes, all of the Sunset '18, 2018 sunset materials are in front of us with a motion, with a second to remove. So thus we did not read the motion to delist this on that. So moving ahead, we'll do that.

CHAIR FAVRE: Yes, we probably need to at least read the motion.

MR. AUSTIN: Yes, so, okay, moving ahead, the next material up before the subcommittee will be calcium sulfate-mined. Dr. Brines.

DR. BRINES: Thank you. This substance is listed in Section 205-605(a) of the National List as calcium sulfate-mined, and the
most recent technical report was completed in 2001.

Thank you.

MR. AUSTIN: Thank you. Tom, if you would lead the subcommittee's presentation, please.

VICE CHAIR CHAPMAN: Calcium sulfate is primarily used as a coagulant in the manufacturing of the soft and silky types of tofu. It's used also as a water conditioner in brewing. Beyond these uses, it has applications -- dough conditioning as a firming agent; in canned foods general ingredient, carrier, pH buffer, abrasive and it can be used in cosmetics or toothpaste.

Calcium sulfate can be obtained from natural or synthetic sources but the listing restricts calcium sulfate to mined sources. And mine gypsum is the primary source.

After mining crude gypsum it's ground and separated and normally sold in a pure form but may contain some impurities that came from the mining process such as calcium carbonate or naturally occurring silica.
The material is grass and has no ancillary substances. The calcium sulfate is on all the national and international organic standards but they do have some varying restrictions.

Comments received this meeting, we had comments at the spring meeting. These comments highlighted the need in tofu and beer applications but some commenters asked for restrictions to these uses only.

While the Handling subcommittee finds enough information at this current time to renew the calcium sulfate future, we do encourage future entities to consider a new technical review which would be useful in reviewing new data and alternative manufacturing methods, environmental or human health concerns and/or whether an annotation should be recommended.

Based on public comments and current technical information, the material satisfies all evaluation criteria and the Handling committee supports relisting calcium sulfate.
MR. AUSTIN: Thank you, Tom. Zea, then Jean.

MS. SONNABEND: A question for Tom on something I just noticed that you said. If something is just mined and ground up, what new manufacturing technologies would a TR be necessary for?

VICE CHAIR CHAPMAN: Speaking to the health concerns, environmental concerns, the alternative manufacturing methods, maybe not.

MR. AUSTIN: Jean?

DR. RICHARDSON: As you recall, last time we did our sunset materials, each time there was something where we thought we might want to consider an annotation, we would start to make a checklist for each of the subcommittees.

I'd like to suggest that doing that with this one, for example. And when we go back to our next Handling subcommittee to discuss amongst ourselves whether or not we should prepare or recommend that there be an annotation because there were quite a few public comments suggesting that
it be limited in its range of uses.

So I'm just suggesting we put it on our, you know, discussion agenda following the meeting.

MR. AUSTIN: Okay.

VICE CHAIR CHAPMAN: Can I ask a question on that?

MR. AUSTIN: You may.

VICE CHAIR CHAPMAN: So I saw those questions as well but I didn't see any justification as to why we would restrict its usage. Further, it's widely used in other organic production systems.

DR. RICHARDSON: Yes, and I actually did reach out to one of the people that had written this in order to find out that detail, and I did not hear back from that person.

MR. AUSTIN: Well I think it's still a good point raised so that we can bring it back to the subcommittee for further discussion, you know, and that we can carry on with that material for those that follow after us.

So, okay. Any further questions or
comments? Seeing none, Tracy, I will hand back to you with a motion from the subcommittee to the full board to remove calcium sulfate-mined from the National List, and this is a seconded motion.

CHAIR FAVRE: Okay, we'll start with Jesse.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

DR. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: Zero yes, 14, no, 1 absent. The motion fails.

MR. AUSTIN: Thank you. Okay. It's
nice to be a part of a subcommittee that has nothing controversial that we need to present today.

    All right, Dr. Brines, if you'd be so kind as to read carrageenan or carrageenan.

    DR. BRINES: Yes, this one is also at Section 205-605(a) of the National List and reads as, Carrageenan. The last technical report, full technical report was completed in 2011.

    But in support of the sunset review the Handling subcommittee did request and receive the limited scope technical report to address some specific questions. So that report as well as previous technical reports are available on the NOP website. Thank you.

    MR. AUSTIN: Thank you. Zea, if you would lead the subcommittee's presentation to the Board, please.

    MS. SONNABEND: Thank you. Well even though like nobody really had anything to say about this, we thought we'd show you a little slide show anyway, which Michelle is going to rev up right now.
Okay, 3,000 or so pages later, we are going to do our best to at least touch on some of the issues. To do a thorough sunset review, these are the issues that we're going to talk about -- classification, environment criteria, human health and sensitivity.

The alternatives which we got both product-specific alternatives and then alternative suggestions that were mostly reasons why it didn't work. So I've separated those out. And then, of course, what we have to determine is compatibility.

The statement on classification has not really changed. It was our intention to wait for the classification of materials, final guidance, before we addressed the issue of classification. This is still our position.

Both the TR and continued public comment indicates that there's more than one method used to extract and purify carrageenan and some methods may be synthetic while others, quite clearly, are non-synthetic. And that will be
looked at, if it remains on the list, when the
guidance is out.

   Secondly, the environmental criteria. We had promised that we would take a look at the
marine materials TR in assessing this review. A
very short period of time between the time that that
came out and this time we had to finish this review.

   So we haven't really formulated a
specific course of action from the issues that were
raised in that TR. Continued public comment on the
subject indicates that most seaweed used for
carrageenan production is farmed and not gathered
from the wild. I think the statistics we got in
were around 95 percent farmed.

   The farming practices seem to be in
alignment with organic principles which, of
course, brings up the question of why is it not
certified organic. And you heard me asking many
of the practitioners that question.

   So human health. Well, a very lot of
the public comment and the TR, both written-in
verbal comment, had to deal with this subject. In
an initial posting we made the following statement.

We're troubled that the research showing inflammation and glucose intolerance is all from one research team and it has not been replicated. We've examined most of the references that were provided as citations in both the first and second comment periods.

We found that the claims of replication could not be substantiated. We also heard no substantiation for the claim that inflammation responses from this material are universal to all humans.

That statement was made repeatedly but no citation was given for that. Since one of the basic tenets of science is that experimental results should be able to be reproduced in different labs by different researchers, the Handling subcommittee has concluded there is not sufficient replicated evidence that carrageenan is harmful to human health for everyone.

While it's been more extensively studied than the other synthetic and non-synthetic
emulsifiers, there may be reason for concern that all emulsifiers can lead to inflammation and that this is not a unique function of carrageenan.

The public comments at this time, we heard from people who -- many sensitive people who not only mention carrageenan but also mention some of the other emulsifiers. Oh, see, I keep flipping it on the screen and not on my thing.

Okay, so in the 2002 sunset review, we received public comment from seven individuals who described themselves as sensitive to carrageenan by stating that they experienced adverse effects that stopped when they removed it from their diet.

In this batch of public comment, we were served many dozens more of these experiences. Many of these, as I mentioned, also indicated they were sensitive to other gum additives such as gellan gum and guar gum. And some said they were sensitive to all seaweed products.

Epidemiology studies of food sensitivity are not in the literature provided because it appears that it has not been studied.
We do not want to dismiss these concerns. We feel like they are very real concerns. As I have said here many times, as someone who's very sensitive to some foods myself and have to read ingredient labels extremely carefully or I get very sick, we acknowledge that these are very real concerns and should be investigated further.

Carrageenan is required to be on food labels with very few exceptions. Therefore, those who wish to avoid it have the ability to do so for the most part. We urge that all organic food processors fully disclose all their ingredients on the label, and that included secondary manufacturers.

Speaking from experience here, if you have something on a label that says, bread crumbs -- well, bread crumbs is not an ingredient. Bread crumbs is, you know, 14 different things that went into making the bread.

If you say sour cream you very well might have carrageenan in there and we really urge you to please put full labels on those products.

Okay, so once the subcommittee had
determined that we were fairly unanimous on the lack of evidence of -- on health effects, we undertook to really take a close look at which products have alternatives because consumers are continuing to send the message that they think carrageenan should be off the list.

And we were having trouble getting very clear evidence about the things that were alternative or not. So I prepared this chart which takes three slides. The white, the lines in white are the type of product. And the purple stripes are what it was about that product that made it difficult to make without carrageenan -- and the comments we received.

So for whipping and heavy cream, yes, there are some that could be made without carrageenan but their whipability suffered.

Now when we, as board members, evaluate these alternatives, we have to ask ourselves does whipability suffering make a real difference to us. And in some cases, if the product cannot be made at all, does this product need to made in the
organic universe or can the world live without a
certain amount of whipability in their whipped
cream?

So, you know, this is where we're all
examining for our own selves what we think is
appropriate. So we heard very much comment, and
I had to summarize it quite a bit, but protein
shakes with milk proteins -- protein settlement
settles on the bottom and cannot be shaken up.
And apparently the longer it sits on the shelf, the
harder the sediment becomes. But it can
become -- in some products it can become quite hard
quite quickly, and so then it cannot be shaken up.
The hydrolyzed proteins lack
viscosity. And we heard from one gentleman about
the probiotic straws which the probiotics don't
survive properly with gellan gum compared to if
carrageenan was used with those milk protein
products.

Several of the other dairy products we
did not receive comments about. And so I've listed
those. Next, we also did not -- and I should
mention that these charts are a compilation of both
the first posting comments and these. So I added
what we got in new on to the chart that I presented
last time.

So, likewise, we didn't get new
comments about the fruit fillings and puddings.
We didn't get a comment about the Gummy Bears or
the vegan marshmallows this time. And I think the
soy milk comments are probably combined in with the
nut milk comments, for the most part.
Okay, frozen desserts -- and what we heard about
was soy desserts, but this might be true of ice
cream. Carrageen uniquely can control ice crystal
formation in the frozen desserts. And the other
gums just do not have the same effect.
Processed meats. Carrageenan has been
instrumental in allowing meat processes to lower
sodium levels as well as remove phosphates from
products.

Non-dairy beverages, including grain
and nut milk -- a complete -- while they have
substituted usually a combination of gums, gellan
and guar or gellan and xanthan, a complete match for these other stabilizers for carrageenan never happens because rheology developed by carrageenan and protein is so unique.

And viscosity -- where viscosity is the key functionality, the majority of the reformulations did not work. In other words, when you wanted something that was thick and flowed properly, the gums do not work while, of course, they do give a product that might be overly runny or whatever.

Okay, beer. In beer it's used -- we've got a couple of quite extensive comments in beer saying that it was necessary. It is used as a processing aid for the clarification of wort. Trace amounts or none remain in the final product.

It is unclear -- we didn't hear from any beer makers who could make it without it. And as a processing aid, it does not have to be on the label. So we don't know if there are beers without -- successful without it or not.

We didn't have time to research it, but
I don't think that that it causes quite the level of consternation as some of the other ingredients because if there is none left in the final product, obviously, you're not ingesting it.

Okay, adult medical supplements and infant formulas. We heard quite a bit about infant formula but I realized, and after we were talking about it yesterday and which, actually, after I prepared this slide, that none of what we heard was actually from the infant formula makers.

We heard from the food additive suppliers and things like that that it is essential for products that -- so that separation and settling don't appear, don't occur. And for things that have to go through, say a nipple on a bottle or a tube like an adult medical supplement, the whole idea of the carrageenan is it makes it appear thick but be thin enough to go through those type of tubes.

Also, the claim that the nutrients that settle out of the infant formula, no matter how hard you shake them, is no longer available to
developing infants. And then dry formula, which is the alternative, is not feasible in areas with polluted water.

So after it got questioned by Tom here that he had really only seen one brand of liquid infant formula that he could find, I decided to do an Internet search just this morning. And I found only one brand of liquid infant formula still available in the United States -- which is interesting because when we took up all the accessory nutrients in 2013 I did the same survey and I found five brands of liquid infant formula ready to use available.

Now I wasn't looking for carrageenan at that time and I did copy down all the ingredient lists and it's at home. But it appears only one of them, the Similac organic ready to use are still available.

And yet unlike the 2013 where we found maybe almost five or less dry infant formula powders, this time I found one, two, three, four, five -- eight different kinds of infant formula
powder. And one of them did not have the ingredients on the website, but seven of them did -- and none of them had carrageenan in it.

So the powdered infant formula is, does appear to be a viable alternative and it's not needed. But the liquid infant formula does have it in it, the one that's left.

Okay, last but not least, the capsules for supplements, particularly vegetarian ones. As you probably know, the capsules that are not vegetarian are made with gelatin and gelatin is a viable alternative, but it is not acceptable for vegetarians. The carrageenan provides rigidity and structure in which organic supplements are contained. Non-carrageenan substitutes do not provide suitable capsule integrity and can impart an off-taste that consumers notice when capsules are swallowed.

This -- two different companies submitted comment on this, I guess both of which make organic capsules. And one of them went into great detail about the -- their experiments they
had done with the other gums.

So this was the capsugel comment or capsugel. And they tested gellan gum which allowed for -- let's see. The formula for organic products requires high temperatures that lead to fast degradation.

They tried xanthan and locust bean gum, I guess combined, and it was such a high quantity that it led to a viscosity that it was too high for their manufacturing process and didn't make a good capsule.

The agar, very low setting temperature, slow dissolution performance and requires viscosity that is too high for the capsule manufacturing process.

And pectin, gelling strength is low. And although the weakness can be compensated by higher concentration and addition of salt, it would result in viscosity too high for the capsule manufacturing process.

So this as the type of detailed information we wish we had for every single product
on here, on the list. But Capsugel went on to say, We formally request the Handling subcommittee to develop a separate proposal to add an annotation for carrageenan that limits its use only for capsule shells. Therefore, the vote on sensitive carrageenan must be postponed or deferred to allow time for a new subcommittee proposal.

Okay, all right, so then on to the general comments about alternatives. It has a critically unique ability to deliver optimal balance of sensorial attributes and underlying product stability.

It has specific interaction with casein, micelle and dairy products, and this is one that applies to all dairy products. And this permits very low usage levels relative to gums like xanthan and gellan.

And a number of commenters went on to say that because you can use ten times less carrageenan than you'd have to use with the other gums, when you use the other gums, you're really pushing up against the 5 percent limitation on the
amount of non-organic ingredients allowed in processed food.

And they have a hard time formulating within the 95 percent rule when they cannot use carrageenan.

In addition to those concerns, the alternative gums require significantly longer mixing times, thereby lowering throughput, present additional complexity in powder mixing and hydrating which are safety critical process steps.

The settling on the bottom we have heard about a bunch of times. So talk about that. The texture and what several commenters have called the mouthfeel really suffers when they use the other gums.

And the very interesting point, I thought that the alternatives suggested by the committee are not more organic. Many of the alternatives, particularly gellan and xanthan, are currently on 205-605 (b) as synthetics.

And usually, the NOSB has not removed things from the list that are on 605(a) in favor
of things that are on 605(b) because the order of priority is for non-synthetic over a synthetic ingredient.

So perhaps gellan gum and xanthan gum are really not completely viable alternatives compared to something that is on 605(a) and possibly could be produced organically.

So this brings us to the final slide. Each member of our Handling subcommittee had their own perception about carrageenan. As you all saw from the proposal, it came out of the committee with a vote of two in favor of relisting and five -- I think it's five or four against.

I have been questioning many of our commenters just so that everyone on both sides of the issue would get the idea that if this is voted off the list it is not necessarily going away because it is entirely possible, in my opinion, to produce it organically.

And if it is produced organically and they get it certified, it will be right back in all the foods without any necessary restrictions and
can be in the 95 percent of the material. So really, those of you who have health concerns that would really like it off, out of foods, might be better off wanting to leave it on the list but limit it by annotations so much so that even the organic form could not be used in the future.

Either that or petition so that an organic farm could not be used in the future, depending on how our vote comes out. So I'll leave it at that to open discussion and then I might have more to say later.

MR. AUSTIN: Okay, discussions from the Board? Any questions, comments? Lisa.

MS. DE LIMA: I just want to clarify a couple of items on the chart. Can you go back, Michelle? Because we had talked about --

MS. SONNABEND: I can go back. Which slide do you want to go back to?

MS. DE LIMA: The alternatives one and the previous one. So we had talked a little bit in the subcommittee this summer when we looked at this chart and then found other alternatives or
products that are made without carrageenan.

So I just want to clarify some of the ones on here because I found -- we saw protein shakes, yogurt, sour cream, cottage cheese, fruit fillings, puddings, frozen soy desserts all exist without carrageenan that are on our shelves in our grocery stores.

And vegan marshmallows, I kind of throw into the category that Zea talked about, like do we really need organic vegan marshmallows because currently they're not being made organically and we still sell plenty of them in the natural form.

I guess the beer and the capsules are question marks for me but nothing else is.

MR. AUSTIN: Anybody else? Tom, then Emily.

VICE CHAIR CHAPMAN: There's definitely beers manufactured without carrageenan. Pinkus Brewery in Germany is a 200-year-old brewery. They're certified organic to the USDA standards and under the German beer purity laws, an additive like carrageenan would not
be allowed.

DR. RICHARDSON: And available anywhere?

VICE CHAIR CHAPMAN: Yes. I can buy it at my supermarket.

MR. AUSTIN: Thank you Tom, Emily?

MS. OAKLEY: The only one that speaks to me is the capsules but I wouldn't want to annotation change necessarily just for that, certainly not at this meeting. But I do think it is a legitimate concern.

But I also want to say that I, before attending this meeting, sent an email and a newsletter to my CSA customers, talking about some of the controversial issues that we’d be discussing. And carrageenan was the one thing that my customers came to talk to me about.

MR. AUSTIN: Thank you. Jean?

DR. RICHARDSON: There are organic beers made in the U.S. that do not use carrageenan.

MR. AUSTIN: Harriet?

MS. BEHAR: I know that the consumers
can look at a label and decide not to choose something, but I really would not want us to go down the road of the organic consumers kind of trust that we're looking over what the additives are in their foods and have --- so I want to see a clean label on organic foods, so I know that's an option but I don't like seeing that organic is like all of a sudden, they have to look at every label, too, and I think with the gel caps, I think too, that there could be an annotation but I think they would have to just come back and, I think, Lisa said to me that there isn't any organic --

MS. DE LIMA: I mean just what I know, on my shelves --

MS. SONNABEND: On her shelves --

MS. DE LIMA: There's a certified organic product, but it's in tablet form. They don't use capsugel. And then there's another brand that doesn't have the seal but is made with organic herbs and they use the capsugel.

MS. SONNABEND: The capsugel informed us that - their public comment says they do make
organic certified --

MS. BEHAR: Okay. Well made with a certified organic product as well. So I have some sympathy there, but I'm not sure that we want to relist, just so we can retain gelcaps.

MR. AUSTIN: Well I think that as, sitting here as one of the Handler representatives, I think we have a responsibility to understand that not every manufacturer produces things using the exact same materials or the exact same processes.

So because some entity can produce something without an additive or a material or a substance in there, does not necessarily mean that all producers are capable of doing the same thing. I think we can apply that to our growing principles as well as our handling principles. Not everything is exact. So I think because somebody can declare that they can make it, doesn't mean that they all can. They've all invested. They're all organic stakeholders providing the organic community with an organic, viable product that's on the store shelves now because of this National
List in existence.

They've done their due diligence by following the process that's been laid before them and I think we need to understand that, when we're talking about these materials and we're making these decisions. Because our decisions and our votes impact people's lives.

So I think if there's one person that's producing an infant formula that relies on it, I'm going to support that. If there's one or two people or companies that are supporting a protein shake that has a need for this material still in it, while two others don't, as long as we've got, I've got an organic handler that still has a need, I'm going to support that need, because that's what I think we, as an organic community, should be doing. Emily, you had another question?

MS. OAKLEY: I wanted to echo Zea's brief comment in her presentation that it would be nice if we could have similarly robust discussions for many of the other items on the National List. I know there's not time for that but I appreciate
the depth of conversation that's gone into this subject.

MR. AUSTIN: Thank you. Any further -- Tom.

VICE CHAIR CHAPMAN: So as the other handling representative, I do really appreciate Harold's perspective and I think it's a very valid point. I struggled a lot with this substance. I see their need under the criteria under the compatibility and under compatible system of organic handling. I go back to our PPM that Gwen talked about earlier and then there's a line does this substance satisfy expectations of organic consumers regarding the authenticity and integrity of organic products?

I struggle with this because I feel like consumer expectations gets thrown around lightly but if there's one I would say it seems to be quite clear on, this is the substance. As an organization that doesn't use it, we get highly asked about its usage, still.

At a certain point, you have to balance
both the needs of operations to produce their products, as well as the interest and demands of the consumers that buy them and so, allowing several but few operations to continue to make products that utilize this substance versus the maybe minor or significant degradation of the organic label in the view of the organic consumers is something I'm trying to balance out here and at this time, I'm leaning towards that organic consumer and I'm thinking that it makes sense not to relist this item.

MR. AUSTIN: Jean?

DR. RICHARDSON: So I'm a consumer rep so I will be voting to remove this from the list but with some caveats. Again, I've looked a lot at the marine materials and there's no question that carrageenan was one of those materials that was early over-harvested in many parts of the world.

And it is now cultivated and it could as Zea pointed out very eloquently, it could, if there was a will, be produced organically and as
Zea mentioned, it could then be in our products. Anyway.

However, I think that it is important to encourage organic certification, especially for a product like this, where we know that it's easy to overharvest these types of marine plants in a number of different areas and I've observed it, you know, first hand, over the last thirty years in different parts of the world.

So let's encourage --- so one of the reasons why I would vote to remove it is that I want to send a clear message that it could, in fact, be certified organic either wild crop harvested, or cultivated. Then there is the issue of necessity. I really don't see it as being a particularly necessary material in organic foods.

You know, I, we struggle with this and we've discussed it a great deal on the subcommittee and at the previous meetings as well. And we went through each one of these materials in great detail and our subcommittee members did surveys of their stores and everything, to find out and really find
alternatives for each of these.

And it was, with, you know, with the very limited exceptions that have come up already today, I won't repeat them, it doesn't appear to me to be, really, to rise to the level of necessity. So we've got environment, we've got necessity as two of the criteria that I don't think that would justify relisting it.

As to the health issues, I am really just not sure. I read those thousands of papers and I am really, as Zea said also, really concerned for the sensitivity of the individual people that have written in with concern, but I couldn't totally find the scientific connection between their obvious problems with their health and that specific material.

And you know, I'm an asthmatic so again, like Zea, if there are things that impact me and people say, oh Jean, it's all in your head, I don't think it is. It's something that I've eaten or breathed in or whatever it might be. So their concerns are real but as with so many things, in
health related issues, it's hard to have a proximate cause relationship, a direct relationship, between the specific ingredient and the human health impact. So I'll be voting to remove.

MR. AUSTIN: Any further discussion? Ashley.

MS. SWAFFAR: So I also struggled with this one but I really look to our consumers and they've really spoken and I think the industry has done a great job of responding and doing a lot of legwork since the last time this came up for sunset.

And, you know, the biggest majority of all products, a lot of folks have removed carrageenan from it. And, you know, I think just about everything now has an alternative and, to me, I look to that. And I say, I know you're different Harold, but you know, if one of the leading dairy, organic dairy handlers in the country can make protein shakes, yoghurt, sour cream, cottage cheese, and milk without using carrageenan, I really think there's probably not a necessity for
this. But I will say if carrageenan is removed, I am very concerned about the other gums going away also. You know I think these guys have done a remarkable job replacing carrageenan with gellan gum, xanthan gum, all those things and I just want to be cautious the next time that those are up for sunset because I think these guys do need some type of thickening agent.

And I just would hate to see this complete whittling away of the National List as a lot of people like to call it, so you know, I am going to vote to not relist carrageenan but I will say, you know, I am concerned next time those gums are up for sunset.

MR. AUSTIN: Thank you. Zea.

MS. SONNABEND: Okay. What I have to say now represents my personal opinion and no one else's opinion out there. As my fellow members, I am conflicted about this material. From a scientific point of view, I feel that the science sides pretty clearly with the safety of carrageenan for most of the general population.
And when we ask for replication of results of the findings of the one lab, the fact that we were pointed to a citation for a study that hadn't even been conducted yet, made me want to discredit everything else that that commenter had to say, because that is totally lacking scientific integrity.

So the scientist's seat, which I represent, for me, falls clearly on the side of most of the science says it's okay. The alternatives are very mixed. I, you know, as I have said, I think every meeting since I've been up here, if you want to avoid this in other things, you should be eating less processed food. Eat real food and you won't have to worry about food additives so much.

I do understand that not everyone agrees with that. Some people are in a position where they have to eat more processed food. They don't all grow most of their food like I tend to do. And so, but when it comes down to the issue, as Tom seems to think it's an equal criteria to the seven criteria in the rule, what consumers think
or what consumer demand is.

    To me, what consumer demand is mostly what people are buying, not what the special interest consumer groups say they should want to buy and as a scientist, I cannot evaluate that. Every single consumer survey I've seen seems biased in one way or the other to the results that they want to achieve. And I don't feel I can evaluate that in either direction.

    So, much as I didn't want to -- oh, and then lastly, when it occurred to me in reading the public comments, that carrageenan could be produced organically and actually nobody wrote in and said we're going to produce it organically or we could or we want to.

    But they all wrote in about how sustainable it was and all the really cool practices that they were doing that preserved biodiversity and met all of our criteria, I was, like, why not inspire them to produce it organically?

    So, in the end, I'm really conflicted
and much as I don't want to do this in some ways, but I have decided I'm going to abstain.

MR. AUSTIN: Francis?

MR. THICKE: On our dairy farm, we actually have a processing plant. We process our milk, make cheese and yoghurt and so on. One thing we make in the summer is a soft serve ice cream mix. We make about 100 gallons a week and local grocery stores put in their ice cream machine, soft serve machine.

We put it in gallon jugs and we could use carrageenan. It would be better but we wouldn't. Because of our customer base, we wouldn't think of that. But it tends to separate and when they use it in the ice cream machine, they just shake it up and put it in and it works fine.

So it's a little bit inconvenient but it works. That's a small scale how, if we don't have to have everything convenient, maybe we can have things a little more natural. My customers appreciate that.

MR. AUSTIN: Thank you. Harriet?
MS. BEHAR: So if carrageenan is an organic product sometime in the future, unlike the crops and livestock sections of our National List, there's no place to do a prohibited natural. And so, the -- well, you could have an annotation and restrict it severely. But you couldn't say carrageenan, not allowed for any use. I mean there's -- I mean I suppose maybe you could, I don't know. But that's just a thought, you know, if it is --

MS. SONNABEND: It's not going to be my problem.

MS. BEHAR: It's not Zea's problem. It might be my problem or somebody else's problem. But I just thought that I would, you know, put that out there that it's a possibility and --

MS. SONNABEND: Never been done before.

MS. BEHAR: -- never been done.

MR. AUSTIN: Okay. Miles?

MR. MCEVOY: Yes. I just would like to mention that the board should be using that
criteria that are in the organic food production
act, the seven criteria that are mentioned as well
as the part of 205-600 that list additional
evaluation criteria for processing aids. And
those are the criteria that you need to use in terms
of your evaluation and making a determination on
this particular substance.

MR. AUSTIN: Thank you, Miles. Tom?

VICE CHAIR CHAPMAN: So I want to clear
I guess a couple things up. Health concerns,
environmental concerns, those are not motivating
factors for my vote on this item. I found those
satisfied as well, via comments that we got. That
is not why I am voting the way I plan to vote.

In terms of compatibility with organic
handling plan, or organic, a system of organic
agriculture, which is the crux of what I'm lying,
making my decision on. And I cited consumer demand
for that. It isn't based on what was presented
from consumer interest groups. It's based on
responses from industry to the demand.

We all, who sell products, farmers, and
handlers here on the board, and the retailer, have to respond to demands of consumers. You go to your farmers markets on Saturdays because your consumers want some local convenience and access to buy those products.

You flavor your soft-serve a certain way because that’s the flavors your consumers want to consume. And we’ve seen a lot of change in handlers formulating away from carrageenan and that’s not due to nothing. That’s due to consumer demand to move away from that product. And that’s the indicator that I’m looking at now.

MR. AUSTIN: Thank you, Tom. Lisa?

MS. DE LIMA: I’ll be quick because Tom kind of summed it up. But, you know, Zea was saying she can’t evaluate consumer demand. But, you know, being in the position that I am, I can evaluate that. And it’s gotten to a point where for all new items that we evaluate, whether they’re organic or not, we’re not allowing carrageenan.

So it’s that serious and it’s really awkward to be like, well carrageenan exists under
the organic label. But any new item that our stores bring in aren't going to have carrageenan in it. So that's in response to the demand that we've seen from our customers as to not wanting carrageenan in any products, organic or not.

MR. AUSTIN: Okay. And I think -- go ahead Scott.

MR. RICE: I echo much of the struggles that my fellow board members have expressed. And most resonant with me is the compatibility question. I think again, Tom summed that up well. I did hear from a couple of beer makers that use this product, I've used it myself in home brewing and they make delicious beers.

But we're an innovative industry and as has been pointed out, there are organic beers out there that are successful and do well. And I'm confident that alternatives will be, alternatives can be used or not used at all. But I am --- my feeling is carried with that concept of compatibility and I don't think I will be voting to relist this.
MR. AUSTIN: Any further discussion? Tom?

VICE CHAIR CHAPMAN: Sorry to say this one more time, I'm going to make this quite clear. My decision again is, like Scott said, on compatibility. We further have some guidance on what compatibility means, I know it's a somewhat unclear term.

But compatibility is the criteria I'm making my decision on.

MR. AUSTIN: Thank you. Any further discussion? Seeing none, I will turn it back over to Madam Chair, as a motion from the subcommittee to remove carrageenan from the National List.

CHAIR FAVRE: Okay. We have a seconded motion to remove carrageenan. Voting is going to start with Carmela.

MS. BECK: No.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.
DR. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Abstain.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. BUIE: No.

MR. THICKE: Yes.

MR. AUSTIN: No.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: Ten yes, three no, one abstain, one absent. The motion passes.

MR. AUSTIN: Thank you. Moving on.

Next item on our list is glucono delta-lactone. Dr. Brines?

DR. BRINES: Okay, thank you. This substance is also included in section 205-605 of the National List, under paragraph A. And it is listed as glucono delta-lactone, production by the oxidation of d-glucose with bromine water is prohibited.

In support of this sunset review, the handling subcommittee did request the development
of an updated technical report. And that report was developed and posted prior to the spring meeting. Thank you.

MR. AUSTIN: Thank you. Tom, if you would give the subcommittee’s presentation to the board please.

VICE CHAIR CHAPMAN: Glucono delta-lactone, otherwise known as GDL, is primarily used in the production of tofu, particularly the silken type of tofu. Tofu production used GDL as a coagulant.

GDL can also be used as a turning agent, leavening agent, pH control agent and sequestrant. There are a variety of ways GDL can be produced. The most common has gluconic acid produced through fermentation and acid based reactions to make GDL. Other processes to make GDL involve oxidation with bromine water, which is not allowed by annotation on the National List, and by oxidation with purified enzymes.

GDL is not currently permitted on any of the other international lists we consulted.
The 2016 technical review examined human health and environmental impacts of GDL's usage and found low to no risk.

The review did raise a question on the classification of the given substance if it's produced via fermentation and acid-based reactions, given that there's a chemical reaction there. However, the process is similar to that of citric acid, which we have deemed as non-synthetic. Comments received at this meeting mirrored comments received at the spring meeting, responses stated that distinctly different types of tofu products are manufactured from different coagulants.

Concerns were raised about usage of GDL beyond the coagulation in tofu, as well as the enzyme process of manufacturing and requested further annotation restrictions. As annotated changes are not possible during the sunset review, this requires separate action with the board.

The material satisfies the OFPA criteria and the handling committee supported the
relisting of GDL by a split vote. And Michelle, can you scroll down? Of six no and one abstain.

MR. AUSTIN: Thank you, Tom. We'll open it up for board discussion. Emily?

MS. OAKLEY: I have a question as to why this substance is not permitted in the EU, Canada, Japan Codex or iPhone. Is that because it hasn't been petitioned there?

VICE CHAIR CHAPMAN: I can't really speak to demands of those other countries and their want for types of tofu.

MS. OAKLEY: Okay. I have another question. Since this is primarily used for silky tofu, does calcium sulfate not meet that need?

VICE CHAIR CHAPMAN: Yes. There was -- can you scroll up on my proposal, or on the --- up a little bit. Somewhere, okay I'll just look it up on my computer, hold on. I can't read from that far away.

So there's several coagulants that exist for tofu including magnesium chloride, calcium chloride, calcium sulfonate and magnesium...
sulfonate as well as acids like citric and lactic. Each of these produce a different type of tofu texture and flavor, making them distinctly different products.

Calcium cells produce firmer tofu, sulfate cells produce softer tofu, GDL produces that silken tofu. So it's really the texture and flavor basis of it.

MR. AUSTIN: Dan?

MR. SEITZ: Emily actually asked the two questions that I had. Except I want to note that in the report we have on calcium sulfate mind, it does say that it is essential for soft and silky tofu.

And in this other report, I mean in this report it says that calcium sulfate wouldn't be good for that. So there is a little bit of an ambiguity there about whether there is another substance that could replace this.

VICE CHAIR CHAPMAN: Yes, it's my understanding calcium -- I'm not a tofu expert perhaps we can consult Jean on this one. I believe
calcium sulfate produces the soft tofu, where GDL makes that silken tofu. And combinations of these substances are often used as well to make tofus of varying textures.

MR. AUSTIN: Any further discussion? Seeing none, Madam Chair we will send this back over to you as a motion from the subcommittee with a second to remove glucono delta-lactone from the National List.

CHAIR FAVRE: Thank you, Harold. We will start the vote with Ashley.

MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

DR. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: Abstain.

MR. THICKE: No.

MR. AUSTIN: No.
MR. BUIE: No.

MS. BECK: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: That's zero yes, 12 no, one abstain, one absent. Sorry, 13. The motion fails.

MR. AUSTIN: Thank you. Next item up for presentation is tartaric acid. Dr. Brines, if you would be so kind.

DR. BRINES: Yes, thank you. We're still at section 205-605 of the National List under paragraph A. The substance is tartaric acid made from grape wine. And the last technical report was completed for this substance for the last round of sunset review the reports dated 2011. Thanks.

MR. AUSTIN: Thank you. I just switched pages. Who's the lead on this? Ashley, would you present please?

MS. SWAFFAR: Tartaric acid has a wide variety of uses. These include use as a pH control agent, preservative, emulsifier, dilating agent, flavor enhancer, flavor modifier, stabilizer, anticaking agent and firming agent.
And it has also been used in the preparation of baked goods and confectionaries, dairy products, edible oils and fats, seafood products, meat and poultry products, juice beverages, chewing gum, cocoa powder and alcoholic drinks. Lots of uses here.

Public comments that we've got in is mainly around the wine industry. And they say tartaric acid is used in our process to correct natural acid deficiencies in grape juice and wine and to reduce the pH of the grape juice and wine.

Another commenter said that every wine we make has tartaric acid in it, it's used as a preservative and stabilizer to lower the pH of the wine. If they weren't able to lower the pH, they would have to use a higher amount of sulfur dioxide as a preservative. That would exceed the hundred parts per million total amount.

And then a different use, someone wrote in and said that tartaric acid is used in sour candies to enhance the fruit flavors and sour intensity. And they had said that alternatives are
less stable to warm temperature environments.

And another wine maker said that it's absolutely necessary for wine making in California and for most warm weather wine making regions. They said as grapes come in, we replace some of the lost acidity, which is tartaric acid. Without it, the wine would become more susceptible to spoilage organisms and lack in flavor.

MR. AUSTIN: Thank you. We'll open it up for discussion by the board. Any comments, questions? Seeing none, Madam Chair we will turn it over to you as a seconded motion from the subcommittee for the board to remove tartaric acid from the National List.

CHAIR FAVRE: Thank you, Harold. We'll begin voting with Lisa.

MS. DeLIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.
Mr. Rice: No.

Ms. Oakley: No.

Mr. Thicke: No.

Mr. Austin: No.

Mr. Buie: No.

Ms. Beck: No.

Ms. Swaffar: No.

Chair Favre: Chair votes no.

Ms. De Lima: Zero yes, 14 no, one abstained, the motion fails, Ani absent.

Mr. Austin: Thank you.

We'll now move over to 205605B, first material which is still a Sunset 2018 material, was cellulose. Dr. Brines?

Dr. Brines: Yes, thank you. So, we are now under Section 205605 of the National List under Paragraph B, Synthetics Allowed. And, the listing reads: "Cellulose for use in regenerative casings as an anti-caking agents, non-chlorine bleached and filtering aid."

In support of the review for this round of Sunset the Handling Subcommittee did request the
development of an updated technical report, and that report was developed. It is posted on the NOP website.

Thank you.

MR. AUSTIN: Thank you. I'm actually the lead on this one.

Cellulose is available in several different forms, with each having very functional qualities. Used for multiple purposes in organic handling. There are two specific forms of cellulose currently permitted for use in organic processing and handling, powdered cellulose and also inedible cellulose casing.

Uses in organic handling include as a processing aid, as Lisa just talked about for filtering of juices, as an anti-caking agent ingredient for use in shredded teas, and as a processing aid in the form of peelable, non-edible hot dog and sausage casings.

Some of these uses in organic handling have been around since even prior to the creation of OFPA.
Cellulose in its natural form is the main structural component of higher plant cells and one of the most abundant organic substances on earth.

Cellulose is considered grass under CFR 121.101.

The current Sunset review of cellulose included a review of the historic information, information provided during public comment period, both oral and written, testimonies for the fall and the spring meetings, a new technical evaluation which we did receive on February 11th. We also, under this review, included a look at what possible ancillary substances might be used along with cellulose in production for specific uses.

Internationally, cellulose is permitted for use by most organic standards outside of the U.S., or at least some of the uses in applications currently allowed here under our standards for processing and handling.

Public comment for the spring meeting were 18 written comments, two oral comments via the
webinar, four at the in-person meeting. For the fall, there were 11 written comments submitted, zero via the webinar, and two in-person comments here in St. Louis.

Public comments for the most part were in favor of relisting cellulose to the National List, stated that it's still needed in their handling process covering casings, filters and also for shredded cheese production.

It was also mentioned that alternatives, while they worked in some cases, did not necessarily work in all cases, and that some of the organic handlers still considered this to be very essential.

Those in support also mentioned that previous reviews have found no substantial risk to the environment, human and/or animal health, from either its manufacturer or its use.

Those opposed raised some concerns about logging as a source of the pulp that it's generated from, that it was not necessary, and that they addressed and mentioned micro crystalline,
cellulose was not adequately addressed.

We did discuss this at the spring meeting, along with some of the other environmental concerns. One certifier mentioned also that they recently refused to certify a product that they had reviewed because it did list micro crystalline cellulose in it. So, it is apparent that the certifiers do understand that that one is not a form that is allowed in organic production.

During the first posting for the discussion of cellulose there were five specific questions asked for comments, to help the subcommittee during this review of this Sunset material. Some of those answers are provided in the following information that we'll be briefed on here shortly.

One of the big topics was around the use of ancillary substances, were there any that were used in conjunction with cellulose that were intentionally -- and, an ancillary substance for those that of you that may not know, an ancillary substance are intentionally added to a formulated
generic handling substance on the National List. These substances do not have a technical or functional effect in the finished product and are not considered part of the manufacturing processes, or even reviewed by the NOSB.

While some of these substances are removed or consumed in their processing, many may remain in the final product in very tiny amounts.

Information provided in the TR that we got back in February, as well as during public comment, provided us with the following list of ancillary substance functional class. For non-synthetic, potato starch and dextrose. Carriers and fillers, synthetic propylene glycol. Preservatives, Polysorbate 80, as well as enzymes. Binder plasticizer lecithin, propylene glycol mineral oil. Anti-caking and anti-stick agents, mineral oil, animal oil, fish oil, resin. Releasing agents, mineral oil.

Mineral oils are on the combined IARC and NPT list. The latest technical evaluation report for mineral oil that was provided to the
livestock committee states that the refining process for refined mineral oil does remove the materials that pose a carcinogenic problem and concern in mineral oils.

Public comments submitted do state that mineral oils, indeed, do appear to be common ancillary use for cellulose. They would also assume that due to the nature of the use that these would be from refined mineral oils. The TR also stated and mentions that according to the FDA database for everything added to food in the United States, mineral oils are approved for use as direct, secondary direct, and indirect additives for human and animal feed. FDA also permits the direct addition of mineral oil, to include for consumption under 21 CFR 172.842, and also under 172.878.

Going further into the other questions and considerations again also with the ancillaries, we asked about releasing agents. The only one that we were able to find was isolated was mineral oil, so we asked if there were any others
and for what purposes.

Public comment provided us back -- the subcommittee back, with the additional information regarding ancillary substances, that some casings were being used were already soaked, ready to use form, thus required no additional releasing agents.

Also, identified the additional ancillaries, food grade mineral oil used as an aid for shearing. Food grad white mineral oil is also used. Polyvinylidene chloride as a coating. Quinine as a coating. Sodium hydroxide as a coating, and also as a pH control agent. These last four were specific for use as an ancillary in casings.

Another comment said that one of their suppliers two different materials both releasing agents, one that they use, a non-extractable proprietary food grade launching hydrocarbon, similar to that used for milk carton liners. There was no migration to the meat as this was fixed to the casing surface.
Another supplier told them that they used CMC, carboxymethyl cellulose as a fueling aid, as well as Polysorbate 80 as a surfactant in and emulsifier to help with that material.

Resin was also identified as being used in cellulose filters. Another certifier identified cellulose papers that include a synthetic binder resin that helps to strengthen the paper components that was not included on the TR.

So, there were numerous ancillary substances that were provided in this last round of public comment that we had not received as a result of the TR or the spring meeting and the comments provided there.

I would point out, so that because of the fact that they were mentioned after our document was posted for public document, these additional ancillaries will need to be brought forward -- we will bring them forward by the subcommittee as a proposal at our spring meeting to be included on to the list previously mentioned, after we've had an opportunity to review and vet them properly for
I've stated in our previous ancillary substance policy that was just recently adopted that these ancillary substances could continue to be allowed for use until we can bring forward the secondary motion on having an immediate impact on the handling process at this time, but for continued inclusion for use this would have to be brought forward with a separate motion as I just said to be added to that list of approved ancillary ingredients for use with cellulose.

We also asked for information about why some cheese processes can use cellulose while others don’t. Some of the responses back from the public comments were, we use cellulose very much needed because it is a very necessary anti-caking agent. One comment, moisture content in various blends varies. One example given was that certain mozzarella cheese that has a mineral moisture content of 45 percent, without an anti-caking agent it would simply clump up in the bag.

They also stated that various research
shows that trials using other alternatives have not been successful. Different types of formulations of cheese production have different needs to create the desired end product.

Location and conditions formulated under also have an impact on the final end product, versus no need as well.

One organic cooperative mentioned that it is still very much needed in their organic cheeses. They sell over 2 million pounds of shredded cheese manufactured from 21.5 million pounds of organic milk. The research and development staff plans trials on other materials in the future, but their anecdotal information found in their current research indicates that trials with other materials have not performed well. They also support the continued listing of regenerative casings.

Thus, it would appear that while some of the concerns that have been raised around the source of cellulose, alternative sources, controlled sources, and research into utilization of waste
products seems to be very well under way to help mitigate the concerns that have been raised in the past, and also in the spring meeting some of the public comments.

Certifiers have also, indeed, shown that they have an understanding of microcrystalline cellulose is not an allowed form in organic handling and have rejected projects using such. That seems to be a public comment and a public concern that continually gets raised. So, hopefully, we can put that one to bed.

Also, industry surveys certifier comments and organic handler comments have stressed how essential cellulose still seems to be, since alternatives do not meet all of the needs for organic handlers at this time.

I'll open it up for questions at this time, or discussion.

Dan?

MR. SEITZ: A couple questions.

So let me -- I just want to understand the ancillary substance question. Does that mean
if I were to buy powdered cheese or grated cheese, and there was cellulose in it, that that cellulose might have trace amounts of any of those ancillary substances?

MR. AUSTIN: It's possibly -- a lot of times that ancillary substance will be removed from the end product, but sometimes there are small amounts.

Also, the TR was very specific that there are cellulose materials that are formulated that do not have any of these ancillary substances in them. So, it's a matter of the handler, the process, the end product that they are trying to formulate is what's going to dictate what they are using.

MR. SEITZ: And, the second question is around the annotation that says, around anti-caking agents, that it's non-chlorine bleach. And, I assume that that just applies to the anti-caking agents.

And, what was the issue around the chlorine bleach, the fact that chlorine was used in
the process in order to make the substance, or that there may be leeching of chlorine into the food? I'm just trying to understand what the issue is around --

MR. AUSTIN: Harriet, do you know the answer to that? Okay.

MS. BEHAR: That was going to be my comment. Way back in the dark ages, around 1992, I worked for Organic Valley, and along with other manufacturers we were putting together the first Nation List, and cellulose was on that list. And, I did some of the research on this product, and found that chlorine bleach is used at times to de-lignify the wood pulp, basically, white knit, right, so that you wouldn't have these kind of brown cellulose powder that you would put in food, and would be very unappetizing.

So -- but then as I did further research, the chlorine bleaching does result in the production of dioxin, and that chlorine bleach cellulose would have traces of dioxin, which is a known carcinogen and extremely toxic.
So, there was one at the time manufacturer that de-lignified using hydrogen peroxide instead, and did not have the same dioxin residue or issue. And so, that's why we put it on the list with non-chlorine bleach, because of that health issue. And, I believe now there are many, if not the vast majority, of the cellulose, and a lot of de-lignification for all kinds of paper products or whatever is not being done with chlorine because of that issue. So, organic was the forefront of that.

MR. AUSTIN: Thank you.

Anything else? Emily?

MS. OAKLEY: My vote on this will be as an organic consumer, because I try to purchase anything organically that I can. And, the first time I noticed cellulose on an ingredient label I was concerned. I avidly avoid products with cellulose in them, because it represents to me a product that consumers would question in terms of an organic ingredient. So, I will not be voting to support this.
MR. AUSTIN: Anyone else?

MS. BEHAR: So, at the same time I also questioned about cellulose, and I spoke with numerous food sciences. And, the one person said to me, well, there's a lot of people who chew on wood toothpicks on a regular basis, and he just felt that the health concern for cellulose was quite minimal and for centuries people have been chewing on cellulose.

MR. AUSTIN: Thank you.

Jean?

MS. RICHARDSON: I have a hard time with this material. I mean, I don't want to eat wood. But, I was very disappointed to find out that there's all this cellulose in the Parmesan cheese that I might buy. I don't get the mozzarella, I can grate that myself, but I haven't tried that with the other stuff.

So, I definitely avoid it. And, I would certainly recommend others that do it, too. However, we couldn't find in the research that we did, the Handling Subcommittee in looking at the TR
that there were negative health impacts associated with the use over a period of time.

And, like Harriet mentioned, we know that we've moved to the chlorine free, and that lignification process, et cetera, and so even though it is wood, and I would rather it not be there, I think that we still have to leave it on the list, because we do need it for the other two uses for which it is, typically, used.

And, I will note, however, that, you know, the Europeans can manage without out, I don't really know why we can't. And so, you know, it would be nicer, from my perspective, if we simply had it as the European do, instead of having it to be used as an anti-caking agent as well as a filtering aid.

But, there's not enough there to meet the criteria to justify removing it, just because I don't like it isn't a good enough criteria.

MR. AUSTIN: Tom?

VICE CHAIR CHAPMAN: I want to echo Jean's comments. I buy my cheese whole and shred
it myself at home. It helps build the muscles a little bit.

But, you know, I want to highlight the reason why I will be voting for this in part is because I haven't seen a consumer demand not to buy organic products with cellulose.

Also, a comment we received, we sell over 2 million pounds of shredded cheese annually, utilizing 21.5 million pounds of certified organic milk, which is a fairly small additive with very benign issues that results in a very large amount of organic sales, which results in a very large amount of organic land under organic management.

MR. AUSTIN: Thank you, Tom.

Dan?

MR. SEITZ: So, I'm of mixed mind about this, because I think consumers are sometimes schizophrenic in what they want. On the one hand, they want convenience. And, on the other hand they want purity of ingredients. So, I wish I wasn't the second to vote on this particular vote on this particular one, but I'll have to think through my
ambivalence very quickly.

MR. AUSTIN: And, the one thing that I would point out, that there is -- there seems to be a tremendous amount of research underway looking at alternative sources to make the powder out of. And then, also there was some concern raised around the filters, and there's a lot of research to recycle and regenerate that material as well. So, research is ongoing, which is a positive.

Any further discussion?

Seeing none, Madam Chair, I will hand you over the motion to remove cellulose from the National List as a seconded motion.

CHAIR FAVRE: Thank you, Harold. And, I'll remind you that our reception ends at 8:00 tonight, so we'll just need to keep an eye on that when we go through our material.

We will start the vote with Tom Chapman.

VICE CHAIR CHAPMAN: I can vote very slowly.

No.

MR. SEITZ: Abstain.
MS. RICHARDSON: That would be a good one, I could abstain.

No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SEPULVEDA: No.

MS. DeLIMA: No.

CHAIR FAVRE: Chair votes no.

MS. DeLIMA: That's two yes, 11 no, one abstention, one absent. The motion fails.

MR. AUSTIN: Thank you.

Next on our list of materials, potassium hydroxide.

Dr. Brines?

DR. BRINES: Okay, thank you.

The substance is included at Section
205605B of the National List, and the listing reads as: "Potassium hydroxide prohibited for use in live peeling of fruits and vegetables, except when used for peeling peaches."

In support of the Sunset Review this cycle, the Handling Subcommittee did request the development of an updated technical report, and that was completed this year and available prior to the spring meeting.

Thanks.

MR. AUSTIN: Thank you.

Ashley, if you would give the subcommittee's presentation, please.

MS. SEPULVEDA: Potassium hydroxide is a synthetic and organic compound for use by the electrolysis of potassium chloride, also known as potash. It is a strong base and alkaline in solution. Much of its utility in food processing is based on its function of the caustic strong base. Potassium hydroxide is widely used in food processing as a pH adjuster, cleaning agent, stabilizer, thickener, and poultry scald agent.
It is also used as a live peeling of peaches, in that peach peeling potassium hydroxide serves to weaken the glycolosons in pectin, which is responsible for skin adhesions. Weakening these bonds allows the peeling of peach skin by water and other mechanical methods.

Some of the public comment that we got in said, removal of potassium hydroxide from the National List will have a huge impact for us. There's nothing at the moment that can be used as a replacement to effectively clean as well as potassium hydroxide. And, they have said that to their knowledge there's been no organic replacement or other material that has had the same effect or provides the same quality.

Another person wrote in and stated that potassium hydroxide is a hazardous material, possibly one of the most hazardous and toxic on the National List.

Another person wrote in stating that it is, specifically, used to adjust the pH up or down in their buttermilk. The only alternative to
potassium hydroxides are sodium hydroxides, which they feel is much harsher and adds sodium to the end product, or calcium hydroxide which is also a harsher alternative. Potassium hydroxide they felt was a better fit as a processing aid, and is much gentler to the proteins in the buttermilk.

MR. AUSTIN: Thank you. We'll open it up for discussion. Any comments, questions?

Seeing none, Madam Chair, we will hand you potassium hydroxide back as a seconded motion to remove from the National List.

CHAIR FAVRE: Thank you, Harold.

We will start voting with Dan.

MR. SEITZ: No.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.
MS. SEPULVEDA: No.

MS. DeLIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

CHAIR FAVRE: Chair votes no.

MS. DeLIMA: Zero yes, 14 no, one absent, the motion fails.

MR. AUSTIN: Thank you.

The next material is silicon dioxide.

Dr. Brines?

DR. BRINES: Thank you. I won't be singing this one either.

So, this one is a Section 205605 of the National List. Under Paragraph B there's a hypo in the meeting materials, but it is under the Synthetics Allowed. And, it is listed as silicon dioxide permitted as a defoamer, allowed for other uses when organic rice hulls are not commercially available.

And, the most recent technical report for this substance was completed in 2010.

MR. AUSTIN: Thank you.
Lisa, if you would present, please.

MS. DeLIMA: So, silicon dioxide use as an anti-caking agent, filtration agent for beer, an absorbent and defoaming agent. It's manufactured by vapor phase hydrolysis.

Silicon dioxide can be produced as a nano material, but for use in organics the material would have to be petitioned to be placed on the National List, as stated in the NOP policy memorandum from March, 2015.

We requested that the public give us an understanding of where rice hulls were not by law traded and why. Feedback included that rice hulls don't work in powdered cheeses, dry flavors, fruit platters, rice served solids, as a flow agent, and also in -- used to meter seed during seed coating.

Public comment was generally supportive of retaining on the National List. There were a couple of comments concern about silicon dioxide produced by Nanotec, which I just addressed.

A couple of commenters suggested further annotating to list specific allowed uses,
and another organization called for more research
into alternatives for anti-caking and filtration
uses before the next Sunset.

And, the subcommittee voted to retain
silicon dioxide on the National List.

MR. AUSTIN: Thank you.

We'll open it up for discussion from the
Board. Any discussion?

Seeing none, Madam Chair, we will hand
you the motion to remove silicon dioxide from the
National List as a seconded motion from the
subcommittee.

CHAIR FAVRE: Thank you, Harold.

We'll start the voting with Jean.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.
MS. BECK: No.

MS. SEPULVEDA: No.

MS. DeLIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

CHAIR FAVRE: Chair votes no.

MS. DeLIMA: That's zero yes, 14 no, one absent, the motion fails.

MR. AUSTIN: Thank you.

Now for the last of our Sunset 2018 materials, which is a 606 material, colors beta-carotene extract.

Dr. Brines, if you would, please.

DR. BRINES: Sure. We are now at Section 205606 of the National List of non-organically produced agricultural products allowed as ingredients in or on processed products labeled as organic.

Under Paragraph D, "Colors derived from agricultural products must not be produced using synthetic solvents and carrier systems or any artificial preservatives."
And, number two is beta-carotene extract color derived from carrots or algae, pigment cast number 7235-40-7, and the most recent technical report for this substance was completed in 2011.

Thanks.

MR. AUSTIN: Thank you.

Dr. Richardson, if you would give our subcommittee presentation, please.

MS. RICHARDSON: This is a relatively -- oh, no, it's not simple -- the beta-carotene extract is used for color only, that's its primary product. It can't be used using synthetic solvents or carrier systems or any other preservatives, but it can be -- it is derived from agricultural products.

It is widely used, you know, in organic production, and it's always a challenge for me on something like this because what I see is, it seems to me that we could have organic carrots being used -- to be used as color, instead of something that could be organic. Although, in the past when we've
reviewed this it's been explained to us that that's not give strong enough color, therefore, the vast majority of the color nowadays is derived, again, from algae. And, you know Jean's opinion and concern about the use of algae at the present time.

The beta-carotene comes, primarily, then from green seaweeds, which are primarily cultivated. And so again, you can either have it from cultivated carrots or you can have it from cultivated seaweed, if they were certified organic, either wild or cultivated, but, primarily, they are cultivated. It's from this is what is called Dunaliella.

So, it would seem to me when I review it is that it doesn't reach the 205600B1 and 4, especially, where it says the substance cannot be produced from a natural source and there are no organic substitutes. And secondly, its primary purpose is as a color.

And so, from my perspective, I was in the minority on this on the subcommittee, it will be something that I would vote to remove.
MR. AUSTIN: Thank you.
We'll open it up for discussion.
Emily?

MS. OAKLEY: This is a question to the Handling Committee. There was another person who voted to remove, and I don't want to put that person on the spot. But, whoever it was if they feel comfortable explaining their view?

MS. DeLIMA: I think that was me. It's the same as Jean.

MS. OAKLEY: Okay, thank you.

MR. AUSTIN: Dan?

MR. SEITZ: So, there's another source of orange/yellow coloring, Annotto, and I don't know if that serves the same purpose, if that can be derived from organic substances. How does that compare?

MS. RICHARDSON: Gosh, we did that last year -- I mean last session. And, if you can remember, Ashley, good.

VICE CHAIR CHAPMAN: Annotto used to be on the National List, and it's been removed because
there was not sufficient organic supplies to begin.  
In terms of interchangeability, I don't know.

MR. AUSTIN: Ashley?

MS. SEPULVEDA: Jean, why can't organic carrots be used? Why don't they get a good enough color?

MS. RICHARDSON: As I recall, and this is from earlier public comment that did not come in this time, but it was like from whenever it was we last looked at it, is that we weren't really able to get the maximum amount of red of the strong color that they wanted from it, from the carrots, as opposed to the algae.

MR. AUSTIN: Jean, that's correct. It was -- it was the deepness and the coloration of the pigment itself that they were able to derive from the algae is what they were looking for.

MS. RICHARDSON: I think it was in some of the OTA comments that we got when they did the full analysis, when we looked at all the other colors in the previous Sunset analyses from a number of different industry input and public comment in the
earlier analysis, from all the other colors, we did that last year.

MR. AUSTIN: Yes, and I think we did get one public comment this round, but it was lumped into one of the general comments that stated that same thing.

Any further discussion?

Yes, Francis?

MR. THICKE: Yes. I don't really believe that perfect color is important to -- is necessary in organic food so I'll be voting against it.

MR. AUSTIN: Any further discussion?

Ashley?

MS. SEPULVEDA: So, these colors kind of throw me. I know when we voted last fall on colors, it was -- I voted to remove several colors, and I just -- is there any great reason to relist besides they can't get the right hue of the red/orange color they are looking for? Anybody? What's the reason besides they can't get that right hue of orange or red colors?

MS. RICHARDSON: Well, they are using --
I guess I don't understand the question, they want to have the color in the product, and so this is what they want to get it from, either carrots or the red algae. But, I think about 90 percent of it comes from the algae nowadays, for the beta-carotene.

MS. SEPULVEDA: The only reason they don't use that organic one is just because they don't get the right hue, and that's the only reason that they need it. There's no other reason.

MR. AUSTIN: Correct.

Any further discussion?

Seeing none, Madam chair, we will hand you a motion with a second to remove colors beta-carotene extract from the National List.

CHAIR FAVRE: I will start the voting with Harriet.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: No.
MR. BUIE: No.

MS. BECK: No.

MS. SEPULVEDA: Yes.

MS. DeLIMA: Yes.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: Yes.

MR. CLAYTON: Yes.

CHAIR FAVRE: Chair votes no.

MS. DeLIMA: That's six yes, eight no, one absent, the motion fails.

MR. AUSTIN: Okay, that ends our Sunset 2018 materials. We'll be now moving on to, for the Handling presentation, be moving into the proposals.

First up is sodium chloride for generation of chlorine dioxide gas petition.

Dr. Brines?

DR. BRINES: Thank you.

This petition was submitted by ICA TriNova, LLC on December 1, 2015. There was also an update to the petition which is posted as an addendum on the NOP website, and that petition
addendum was submitted on April 21, 2016.

The petition requests the addition of sodium chloride for the generation of chlorine dioxide gas to Section 205605 of the National List as an antimicrobial, and no technical report was developed at this time.

Thank you.

MR. AUSTIN: Thank you.

Scott, if you would lead the presentation for the subcommittee, please.

MR. RICE: Yes, thank you.

This material was petitioned for use as an antimicrobial pesticide, sanitizer and/or disinfect for fruits and vegetables. It is used for the direct treatment of fruits and veggies during storage, transportation and food prep applications, with no requirement for post treatment rinse.

It is produced by impregnating zeolite with sodium chloride, and then activating that zeolite with a solid or liquid acid such as citric acid, with an unspecified buffer that is used --
used in post-harvest handling of the disinfectant to kill microorganisms. In these applications, the mode is the CLO2, the killing agent, it is applied as a dry pure gas in closed containment and the treatment is done over several hours until the substance is completely consumed.

The CLO2 is converted to a chloride ion on the food products, and in processing facilities the use of this is as an oxidizer, cleaner, deodorizing agent, applied as a pure gas at the point of need.

Those rates vary and will convert to chloride ion when reacting with a wide variety of organic matter.

The initial review of this found that the initial petition sought to list it as a process rather than a material. And, we received some input from the program that if reviewing petitions, the Handling Subcommittee would have reviewed several materials, the sodium chloride and zeolite acting as a carrier, and impregnated with that sodium chloride an acidic chlorine activator and
related buffers. And, when used together as
directed those produce the CLO2 gas.

So, with that thinking, we requested that
the petitioner revised the petition to sodium
chloride for the generation of gas, believing that
a petition considering sodium chloride for that
particular use of gas generation was more
consistent with how other sodium chloride materials
have been reviewed.

We did receive that revision to the
petition, and we did receive a number of comments
on this. Several commenters noted the material
should have been petitioned or listed as chlorine
dioxide gas, with an annotation restricting the
form to generated for sodium chloride. And, as I
noted, it's important to know the initial petition
was submitted in this way, but again, the thinking
was the end material was not a bottle of chlorine
dioxide gas, and hence we asked for that revision.

There were a number of commenters that
feel the CLO2 gas does not have a place in organic
production, and they substitute for good care and
handling of produce. Several commenters noted this material has only conditional registration from EPA, and that such registration means there's limited data on residues or residue tolerance.

We had some comments expressing concern for worker safety when using this material. There were comments requesting the subcommittee to review this in relation to other sanitizers and/or chlorine materials, as we've heard before.

One commenter noted, well, the petition states there is no listed sanitizer in gaseous form. There's the ozone listed on the National List. The subcommittee recognizes that.

Another commenter noted if sodium chloride for the generation of chlorine dioxide gas listed in that manner appears on the National List, it is unclear how other precursors and activators other than sodium chloride could be reviewed.

Finally, some commenters noted the need for a TR to provide more mutual input on this material.

Several other perspectives, commenters
noted the addition of this CLO2 gas as a step forward for reducing microorganisms on fruit and vegetables and would add another option for sanitation.

One owner/operator of a small veggie farm stated this would offer another option in their sanitation.

A commenter noted that CLO2 gas provides an excellent option for treatment of open wound fruit, where aqueous options are not effective.

And, wrapping up those comments, there were several comments that suggested the subcommittee return this back to address all of these issues that I've noted, and, perhaps, consider, as suggested, these with other sanitizers and/or chlorine materials.

So, based on those comments, I would propose that we would make a motion to refer this sodium chloride for the generation of chlorine dioxide gas back to the Handling Subcommittee for further consideration.

MR. AUSTIN: Okay.

Jean?
MS. RICHARDSON: I make the motion.

MR. AUSTIN: So, we have a motion to refer this back to the subcommittee for further review and discussion. Do we have a second?

MS. SEPULVEDA: Second.

MR. AUSTIN: Ashley seconds it.

Is there any further -- any discussion?

Seeing none, Tracy, I'll hand it to you.

CHAIR FAVRE: Okay. We will be starting the voting with Zea. Oh yes, I'm sorry, before we do that, this is a simple majority, this is not a definitive vote on this, on sending it back to the subcommittee.

MS. SONNABEND: And, does it have a maker and a second to send it back?

CHAIR FAVRE: Yes.

MS. SONNABEND: Yes. Okay, I vote yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.
MS. BECK: Yes.

MS. SEPULVEDA: Yes.

MS. DeLIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DeLIMA: It's 14 yes, zero no, one absent. The motion passes.

MR. AUSTIN: So, sodium chloride for generation for chlorine dioxide gas has been referred back to the subcommittee for further review.

Next would be a proposal for oat protein concentrate as petitioned.

Dr. Brines, if you would, please.

DR. BRINES: Sure. Thank you.

This substance was petitioned by Tate & Lyle on February 16, 2016. The petition requests the addition of oat protein concentrate to Section 205606 of the National List as a non-organic agricultural ingredient. And, there is no technical report developed in support of this
petition.

Thank you.

MR. AUSTIN: Thank you.

Lisa, if you would give the presentation, please.

MS. DeLIMA: So, oat protein concentrates being petitioned by the manufacturer as a natural component of oats, an agricultural commodity.

According to the petition, the substance is isolated from oat brands through a simple process of grinding, heating and water extraction. No synthetic chemical additions or solvents are used in the manufacturing process as being petitioned.

Oat protein concentrate is a vegan protein source, and you can use the supplement protein content in a wide range of foods. Examples listed in the petition include vegan entrees, cereal bars, baked goods, breakfast cereals, pasta, and meal replacement shakes.

Overall, oat protein concentrate appears to have no significant negative impact on human health, and the petition states that the oat protein
concentrate is safe in handling that crop production, therefore, has no effect on soil, crops and livestock.

    However, the subcommittee would like to point out that according to the USDA Pesticide Data Program there are seven pesticide resonates found on conventionally grown oats, and conventionally grown oats are what oat protein concentrate is derived from.

    The subcommittee saw no reason why oat protein concentrate cannot be manufactured organically, and, therefore, we recommended that the petition material should not be placed on the National List.

    MR. AUSTIN: Thank you.

    We'll open it up for discussion at this time. Any comments? Any questions?

    Seeing none, we'll proceed to vote. The first would be a classification motion to classify the oat protein concentrate as petitioned as agricultural, and that is a motion that has been -- comes from the subcommittee seconded.
CHAIR FAVRE: Okay. We'll be starting the voting with Scott.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SEPULVEDA: Yes.

MS. DeLIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DeLIMA: That's 14 yes, one absent, the motion passes.

MR. AUSTIN: Next will be a listing motion.

This motion will be to add oat protein concentrate as petitioned to 205606 of the National List, and this is a second motion from the subcommittee that
has a second.

CHAIR FAVRE: We'll start the voting with Emily.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SEPULVEDA: No.

MS. DeLIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

CHAIR FAVRE: Chair votes no.

MS. DeLIMA: That's zero yes, 14 no, one absent. The motion fails.

MR. AUSTIN: Thank you.

Next proposal will be tocopherols, for an additional listing.
Dr. Brines?

DR. BRINES: This one was not a Sunset or petition as nothing to prepare, so you are on your own for this one.

MR. AUSTIN: Okay, we are on our own.

Tracy, I'm going to turn it over to you, since you are the lead on it.

CHAIR FAVRE: Okay. We undertook this enterprise after we received some feedback when we were looking at tocopherols earlier for Sunset, that there was a feeling that there was -- originally the thought that was conveyed to us is there was organic tocopherols that were out there, and that we might consider removing tocopherols from 205605B.

After doing a little more digging, we really found out that what someone was calling organic is really what we would consider a non-synthetic, not organic. And further digging led us to really believe that there was not sufficient commercial availability of organic, but we did still feel as though we wanted to encourage
industry to move away from synthetic versions of tocopherols to non-synthetic, with the ultimate goal of eventually getting to organic.

So, we proposed this initial listing at 205605A, and then we, actually, have an associated proposal along with that for a change in the annotation, because when we were doing the additional listing at 605A we really realized that there was some language in the annotation of the original listing at 605B that didn't make a lot of sense anymore and we wanted to make the change.

Just because we are trying to be nice and tidy we wanted the annotations to be consistent in both places.

So, I think probably everybody here knows that tocopherols really function in anti-oxidants in food, and to prevent rancidity, particularly, in fats, separated typically from other compounds in vegetable oil distillate by multiple extractions for refining steps, further complicated by the fact that using our classification of materials decision tree how the material is manufactured impacts
whether it's classified as synthetic or non-synthetic.

So, we did include in our proposal a discussion on the determination of synthetic and non-synthetic tests for tocopherols, but we didn't receive public comment, actually, from Emily Brown Rosen, who I think she's probably -- she's not here with us tonight anymore, but rightfully pointed out -- oh, is she -- wave your hand -- there you go, there you go -- if she had been still with us she would have saved us from not having this done before we published it. So, there you go, this is your fault.

Anyway, she rightfully pointed out that we had considered the determination of agricultural versus non-agricultural, and so that there's, actually, a second decision tree. This is from the classification materials draft guidance, which is any day now going to be finalized.

So, we are working from that draft guidance in order to give some folks an indication of how we are coming through this.

So, the proposal itself was brought
forward to encourage the use of non-synthetic tocopherols, and we had a pretty robust conversation about it.

Right now, there is, the motion itself is to list tocopherols at 205605A of the National List, and then with the annotation tocopherols derived from vegetable oil. The original annotation said derived from vegetable oil when rosemary extract was not a suitable alternative, and we did strike that.

Additionally, we received further public comment that -- actually, generally, overall the public comment on this was supportive of this decision to provide an additional listing, but everybody provided some additional information and allowed us to tweak it.

One of the comments, I believe it was OTA, made a comment that some of the vegetable -- we specified here vegetable oils, but quite a few of the tocopherols are derived from other types of oils, including nuts, and so this might be really restrictive. And, they suggested a change in the
annotation to read derived from plant oils.

So, because we've gotten various feedback like this, we came to the conclusion in the Handling Subcommittee that it might be better for us to send this back as not quite ready for prime time, work on tweaking that annotation, and bring it back in the spring.

MR. AUSTIN: Yes. I think do we want to open this up for a little bit of discussion? Looks like Dan has a question.

MR. SEITZ: I saw a couple comments, and I was thinking along the same lines, that it would be good to -- if it's sent back to committee it would be good to specify in the annotation that it's non-GMO oils and oils that are made without synthetic solvents. And, I think there were a couple comments to that effect.

MR. AUSTIN: Well, and I think that will be something that we can hash out once we get it back into the subcommittee, then we can start to look at how we redefine this. And, this will really -- it's going to impact both of these motions on
tocopherols, because we've got similar annotation language to keep it consistent for both proposals. So, I just wanted to put that out, that we will be looking at both of these to treat them both the same way to refer them both back.

CHAIR FAVRE: Okay. So, I would like to suggest that we make a motion to send this back to subcommittee.

MS. RICHARDSON: Second.

CHAIR FAVRE: I was going to say, I'll make the motion.

MR. AUSTIN: Okay. We have a motion and a second. Do we have any further discussion? Hearing none, we are ready to vote.

CHAIR FAVRE: Okay. We will start the voting with Francis.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SEPULVEDA: Yes.

MS. BECK: Yes.
MS. SEPULVEDA: Yes.

MS. DeLIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DeLIMA: That's 14 yes, one absent, the motion passes.

CHAIR FAVRE: Okay. And likewise on the second proposal we have, which is simply for the annotation change for the listing of tocopherols at 205605B, I'd like to make a motion to send this back to subcommittee.

MS. SEPULVEDA: Second.

MR. AUSTIN: We have a motion and a second.

Is there any further discussion?

Seeing none.

CHAIR FAVRE: Okay. We'll start the
voting with you, Harold.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SEPULVEDA: Yes.

MS. DeLIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

CHAIR FAVRE: The Chair votes yes.

MS. DeLIMA: That's 14 yes, one absent, the motion passes.

MR. AUSTIN: Okay. Continuing forward, that takes care of our proposals on our list for the Handling Subcommittee.

We move now into discussion documents, with the first being The Cumulative Impact of
Phosphates in Organic Processed Foods.

Jean, if you would give our presentation, please.

MS. RICHARDSON: I'm going to be very brief on this, given the lateness of the hour, and because it's not a proposal that we are voting on anything today.

This item came up during our Sunset analysis of a number of phosphates, and because it was relating to possible health issues related to the cumulative impact of phosphates on humans especially as it would impact kidney function, heart, so forth. And so, that's why we requested a technical report on the cumulative impact of phosphates.

And, following that we sent out -- the discussion document went out for this meeting in order to obtain as wide a range of stakeholder response in terms of public comment, in order to determine how we could go forward. Because when we did our analysis on the Sunset materials, the phosphates, it was clear that no one individual
phosphate material that was being used in organic production of itself could be ascribed as causing directly the human health impact. But, there was certainly question for the cumulative impact in the combination with a range of other phosphates, both natural and in conventional foods that we are eating in addition.

The public comment that we received from this meeting certainly points out, as we expected, what a complex subject that we are dealing with. A quote from one of the comments that we have is that, "We are in full agreement that this could be determined to be a serious issue worth pursuing with recommendations, but the task may be a much bigger public health and nutrition issue than the NOSB could or should take on."

And, this commented from a large certifier recommended that what we do is, if we do intend taking it forward in subcommittee that we bring experts to the table from a range of different fields in order to determine what, if anything, should be done in terms of possible annotations, for
example, of individual phosphate materials.

Another commenter raised issues relating to National List annotations of sodium phosphate, potassium phosphate, and phosphoric acid, and wanted us to look further into the issue of annotations.

Another trade organization, I quote, says they "...recognize that high phosphorus intake may result in a spectrum of health problems to a small segment of the population, particularly, for individuals with chronic kidney disease. However, there is insufficient evidence suggesting over consumption of phosphates in the broader healthy population."

Another one of our public commenters, the gentleman from IFAC who gave us also oral comment yesterday, their organization, which is the -- what's the name again -- International Food Additives Council, they provided us with a really excellent and very, very detailed analysis of the technical report, doing a comparative analysis of the range of additional peer-reviewed articles
pointing out that the technical report itself really was inadequate to fully address the issue.

And so, and I'm making these comments, so turning towards Deputy Administrator McEvoy, just to make a point that we really have to be much more careful and much more assertive in getting the kind of information we want from technical reports. This isn't the first technical report where we find later on that we have failed to get adequate information. And, I appreciate the comments from IFAC and the detailed analysis which, again, because of time I'm not going to go into today.

But, they were able to clearly indicate that there were many other medical and nutrition research articles that have been provided, that were available, that have not been provided to us in the technical report.

I'm not sure that this sort of fully helps us to address the issues that we have before us. Personally, from a personal point of view, I will, obviously, pay attention to the labels more and avoiding phosphates, in order to avoid any
potential health problems as far as possible. But, certainly, I'm not really sure what the Handling Committee could or should do with this at the present time, except to say that all of these materials that we have should be carried forward and used at the five-year Sunset Review when these materials are looked at again, to see if there is further information that indicates that the health issues are, indeed, far more complex and far more pervasive than has been indicated by the research that came out in the present set of analyses.

I also worked on this with Harold, so I'll ask Harold if you would add your comments as well.

MR. AUSTIN: Thanks, Jean.

Well, and I think just to reiterate what you pointed out, I think the IFAC document that they sent to us and their public comments pointed out a lot of mistakes that had been performed and details that were incorrect in the TR. And, they did a pretty comprehensive review and presented that.

So, I appreciate the effort for that.

I'd also point out that we did have a
commenter who both provided us with written testimony and then also with oral testimony. He had given us examples about the daily intake, you know, on a 1,000 or 1,600 milligram daily mean intake for average groups, a 4 ounce serving of fish is 350 milligrams, a four ounce serving of chicken was 300, compare that to the amount of calcium monophosphate in an organic muffin, 19 milligrams, or in a frozen waffle it's 16. So, it kind of helps to frame that a little bit. But, I think there are concerns, and I think we had numerous comments coming back in that we should look at the experts, that we are not qualified to make this type of a decision as a voluntary board. This is one of those points in, there were comments made that should this even fall into the area of our review, or is this something that should be looked at from a different governmental agency, as far as the health concerns around this material. So, you know, that question got raised, whether we should have even picked this one up.

I'm glad that we did, whether we -- no
matter what we do with it, I think it's good that we are showing due diligence to take the concerns seriously, that we are looking into it, whether we move forward with anything or not, I think we are beginning the process.

And, I think if nothing else we've raised that issue one more time about the quality of the work on the TR, and I think also we are hearing the consumers, and we are hearing the issues being raised, and we are trying to address those to the best of our ability.

I think this might frame that there's some things that might be out of the scope of what we are capable of doing, though, too.

Any further discussion?

Okay. Harriet.

MS. BEHAR: Well, as I asked one of the public commenters, as far as the cumulative effects of phosphates issue, but sometimes phosphates can be a little bit problematic in that they might prevent absorption of other nutrients when consumed with other foods.
MR. AUSTIN: Okay. Any further discussion?

Seeing none, thank you, Jean, and we'll see -- this is just simply a discussion document, so now it -- yes, we'll just bring it back up at Handling, and whether we choose to do anything or not.

Moving on, the next item is a discussion document on marine algae listings on National List.

Jean, if you would, please.

MS. RICHARDSON: Again, I'm going to try to be really brief. This is not being voted on today, this is simply a presentation, a discussion document.

Again, just to give background, is that when we were doing Sunset Review last time, when we did the 200 materials, it became very obvious that there are a number of marine algae listings on the National List, and they are both overlapping and confusing, and they lack clarity. And, we determined that we needed further information.

And we, therefore, sought to get a technical report, and again, as my comments that I
said earlier on the phosphate issue, the same applies as to the technical report that we got on the marine algae one, it wasn't bad, but it wasn't great. And so again, we really have to really hold the feet to the fire of the NOP to be sure that we get really high quality TRs for doing this complex stuff that we are working on. And, I know it's not always easy, but still.

So, we got a technical report, and we posed through the discussion document a whole range of questions. The primary things being to determine whether or not we should try to get some clarity on these names, and if they should, when they next look at Sunset Review or even now, is there a need for us to go ahead and be recommending a proposal with annotations or just name changes.

So, what you have up there are the nine materials, marine algae listings that we have. So aquatic plant extracts, general term from things like wild kelp, brown seaweeds, there are three kinds of seaweeds, by the way, three classes, red, brown and green. Alginic acid comes mostly from the
wild browns, agar-agar, and carrageenan come mostly from the red seaweeds, both wild and cultivated, but mostly cultivated owing to the fact that they both have been over harvested.

The alginates are mostly from the brown, wild brown seaweeds. The beta-carotene from green seaweeds, primarily, cultivated. Kelp from primary, from brown seaweeds, except you will find that in fertilizers the term kelp actually includes all classes, red, green and brown. So, if you could do your organic certification you will find that those kelp fertilizers that are going out might just be made of whatever it is. But, it's not just the brown seaweeds, it's all classes in that.

And, the other caveat on the kelp category is that kelp for livestock feed must be certified organic.

And so, the kelp word is certainly one of the ones that will need further clarification to be sure we know what we are looking at.

The other is typically cultivated laminary species, laminary being a sub-group of
kelp, and then wakame seaweed, and buried in that is cultivated and it’s invasive. So, the more we can get rid of that the better. It's an extremely big problem, for example, in New Zealand, Australia and the Pacific. It's not -- it needs over harvesting apparently.

Anyway, moving right along, the next slide -- well, global context, extremely fast moving industry. There is over harvesting impact on marine ecosystems and need for ecosystem conservation. There is debate between industry and marine ecologists on the extent to which wild harvesting techniques are impacting seaweed cultivation and seaweed harvesting worldwide. Certainly, there's a big expansion seaweed cultivation, and along with that, of course, goes associated problems of disease and invasive species.

A United Nations policy document that came out in 2016 I think phrases it rather nicely. It says, "In the last decade, the rapid expansion of the industry is being driven by growing global
demand for edible seaweeds that are contaminant
free with a high level of traceability, and for
products for pharmaceuticals, nutraceuticals,
antimicrobial, and biotechnological
applications."

And, obviously, it's a very complex,
fast-moving field for us to be sort of involved in,
as we are trying to decide do we need annotations
or not.

It's important also to -- we asked -- a
lot of questions we asked was to find out the role
of seaweeds in climate change, assuming all of the
new administration doesn't believe there is any.
But still, what is the role of seaweeds in climate
change? There is some pretty good research data
that came in to strengthen our understanding from
the scientific community, how important seaweeds
are in reducing the speed of global climate change.

And, there's also the interesting issue
of sequestration of metals, especially heavy metals
and other contaminants in seaweeds. This is both
a good thing and a bad thing. Obviously, we, as
humans, don't want to eat seaweeds that have contaminants in them, and at the same time seaweeds can be used to decontaminate in certain areas. And so, this is an opportunity and a challenge for us to understand if we need to have annotations that relate to contaminants.

So, our public comments, we asked should we do something with the naming conventions, it's certainly not going to be easy to be quite honest, because there's a lot of morphological plasticity in the naming conventions that are used in seaweeds. They have different names in different parts of the world. They keep changing, so it won't be easy.

But certainly, most of the public commenters said yes, go ahead, try to work out a list that would have both the common names, obviously, we'll be using the same names that we have presently for the nine listings, but we will be attempting to add to those, to add in some, best we can add to it, but certainly left than the class we'll be able to get, I hope, to some genesis and in some cases we can stay with the species, but to try to consolidate
in order so it's clear and, therefore, much easier
to be monitored and inspected in terms of their
usage.

The second main area for public comment
was, should annotations be written to clarify
specific uses or harvesting guidelines, such as no
machine harvesting, or you can't have it if it's not
harvested from an identified conservation zone,
things like that.

We got quite a bit of comments across the
whole spectrum as to why this is a good idea, why
this is not a bad idea, because it's not really that
easy, and because you can't really generalize
because a lot of these are in international waters.
And, we don't, necessarily, have the degree of
control that we might do in terms of being able to
-- if they are not organic, if they are not organic
wild harvested, NOP isn't going to have the ability
to go out and verify. So, if these are non-organic,
our degree of control is certainly somewhat
limited.

Nonetheless, based on public comments,
was one of the ones that thought we should try to
do some annotations, and they did provide some
recommended language. And, they also commented
that it would be quite useful for us to relook at
this when we get NOP guidance on the classification
of materials.

So, I think that probably what we will do
this, I think probably what we should do with this
is, we should take it -- we should go back with these
public comments and all this sacred information, we
got thousands of pages of this if you read all of
it, which I did, all the peer review journal
articles, in order to get a draft proposal to bring
up in April with the Latin names and so forth to get
the list tidied up. And, we may develop a
recommendation that would help the NOP to develop
some harvesting guidelines for wild harvested, and
we may try to work on some draft annotations,
although we don't have much time until the next
posting for April. So, it's hard to know exactly
where we will go with this, except I think cleaning
up the National List to make it more easy to follow
will certainly be helpful to people at the next Sunset Review.

Who worked on it with this? Scott, right? Yes, Scott helped me with it, so why don't you add your bit here.

MR. RICE: I think that was pretty comprehensive.

I look forward to working on it some more, and we'd welcome others to participate as well. It's a topic that I find very interesting and important to work on.

I don't have anything more to add, but look forward to working with you.

MR. AUSTIN: Okay. Thank you Jean and Scott, and that will be going back for the Subcommittee for further work.

The last item on our agenda for the Handling Subcommittee presentation is an update on xanthan gum reclassification.

Zea, if you would please?

MS. SONNABEND: After the 2017 Sunset Review for xanthan gum, we thought that we might
request a limited scope TR to look at the manufacturing methods, because we got quite a bit of public comment that it really should be considered non-synthetic.

So, we did commission that TR, and we got it back, and it told us that there were several ways to make xanthan gum. Some of them were synthetic, and some of them were non-synthetic.

Being that this semester I had some other rather sticky, gummy things that I had to work on, we decided that we were not going to take a further action at this time, and as we have said for quite a few other things, we are kind of waiting for the classification of materials guidance to come out.

So anyway, we could not prepare something for this meeting, which didn't mean to imply that we were never going to do it. And, you know, a lot of public comment came in that said they wanted us to do it, and so I'm sure we are going to take a look at that and consider doing some sort of reclassification in the future.

MR. AUSTIN: Thank you, Zea.
And I agree, we did get a lot of comments back asking us to take a look at this in a similar process as we looked at tocopherols. So, I think it makes sense to at least get it back into the purview of the Subcommittee and have a good discussion about it, see how we move forward.

So, with that, that ends the presentation of the Handling Subcommittee to the full NOSB, and I would just like to point out that we are giving you back 13 minutes out of our time slot, even though we are late, it wasn't our fault.

CHAIR FAVRE: I agree, I understand.

MR. AUSTIN: This is a first.

CHAIR FAVRE: And, for those of you die-hard fans we are calling an audible again, as I told you yesterday I'm trying to do.

We found out that the Commissioner or the Director of Agriculture, Missouri Director of Agriculture, is going to be in attendance at the reception tonight, but can only stay until about 6:30. So, we are going to -- we are going to quit -- we are going to quit here, and we are going to
pick up with materials first thing in the morning. And, I apologize to any of you that messes up your schedule.

MS. SONNABEND: What is audible, tell us what audible is, because we couldn't hear you.

CHAIR FAVRE: Yes. We are making a change in the schedule. Yes, we will be starting at our regularly scheduled time tomorrow. We've got some play in our schedule, and we'll need to take it up tomorrow.

MS. SONNABEND: But, you are doing materials first?

CHAIR FAVRE: Yes, materials will be taken first.

MS. SONNABEND: Not that first.

CHAIR FAVRE: Yes.

MS. SONNABEND: Okay.

(Whereupon, the above-entitled matter went off the record at 6:21 p.m.)
UNITED STATES DEPARTMENT OF AGRICULTURE

NATIONAL ORGANIC STANDARDS BOARD

FALL 2016 MEETING

FRIDAY
NOVEMBER 18, 2016

The Board met in the Chase Park Plaza, 212-232 N. Kingshighway Boulevard, St. Louis, Missouri, at 8:29 a.m., Tracy Favre, Chair, presiding.

PRESENT

TRACY FAVRE, Chair
TOM CHAPMAN, Vice Chair
HAROLD AUSTIN
CARMELA BECK
HARRIET BEHAR
JESSE BUIE
LISA DE LIMA
EMILY OAKLEY
SCOTT RICE
JEAN RICHARDSON
DAN SEITZ
ZEA SONNABEND
ASHLEY SWAFFAR
FRANCIS THICKE, Ph.D.
ALSO PRESENT

MILES McEVOY, Designated Federal Officer, Deputy Administrator, National Organic Program
MICHELLE ARSENAULT, Advisory Board Specialist, National Organic Program
LISA BRINES, Ph.D., National List Manager, National Organic Program
SAM JONES-ELLARD, Public Affairs Office, Agricultural Marketing Service
PAUL LEWIS, Ph.D., Director, Standards Division, National Organic Program, USDA
JESSICA WALDEN, Materials Specialist, National Organic Program
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(8:29 a.m.)

CHAIR FAVRE: Good morning, ladies and gentlemen, boys and girls. Please keep your arms and legs inside the car at all times, fasten your seatbelt. Welcome to the third and last day of the fall 2016 NOSB Board Meeting. We've got a busy agenda today, so we're going to go ahead and get started where we left off yesterday with the Material Subcommittee. Lisa, you ready to get us going?

MS. DE LIMA: All right. So we're just going to jump right into it starting with the research priorities proposal, and Emily's going to take us through that.

MS. OAKLEY: Well, since we have such a really long agenda today, I'm going to keep this very brief, but this is the fifth research priority document that the Material Subcommittee has submitted since 2012 and this year's document was a synthesis of the previous year's suggestions, and also, a prioritization of those previous
priorities.

We got comments on all of the different priorities, but I'll just highlight a couple that were specific. We got the most on methionine, and on the organic no-till suggestion. There was a comment to add soil carbon sequestration to the organic no-till comment.

There was also some comment on celery powder in terms of concerns about growing celery simply to be high in nitrates. There was also concern in terms of the GMO contamination, trying to find mechanisms for mandatory payments by patent holders to farmers who have been affected by GMO contamination.

In terms of consumer demand, there was a comment suggesting that surveys be posed to capture both the positive and negative reasons that consumers purchase organic food. For example, a positive reason would be because I want to have better health and a negative reason might be because I don't want pesticides in my food, so trying to look at it from that holistic
There were also some comments for additional research priorities that we can add in future years. Those were alternatives to ethylene in pineapple, which we heard in the oral comments, and from the written comments, manure use in food safety. A suggestion that the NOSB write a letter to the USDA asking that there be organic or mandatory organic representation on research and boards so that the organic perspective is heard.

Nitrogen nutrient management, particularly in terms of the animal manure and green waste. Also, research on organic fungicides, herbicides, and insecticides, with fungicides being a priority. A request that the NOP broaden the delivery scope of the research priorities to include private foundations, and then report annually back to the NOSB on how the priorities were distributed.

That is done verbally in our subcommittee, because this is a document that most of you might know is taken by the NOP to the broader
community in terms of expressing the organic community's research priorities, but this was a request for a formal written report on how those priorities were distributed. So are there any questions from the subcommittees with respect to the comments on their different priorities?

MS. BEHAR: Well, I'm just wondering what the mechanism might be for us or the NOP to feed into the research boards or, you know, the committees that then oversee where the research money goes. I don't know what the mechanism is, if we agree with that public comment, to then move it down the road. I don't know.

MS. OAKLEY: Well, Betsy is not here because she is on maternity leave soon, but maybe we can ask Miles that question?

MR. MCEVOY: Sure. So you're saying what happens with the recommendation from the NOSB on the research priorities or?

MS. OAKLEY: Or there was a public comment suggesting that it would be good to include private foundations for the delivery of these
priorities, so what the mechanism for that might be is Harriet's question.

MR. MCEVOY: So a mechanism for USDA to provide this information to private foundations. Do you have a list of private foundations that you would identify that would get this list of priorities?

MS. OAKLEY: They weren't identified in public comment, but I think it's probably broadly, Zea, reflected in hope of creating this research framework in the first place. I'll let Zea speak to that.

MS. BEHAR: Well, there are committees that review grants at the federal level, and just having, maybe, a placeholder on some or all of those committees for people who have organic as part of their background, so the people reviewing those applications would see the organic applications a little bit more favorably or at least be able to answer questions by other committee members, what is this all about.

So this has been an issue that, on the
committees that decide who gets the money, and these are all volunteers, there are other professors and such that review these that we don't have people on those committees who understand organic systems, and what we need, and so we get such a small portion then because there's not an understanding of the need that we have on those committees.

And so I think someone asked the USDA to put more -- you know, to, basically, kind of set a seat at the table for people who would have some organic background.

MS. OAKLEY: Well, this is actually, there are two separate requests. There was a request, yes, that there would be a mandatory organic representative on such boards, and then there was an additional request that these priorities be delivered to private research foundations.

MR. MCEVOY: Okay. So in terms of delivering to private research foundations, I think we could do that if you identified which
foundations you're referring to. Just seems like an administrative process that we could do that.

In terms of the other point about certified organic operations on the review boards, if that's part of the recommendation, this recommendation does get forwarded on to the various research agencies within USDA that do provide grant opportunities, so if it's part of the recommendation, that will be seen and those things are taken very seriously by those agencies.

MS. OAKLEY: Zea.

MS. SONNABEND: Well, it's not part of the current recommendation, but it certainly is something we could make a separate recommendation or resolution about for the next meeting, so maybe it could go on our work agenda.

MR. MCEVOY: Sounds good.

MS. OAKLEY: Francis.

MR. THICKE: I think that wherever we send this research priority document, we need to stipulate that this is not the whole universe of organic research priorities, that this is the set
that pertains to the work of the NOSB and the organic program.

MS. OAKLEY: Any other discussion?
All right. Madam Chair.

CHAIR FAVRE: Okay. Let's see, where did we leave off the vote yesterday? Some are over there.

MS. OAKLEY: Do you want me to read the motion?

CHAIR FAVRE: Yes, we need a motion to --

MS. OAKLEY: This is the motion to adopt the proposal on 2016 NOSB research priorities.

CHAIR FAVRE: Okay. And as a reminder to everybody, including the audience, these motions come to the floor as seconded motions, so we have a motion and a second, and, Jesse, you'll start the vote this morning.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SWAFFAR: Yes.
MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

CHAIR FAVRE: The Chair votes yes.

MS. OAKLEY: It's 14 yes, 1 absent, the motion passes. All right. So next up we have excluded methods or proposal, and Zea's going to take us through that.

MS. SONNABEND: Thank you. I'm going to start out with a related announcement, which I thought we were going to put on the agenda separately, but we got several public comments about what happened to our work on seed purity, and I just wanted everyone to know, because it's not totally transparent, that the Materials
Subcommittee has discussed the next steps for seed purity, and based on the ideas that were presented on the spring discussion document and the public comment that came in, we decided to request from the NOP, establishing a seed purity advisory task force.

And the goals of that task force would be to develop processes to implement suggestions regarding seed purity in organic systems and develop effective data collection processes, act as experts to interpret data, and design crop-specific feasibility study.

The Department has told us that it's not in the budget for the current fiscal year and so that's where it stands at the moment with them.

Okay. On to excluded methods. And I would like to say hello to whoever is here from Monsanto, so you can witness what the organic community thinks about the subject. In April 2013, we started this effort. The first discussion document analyzed the language in the exclusion methods definition that was already in
the NOP rule and started collecting all the new terminology that had arisen in the world of biotechnology since 1995 when the definition was originally adopted.

We have had documents out pretty much continuously for comment since then. That is seven comment periods, not including the aborted one from when the government shutdown happened, over a period of four years. Some people say that isn't enough time to evaluate this technique, but those people are joining us rather late in this four-year, seven-comment period game, so that's where we stand.

The organic regulations are processed based, this means that we're not looking at end products as much as the processes used to create them. Since this is true of crop production and food processing, it makes sense to follow this approach for the processes used in biotechnology rather than only look at the end products.

Yes, we are reacting to the failure of the rest of the USDA and other agencies to properly
regulate GMOs, because they're using a product-based approach that is both inadequate and shortsighted, but we're also trying to follow the structure used for the rest of the organic regulations while maintaining the slightly increased flexibility inherent in putting this in guidance rather than directly in regulations.

So we've set out a proposal here that has three parts. First of all, we have some supplemental definitions that go along with the overarching definition of excluded methods that is in the rule, but deal with some of the terms that are in more common parlance in the world, such as GMO, the internationally accepted definition of modern biotechnology, and a term that is mentioned in the excluded methods definition, but not defined, which is classical or traditional plant breeding.

Also, we've chosen to define synthetic biology because it is its own thing, which is slightly different, but very closely related to GMOs.
So the second portion of the document of the proposal is the criteria that we would use to measure new GMO processes. We realize that, you know, probably by the time we pass this there's already some new ones, in fact, public comment did add some new ones to our chart in our discussion document that we'll carry into the future work plans of the Board, but we have better tools to evaluate those methods if we have criteria.

And we have the overall principles of organic farming to guide us, which we've excerpted both the principles from our own policy and procedures manual, and also taken a look at the principles of the international community, IFOM.

So the criteria, basically, respect this indivisible entity of the cell and talk about not having insertions, deletions, or rearrangements of the genome in vitro, in particular. Maintaining the ability of a variety to reproduce in a specie-specific form. Preventing from introducing novel proteins and other molecules that may not have occurred in
nature in the first place into the environment. And the exchange of genetic resources in order to enable farmers to have a legal avenue to save seed and plant breeders to have access to germ plasm is a very important criteria.

So the third part is, we take a look at those criteria in relationship to some of these terms that we have here. And whenever we have had public comment in the past periods that have said such and such a term is not a GMO, or such and such a term is a GMO, we do take a closer look at it in subcommittee.

This has resulted in pulling off a couple of things for further examination and has resulted in adding terms on over time. The chart that we have here is as far as we've gotten in being able to determine that these things do not meet the criteria.

Yes, we have a whole other chart some of them are very clearly GMOs and many commenters suggested that we move certain terms, such as agroinfiltration, and cisgenesis, intragenesis,
et cetera, on to the chart. We certainly may intend to do that in the future, but once something is posted for this meeting, we have to take it as it is, although we can subtract things if we need to once the comment has occurred, so that, we'll continue to work.

Over the course of doing this we've tried to be responsive to public commenters within the organic community by refining the definitions and criteria while reexamining the terms in the chart when stakeholders raise specific questions.

At the spring meeting, we got some concern about the wording in some of the definitions and criteria. I announced at that time at the meeting that I would welcome help from stakeholders in revising those sections, so we channeled everyone who volunteered for that into an ad hoc group.

That group contained three public sector organic plant breeders with PhD's, one commercial sector PhD plant breeder, two PhD scientists from NGO consumer groups, four people
with extensive international experience on GMO regulation who are from NGOs, two people involved in organic trade, one farmer -- that's me, one consumer -- that's Dan.

We worked on rewording those sections and we made just fairly slight revisions, but significant in terms of getting it right, and we submitted the work back to the Materials Subcommittee.

So based on the comments we received since spring, we moved the embryo transfer in animals process from the prohibited chart into the discussion document when we got input from a number of livestock farmers that this was something they rely on and there may be some ways to do it that might be GMO, but there were clearly some ways that would really not be considered genetic engineering, so we will take another look at that.

We also received specific comments about CRISPR gene editing, sometimes called by other names than CRISPR, but gene editing, and its potential for desirable improvement in crops. The
subcommittee decided to not move this off the chart because it very clearly is a GMO and has no field history of improved varieties to evaluated what unintended effects the technology might have on the environment, just like all of the GMOs released into the environment have had unintended effects that don't show up for a number of years.

So that brings us to the public comment from this posting. We have a lot of support from a wide variety of stakeholders now on passing this. We got no more specific comments about the individual definitions or the individual criteria. We only got two specific comments on the terms in the chart.

We got a couple more about CRISPR, which I've already addressed what our conclusion was, and we did get the one that we heard from DuPont, that DuPont seed production technology does not belong on this chart.

And so in light of that, we are willing to take that one back and put it in the discussion document and move forward the rest of the proposal,
and we'll take another look at that one.

So we also got some good input from certifiers. Well, first of all, the many sectors we heard from included non-profits, organic plant breeders, certifiers, trade associations. Many of them brought up good supplemental points that the NOSB can continue to work on as the work continues.

Particularly worthwhile was expanding the list of terms that are allowed techniques and taking a look at the Canadian regulations which have done just that and have a much more extensive list of what is allowed than we have, which would help to balance out just what is not allowed.

So then I want to read a portion of just one public comment which sort of summarizes, I think, the crux of the biscuit here, and this comment is from Jim Fullmer of the Demeter Association.

"Methods used to genetically modify organisms or influence their growth in an organic farming system should reflect the wisdom and
inherent methods of the natural world that has evolved the very existence of plants and animals over thousands of years. While this may sound simplistic or even Luddite, in fact, it is the opposite."

"The natural world or life of the Earth herself is a living organism, if you will, is based on complex biological diversity, living interconnected dynamics, and self-regulation. There is a tremendous technological benefit in observing, understanding, and implementing these facts of the living world as agronomic tools."

"The genetic codes within such a system evolved over time in unison with the evolution of the living system itself, and diversity, not monoculture, is clearly a driving force behind this evolution. Genetic modification, void of this principle, should be avoided in organic agriculture."

Now, we have received a few comments against the proposals from companies and individuals such as DuPont Pioneer, the Grocery
manufacturers Association, and the American Seed Trade Association. Some of these commenters are the same ones who have hindered progress in organic seed availability and may not have the genuine interest in the future of organic.

I'll address some of the points raised in those comments. The first one is that the definitions in our proposal should be the same as the definition for bio-engineered food in the DARK Act. I am going to ask Miles to make a statement about the relationship between our definitions and he doesn't want to call it the DARK Act, I'm sure, but whatever it's called; bio-engineered food.

MR. MCEVOY: Sure.

MS. SONNABEND: You knew this was coming, Miles.

MR. MCEVOY: I knew this was coming. Absolutely. So Administrator Eleanor Starmer put out a statement in September concerning the bill that amends the Agricultural Marketing Act of 1946, to include Subtitle E, the National Bio-engineered Food Disclosure Standard.
And in this statement, she describes the relationship between the GMO disclosure program and labeling under the Organic Foods Production Act. And has issued a policy memorandum on AMS bio-engineered foods disclosure program consistency with the AMS national organic program.

So this policy memo is available on the AMS Web site and it describes the criteria that will be used by the GMO disclosure program within the agricultural marketing service as the basis for ensuring consistency with the Organic Foods Production Act and the AMS national organic program.

It also explains how AMS views requirements that fall outside these criteria and are statutory authorities. The AMS national organic program implements the Organic Foods Production Act of 1990, acting upon recommendations from this board, the National Organic Standards Board, a federal advisory committee appointed by the Secretary, the NOP
establishes, monitors, and enforces the USDA organic regulations codified in 7 CFR 205.

The organic regulations are further explained through guidance, instructions, and policy memorandums, all of which are published in the NOP program handbook on the AMS Web site. USDA's organic regulations establish criteria for the production of organic crops and livestock, processing organic products, and labeling of organic food, fiber, and livestock feed in the U.S.

With rare and defined exceptions, all products sold, labeled, or represented as organic in the U.S. must be certified by a USDA-accredited certifier. The use of bio-engineered products, also generally referred as genetically-modified organisms, GMOs, is prohibited in organic production and handling.

The USDA organic regulations prohibit the use of GMOs as excluded methods under 7 CFR 205.105 allowed in prohibited substances, methods, and ingredients in organic production and handling. This prohibition applies to any product
certified and labeled as 100 percent organic, organic, or made with organic specified ingredients.

AMS livestock, poultry, and seed program will implement the national bio-engineered food disclosure standard, which instructs USDA to establish a national mandatory bio-engineered food disclosure standard with respect to any bio-engineered food and any food that may be bio-engineered by July 29, 2018.

AMS will implement this act through rulemaking with public notice and comment. AMS also intends to hold public stakeholder sessions to seek input prior to rulemaking. In order to ensure consistency between organic certification and bio-engineering disclosure programs, as instructed by statute, AMS is issuing the following policy.

The policy is, when proposing standards for a national bio-engineered food disclosure program, AMS' policy will be as follows, no certified organic products will require a
disclosure as bio-engineered and no proposed rules for bio-engineered food disclosure will require that modifications be made to the USDA and organic regulations.

So that's the policy that's in place at AMS regarding the labeling of organic products in relationship to the GMO disclosure program. The Board has full authority to look at the regulations, make recommendations concerning the definition of excluded methods, guidance on the meaning of excluded methods, so that's that.

MS. DE LIMA: Thank you very much, Miles.

MS. SONNABEND: Okay. The second point raised by some of the opposition was that the definition of traditional or classical plant breeding in the proposal differs from the USDA's official definition of the term traditional breeding. So I went to the link that was provided, which is called a glossary of agricultural biotechnology terms, and the paragraph right under that title says, "These terms and definitions are
intended for general educational purposes only. They are not intended to replace any definitions currently in use in any U.S. Government laws or regulations, nor are they legally binding on the actions of any government agency."

So we'll keep going. The next point is, wait until the coordinate framework is adopted, because it might affect our results. Well, so far, several of us have been and testified at hearings regarding the coordinated framework and it's pretty clear they're not listening to us whatsoever.

They're not going to increase the oversight of GMOs, and GMOs are continuing to contaminate organic production, so I don't think we're going to wait. The point was raised that the results of gene editing to improve varieties are identical to the varieties bred with traditional breeding methods, only, they can be developed faster.

So I urge you to go back and read Jim Fullmer's comment that I just read about the
unintended consequences in the environment and co-evolution. We would be better served by a case-by-case approach based on the benefits of GMO products. I urge those people to go reread the process versus product discussion of our document.

More time is needed for public input. Four years, seven public comment periods, we're ready. It's incomplete, and therefore, should not move forward. Yes, the chart is incomplete. It will be a work in progress for many years, but the definitions and the criteria are complete. We are ready to go forward and put the structure in place so that then it can be added to based on those definitions and criteria in the future.

It's not lost on us that this proposal has come to fruition here in Monsanto's neighborhood in a time when people are still reeling from the upcoming change in our government. It could not be more clear to me that the time to pass this proposal is now. Our organic future is in for a rocky ride in the next four years.

That being said, the proposal is
designed in a modular fashion so that we could vote
the three sections together or separately and we
can remove any individual term from the chart for
further work. We cannot add things to the chart,
as I've mentioned, and some commenters suggested,
because we need public comment on anything we plan
to add.

So I am proposing that we adopt the full
chart, remove the term DuPont seed production
technology, and move that to the discussion
document, and take another look at that in the
future.

So in closing, I was quite inspired by
the fact that John Ashby sang his public comments
and it made me bold enough to sing my closing, but
I can't sing as well as him, so you'll have to bear
with me, and I'm going to sing a combined verse from
the recently anointed Nobel Laureate.

The line it is drawn and the curse it
is cast, the slow ones now will later be fast. And
the present now will later be past, there's a
battle outside and it's raging. It'll soon shake
the windows and rattle the walls, for the times, they are a changing.

CHAIR FAVRE: Thank you, Zea. Does anyone want to try to follow that? Jean.

MS. RICHARDSON: I just want to say how speechless I am -- not just of you singing, of course --- at the work that you've done and your leadership on this over the last four years. Absolutely mind-boggling, patience that you've gone through, and I've been involved in many of the subcommittee, not discussions, wasn't a member of that committee, but listening in to the depth of the debate.

I don't think anyone out amongst the stakeholders can understand the number of hours, and discussions, and conversations that have gone into this and the work of the other members of the board as well.

I'd like to strongly support passing the whole thing all as one block today and not breaking it up, but to vote on the whole.

MS. DE LIMA: Emily and then Francis.
MS. OAKLEY: I just want to say that I wholeheartedly agree with that and it's going to be very challenging working on this without Zea, so we're going to be pulling her back in whether she likes it or not.

MR. THICKE: And I just want to say too that, thank you, Zea, you did a great job. It's a big task and you did good work, so I'm happy that you got so far as you did before you're leaving. And I agree that we should probably try to vote on the whole thing at one time.

MS. DE LIMA: Harriet.

MS. BEHAR: And I agree, it's an excellent document. Thank you. Zea, one other thing too, and what you were asking Miles, there was also a colloquy on the Senate floor where Senator Tammy Baldwin did specifically ask for clarity from the co-writer of the Bio-Engineered Disclosure Act, or whatever it's called, that it would not in any way affect the current definitions of excluded methods or any future work that we do.

So we not only have it AMS, but we also
have it at the Congressional level, just so we have
some safeguards there.

MS. DE LIMA:  Harold.

MR. AUSTIN:  Zea, I support
everything, even your singing part to wrap-up your
statement.  One point of clarification I was asked
to ask you about on the classical traditional --
the classic -- yes, classical traditional plant
breeding definition in here, do you see any impact
that that might possibly have on the current tree
fruit breeding programs being conducted by several
of the land grant universities?

MS. SONNABEND:  Well, there are some
methods now that are being used in tree fruit that
are GMO, such as our expert panelist at the last
meeting who is developing plum trees that bear in
one year and then removing the gene, it's called
fast-track, and he was from University of West
Virginia, I believe, so that is one.

And then, the Arctic apple, of course
is one which is private sector, not land grant, and
not knowing exactly what they're working on, I
couldn't specifically say if they're GMOs or not, but I think it gives us a strong foundation, and having a definition for this term was a particular impetus of the private sector -- public sector, sorry, plant breeders that we worked with, such as Bill Tracy from Wisconsin, who is on our expert panel also, and who was the primary author of this particular definition.

MS. DE LIMA: Dan.

MR. SEITZ: Yes, I too want to thank Zea and say that I would like to see this passed in its entirety. We often hear about two points, the importance of not letting the perfect be the enemy of the good, in my experience, when someone wants to delay something, they'll always find some piece of it that could be further worked on, and that's absolutely going to always be true of any of our proposals.

The other thing that we've heard a great deal about is the importance of the precautionary principle, and I'd like to say that it may be the case that something that is not technically a
GMO-type technique could be -- but is a recently
developed technique, could be on this end document,
or be put there later on, but I'd rather see a
mistake like that made with a modern technique
rather than us leaving out something that could
cause tremendous harm through its unintended
consequences.

So I don't feel that we absolutely have
to reach purity on this, we just have to use our
common sense and good science and expertise to come
up with something that really does embody this
precautionary principle.

MS. DE LIMA: Anyone else? All right.

MS. SONNABEND: Okay. Then the motion
is on the floor and seconded for the subcommittee
to approve Parts 1, 2, and 3 of the proposal, with
the removal of DuPont seed production technology
from Part 3.

CHAIR FAVRE: Okay. Comes as a
seconded motion. We'll begin the vote with
Carmella.

MS. BECK: Yes.
MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: It's 14 yes, 1 absent, motion passes.

MS. SONNABEND: There isn't that much more to say about the discussion document except that, clearly, we still have plenty of work ahead. I do plan to keep working on one or more of these terms before my term is up in January so that I can leave behind an example of how we will look at each individual term.

And I am willing to keep working with
any ad hoc community members who would like to work on this, as many of you have already expressed to me. I will then turn it over to the capable hands of Harriet, who will hopefully feel free to consult with me also as we work through the rest of the terminology.

And also, to let you know that, Dan will be taking over the portion about the seed purity to keep that effort moving forward because that is very important to the organic community as well.

Thanks.

MS. DE LIMA: Thank you, Zea. And I'm going to hand it back over to Tracy who's going to take us through the letter to the Secretary.

CHAIR FAVRE: Thanks, Lisa. So I guess it was five years ago now, the NOSB felt as though it was important to advise the Secretary of Agriculture on our work on where we stood on the issues of GMO, and we felt like five years has been enough time to show some progress on both sides, and we wanted to remind the administration that there were some obligations on their side as well.
And so we felt that it would be appropriate to send a letter to the current Secretary, as well as whoever the future Secretary will be, and give them a status update on where we stand on our work.

Zea took the first whack at it and asked for some help in blunting the language a little bit. As you might imagine, she's pretty passionate on the subject, as are we all, and so it was a real joint effort. I'm actually really, really proud of the work on the Materials Subcommittee, because in the end, the letter was, I think, reflective of all of our perspectives and was much better with everybody's input.

So I won't read the entire letter, but I do want to bring up a couple of points. The first one is that we have heard the public loud and clear, and it's, actually, one of the first paragraphs is, it says, "The public's message is clear. The NOSB has the unique opportunity of having direct access to public comment prior to each of our twice yearly board meetings, and one message has consistently,
repeatedly, and abundantly been made clear: Consumers across the country have expectations there will be no GMOs in their organic food."

So we want to make sure that that message is conveyed in no uncertain terms that we stand as a voice for the stakeholders in the organic industry and we want to make sure that the administration hears that loud and clear.

We further go ahead and provide some bullet points on the work that we've done on our side, including the fact that we've established a mission statement that states we accept responsibility for making the recommendations aimed to keep GMOs out of organic, and then beginning our work in 2012, we go through some of the points on what those activities have been, including the expert sessions that we've had at multiple NOSB meetings, stakeholder task force that Zea mentioned earlier that we're still waiting on to get some funding for, seed purity issues, the need for data collection, and a statement that we feel that the organic industry alone should not
bear the cost of genetic trespass and incursion.

The responsibility should particularly lay with the developers of these technologies that trespass on the integrity of organic production. And in the end, we call for clear leadership from USDA, recognizing that there's only so much that this board can do and that it has to trickle, in this case, upwards through the administrative and bureaucratic process.

And we've called for some particular leadership and wrapping it up with, basically, in conclusion, that we want to see a further emphasis on recognition of responsibility for incursions, and develop policies to address the shared responsibilities for GMO contamination, strengthen farming best practices guidance to prevent incursion of biotech seeds, pollen, and products into conventionally and organically managed acreages, and to support funding for research and data collection on threshold testing of organic and non-GMO seeds.

So we feel that this is a letter that
should be routinely sent to the administration so that we keep it, one, at the forefront of our squeaky wheel gets the grease activities here, and we would like to submit this, we'll be printing it out and signing it, and submitting it to the Secretary, as well as making sure the future Secretary gets a copy of it, and encourage future boards to continue with that work.

MS. DE LIMA: Thanks, Tracy. Any discussion from the Board? All right. Do we have a motion? Is that how we do it?

CHAIR FAVRE: Yes, just like everything else, this comes as a seconded motion. The motion to accept this report to the Secretary of Agriculture on the progress to keep GMOs out of organic. We will start the vote with Ashley.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Enthusiastic yes.
MS. SONNABEND: Ditto. Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

CHAIR FAVRE: The Chair votes yes.

MS. DE LIMA: It's 14 yes, 1 absent, the motion passes. And that concludes our portion, Madam Secretary.

CHAIR FAVRE: Thank you, Lisa. Because our schedule's a little wonky today, we're going to go ahead and proceed and begin the work on the Crop Subcommittee, but before we do that, I've asked our Deputy Administrator, Miles McEvoy, to read some wisdom into the public record.

MR. MCEVOY: Okay. This is from Wendell Berry, wisdom from Wendell Berry, the Peace of Wild Things. "When despair for the world grows in me, and I wake in the night at the least sound in fear of what my life and my children's lives may
be, I go and lie down where the wood drake rests in his beauty on the water, and the great heron feeds."

"I come into the peace of wild things. I do not tax their lives with forethought of grief. I come into the presence of still water and I feel above me, the day-blind stars waiting with their light. For a time, I rest in the grace of the world and then free."

CHAIR FAVRE: Thank you, Miles. I think that bears remembering as we enter a potentially contentious conversation, and I'd like us to all keep in mind that we're all in this together. Now I'm going to turn that over now to Zea to begin the crops discussion.

MS. SONNABEND: Thank you. All right. Well, welcome to the Crop Subcommittee. The first portion of it is our 2018 Sunset Substances, and so the first one of those is copper sulfate for use in rice.

We received relatively little comment on this. I --
DR. BRINES: Zea?

MS. SONNABEND: Yes.

DR. BRINES: Would you like me to introduce the substance for you?

MS. SONNABEND: Yes.

DR. BRINES: We'll get it down. All right. The first listing under consideration for the Board for crop use under sunset 2018 is copper sulfate, and there are two listings that were considered by the Board. The first is at Section 205.601(a)(3), the listing reads as copper sulfate for use as an algaecide in aquatic rice systems, is limited to one application per field during any 24-month period, application rates are limited to those which do not increase baseline soil test values for copper over a timeframe agreed upon by the producer and accredited certifying agent.

The second listing is at 205.601(e)(4), that listing reads as copper sulfate for use as tadpole shrimp control in aquatic rice production, is limited to one application per field during any 24-month period, application rates are limited to...
levels which do not increase baseline soil test values for copper over a timeframe agreed upon by the producer and accredited certifying agent.

And the most recent technical report for copper sulfate was completed in 2011. Thanks.

MS. SONNABEND: Thank you. Okay. So we received relatively little public comment this time. Unfortunately, we received quite a bit of what there was for people who were not focusing on the rice aquatic system, but were focusing on copper sulfate in crops, which we completed the review of in 2017, and my one strong request to the Policy Development Subcommittee is that, in the sunset reorganization, they try and put those two together for future review so we don't have to waste a lot of people's time trying to re-comment on copper and having to read re-comments on copper that we've already just reviewed.

So the two copper sulfate listings should be combined in the future if possible. Okay. So that being said, some people did think that there was too much toxicity in rice aquatic
systems, other people pointed out that it is used in really small quantities and the rice water systems, at least the ones I know about in California, have extensive recycling components to them, and tailwater ponds, and things like that, so there's very little chance of the copper sulfate being released into the greater aquatic system.

And we didn't hear a lot of strong opposition to re-listing this substance. Also, in the course of preparing the sunset evaluation, I went to the source I had looked at before, which is the California Rice Research Board, they do research every year on alternatives to copper sulfate, and they're not always organic alternatives, because this is used, also, in conventional systems, and I hadn't looked at their report since the five years ago sunset.

So I looked at the -- it was four years of reports that have been out since then, and did not find any viable alternatives that they had identified, and also, tried to look for other relevant research for it, and did not find any other
research papers about it.

So any discussion? Dan.

MR. SEITZ: So a question, one commenter noted that reading the two annotations on the use of copper sulfate could potentially allow for the administration of copper sulfate every 12 months, not every 24 months, if you read these as separate allowances, so I wondering if the Crops Committee looked at that and whether they also have any recommendations around, maybe, an annotation change?

MS. SONNABEND: Well, the Crops Committee did not look at it at this particular time, but well, I know a lot about this material, and so it might be too much to go into here, but this is a material that is only used when very particular weather conditions happen in a ten-day period after seeding and before rice emergence.

And if those particular weather conditions emerge, they may need to use it two years in a row, but then they may not need to use it for three or four years, and so the board who initially
adopted that as the structure of the annotation
didn't really understand that, but changing the
annotation is so cumbersome at this point that we
have chosen not to change it to something that makes
more sense for that.

It is monitored, certifiers monitor
this very closely. We require that they test for
copper on a regular basis and make sure that it is
not building up. Okay. We'll put the motion on
the floor and the motion, as for all sunsets, is
to remove copper sulfate from the National List.

CHAIR FAVRE: Okay. We'll be starting
the voting with Lisa.
MS. DE LIMA: No.
VICE CHAIR CHAPMAN: No.
MR. SEITZ: No.
MS. RICHARDSON: No.
MS. BEHAR: No.
MS. SONNABEND: No.
MR. RICE: No.
MS. OAKLEY: No.
MR. THICKE: No.
MR. AUSTIN: No.

MS. BEHAR: No.

MS. BECK: No.

MS. SWAFFAR: No.

CHAIR FAVRE: The Chair votes no.

MS. DE LIMA: It's 14 no, 1 absent, the motion fails.

MS. SONNABEND: Thank you. The next material is ozone gas, and I believe that's Francis.

CHAIR FAVRE: Needs to go to Lisa.

MS. SONNABEND: Oh, Lisa.

DR. BRINES: All right. Thank you.

This substance is also included at Section 205.601 of the National List under Paragraph A, Number 5, and the listing reads as ozone gas for use as an irrigation system cleaner only, and the most recent technical report was completed in 2002. Thanks.

MR. THICKE: So ozone is a strong oxidant and it works by oxidizing plant tissue in bacterial membranes. Originally, it was petitioned for use for weed control and then also
for use as an antimicrobial agent to clean irrigation lines. It was not approved for use for weed control. We had comments both times this has been out and it seems there are a fair number of producers who do use it for irrigation cleaning and some have said it's the least expensive option and that they prefer it because it breaks down into oxygen and not leaving toxic residues.

However, we did get comments pointing out that ozone has high toxicity, both acute toxicity and chronic health effects, and also, it's an air pollutant. So we have that as well. Are there any questions or comments? Yes, Dan.

MR. SEITZ: A couple comments. I mean questions. The first is, is the use of ozone different among different types of producers in soil hydroponic container?

MR. THICKE: Well, it's allowed for irrigation cleaning, so I would presume it would be in that application, but I am not familiar. Maybe Zea is familiar with is in the field, are you?

MS. SONNABEND: Well, you have to have
an ozone generating machine. It's not something that you go buy off the shelf and use. And so the ozone generating machines can be used in any type of system, but, you know, it has to be one you can put a machine into somehow.

MR. SEITZ: And I may have missed it, but are there other equally viable methods that farmers use to clean irrigation?

MR. THICKE: There are a number of irrigation cleaning, like, peracetic gas, I believe, is one and some of the ethanols, I believe, can be used as well.

MS. OAKLEY: I abstained during our subcommittee vote and I will likely be voting against this for reasons of essentiality. I have concerns without a current TR in terms of some of the issues that you raised, and I don't know that this is an essential ingredient, didn't see very much public comment with respect to it this time.

CHAIR FAVRE: Any other comments? Zea, are you ready for a vote?

MS. SONNABEND: Put the motion on the
floor to remove ozone from the National List, which was posed by Francis.

CHAIR FAVRE: Okay. We'll start the voting with Tom.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: Abstain.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: Yes.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.

CHAIR FAVRE: The Chair votes no.

MS. DE LIMA: That's 1 yes, 12 no, 1 abstain, 1 absent, the motion fails.

MS. SONNABEND: Next we have peracetic acid. Lisa.
DR. BRINES: Thank you. The substance is also included at two sections of Section 205.601 of the National List. The two listings that are currently under sunset review, the first one is at Section 205.601(a)(6), and the listing reads, peracetic acid for use in disinfecting equipment, seed, and asexually propagated planting material. Also permitted in hydrogen peroxide formulations, as allowed in Section 205.601(a), at concentration of no more than 6 percent, as indicated on the pesticide product label.

The second listing appears at Section 205.601(i)(8), as peracetic acid for use to control fire blight bacteria, also permitted in hydrogen peroxide formulations, as allowed in Section 205.601(i), at concentration of no more than 6 percent, as indicated on the pesticide product label. And the most recent technical report for the substance was completed in 2000. In the report, although, I believe there was a new one that was completed this year. Thanks.

MS. SONNABEND: This is Harold.
MR. AUSTIN: Okay. Peracetic acid in organic crop production is used, as mentioned, to disinfect equipment, also can be used to treat seeds or asexually propagated planting materials as a disinfectant. Also can be used to disinfect pruning equipment to help prevent the spread of fire blight bacterium or used in the hydrogen peroxide formulations for control on the tree canopy of the same disease, permitted in those solutions at a 6 percent concentration, and no higher than that.

2016 sunset listing for handling and the 2017 sunset listing for livestock uses were both just recently voted on to re-list. Peracetic acid is an unstable oxidizing agent, which is what makes it such an effective sanitizer. We did receive, as Lisa mentioned, a TR on this material on March 3rd, which was not quite in time for our spring meeting to have the information submitted at that time, but nonetheless there were comments submitted on that.

The new TRs were also provided to the
Livestock and Handling Subcommittees to provide consistency and also from a cost management perspective as well, even though peracetic acid, as I mentioned, just recently was under review by those.

It appears to be a pretty straightforward material, made from and decomposes back to acidic acid, oxygen, and water. Peracetic acid, as I said, is a strong oxidizing agent. This substance was first developed in 1950. Historically, it has been used to treat fruits, vegetables, to reduce spoilage from bacteria and various fungi. It is used to treats bulbs, to disinfect potting soil, clean irrigation equipment, and in seed treatment, to inactivate fungi and other plant diseases.

Additionally, in the organic crop production, it is also used as a bactericide or fungicide in wash waters to help decrease E. coli on some of the fruit and vegetable crops. With the recent removal of the two antibiotics, gees, I don't think any of us remember those discussions,
it's become more of a relied upon material to assist in the fire blight reduction process.

The use of this substance is part of a rotational control and fire blight prevention program definitely has increased according to the stakeholder comments that we've received. And I can also attest to that from first-hand experience.

While there appears to be other materials that could be used as a possible alternative to peracetic acid, this material is selected for use by many of the organic crop producers because it has such strong oxidizing compound. That's what makes it work so well in colder conditions. It does not give off chlorine into the environment and can be used as part of a rotation process in the fire blight disease control program.

It's also more benign than most of the other sanitizers and disinfectants. As I said, it reverts back to acidic acid, oxygen, and water in the environment. Public comment at the spring meeting provided 29 written comments, 2 oral
comments via the Webinar, and numerous in-person comments for the spring meeting.

Preparation for the fall meeting, we received an additional 13 written comments, two via the Webinar, and three in-person comments here in St. Louis. For the most part, the comments were in favor of re-listing. Some concerns raised during public comment submitted for the spring meeting regarding the various forms of peracetic acid mentioned in the TR.

Just for further clarification, we did discuss that during the meeting and it was determined that the majority of those other sources that they were raising the concern over would not be allowed for use in organic crop production or other currently allowed uses, as currently shown on the National List. These were multiple-product formulations of peracetic acid and would not be allowed under the current criteria.

Several commenters also mentioned that they felt that all sanitizers and disinfectants should be looked at for determination of need and
prioritization of allowed uses. It was determined that that request was outside of the scope of the specific sunset review process and would need to be addressed as a separate issue and topic.

Other public comment mentioned that the implementation of the Food Safety Modernization Act to oversee an enhanced approach to food safety both at the farm and handling levels, places an even higher need and degree of necessity in having this material, and other sanitizers, available for use in crop production.

There is overwhelming support for the continued re-listing of peracetic acid for use in organic crop production, while a few commenters took a neutral position, there were no commenters, either during written or oral public comment periods that were specifically opposed to the re-listing of peracetic acid.

MS. SONNABEND: Thank you. Any discussion? Harriet.

MS. BEHAR: This is a widely used material and we don't have as big a world of
sanitizers and disinfectants as in conventional ag, so I will be supporting this.

MS. SONNABEND: Harold.

MR. AUSTIN: I think I'd just like to further that statement too, Harriet, that I think with the materials that we have, with the implementation of FSMA, I think we do not have a lot of materials that the conventional side of our industry has. And I think as we hear the comments about the review of sanitizers and trying to prioritize those, I just want to mention that we also have to look at disease and resistance management, and having necessary materials for rotational uses for specific needs out in the farms is very important.

And unless you've lived in that life, I've been a certified crop consultant for over 35 years, and an entomologist, I've dealt with this issue for the majority of my adult life, we need to be cautious. Resistance becomes a reality very quickly and so having the necessary tools to prevent that, not along with just the sanitation
and disinfection, but to also take and make sure that we protect rotation and disease management and resistance management.

So I think this is one that we definitely need to keep.

MS. SONNABEND: Okay. We'll put forward the motion on the table to remove peracetic acid from the National List made by Harold.

CHAIR FAVRE: We're going to start the voting with Dan.

MR. SEITZ: No.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.
VICE CHAIR CHAPMAN: No.

CHAIR FAVRE: The Chair votes no.

MS. DE LIMA: That's 14 no, 1 absent, the motion fails.


DR. BRINES: Thank you. This substance is included at Section 205.601 of the National List under Paragraph M, Number 2, and the listing reads as follows, EPA lists three inerts of unknown toxicity for use only in passive pheromone dispensers. Thank you.

MS. SONNABEND: Thank you. This one was mine. As most of you know, we approved a revision to the inerts annotation for list for last fall, which would incorporate this as one of the subclauses of that annotation change. It moves us into the new EPA framework, instead of calling things List 1, 2, 3, and 4, they have actual code sections that each one refers to, and it does change it to the correct citation.

We do feel that these materials are an
essential component of passive dispensers and have a long history of use in organic farming. We saw no new information that would cause us to question their safety to human health or the environment.

We got public comment from people who said, please take this review seriously. We do fully take it seriously. We are really hopeful that the new system of evaluating inerts will be able to take a close look at all of these inerts and determine which ones are appropriate for organic production.

That being said, we did, two years ago, request a TR be done on these, particularly the three inerts in passive pheromone dispensers that had been petitioned for many years ago now, and because we had to request TRs before the actual vote on the change in the annotation, we did do that.

Once that annotation change was passed, the Department put aside our request for a TR, waiting, presumably, for the change to be implemented.

So we did hear from the original
petitioner who makes some of the pheromone traps, not all of them, and they talked about, obviously, how important pheromones are to agriculture and the fact that they had fully disclosed the ingredients in their pheromone dispensers, and such a very, very small amount of these chemicals are in use and they basically stay in the plastic of the dispenser and do not get released into the soil or the air.

So with that, I will ask for discussion on this topic. Harold.

MR. AUSTIN: I'd just like to say that how these are used, they're used within a capsule or a twist tie. It's a capsule, it's about the size of a pencil eraser if it's used in a trap or like a bread twist tie if it's used to be hung out into the field itself. These are in, actually, the container. They do not release into the atmosphere. They do not come into contact with the crop.

This is our number one pest control capability in organic tree fruit production. Without this, we would not be able to control
codling moth or obliquebanded leafroller, so it's imperative that we do the due diligence, protect this one as it moves forward while it goes under the appropriate reviews, but without mating disruption in tree fruit, we would not have tree fruit, at least not at the volume or the levels we see today.

MR. RICE: Coming from the same area that Harold does in Washington, and seeing these in use, I just echo his comments of the importance of this tool to the organic tree fruit industry.

MS. SONNABEND: Miles.

MR. MCEVOY: You know, this is a very important topic for us to move forward with the safer choice program to implement the recommendations. We have not made much progress on that. Emily Brown Rosen, as a lot of you know, was the lead on that and she retired in the spring. We are in the process of trying to hire additional staff that could potentially take this project on.

There is the potential for a hiring freeze to start in January, so I just want to put
out the reality of the challenges that we have with limited resources, with all the different projects that we have to do, this is very important, but it's hard to make progress when we don't have enough resources and have other high-priority demands as well.

MS. SONNABEND: Anymore discussion? Harriet.

MS. BEHAR: So I will be voting for this. I'm just wondering, you know, if it might make sense for someone to be petitioning these as if there's three that are being used.

MS. SONNABEND: They have already been petitioned in 2001. A long time ago. We have three petitions.

MS. BEHAR: Well, I'm just, kind of, wondering just to make sure that they don't get lost somehow in the -- because it is --

MS. SONNABEND: Well, they didn't get lost because they're incorporated into this.

MS. BEHAR: Right, but the list three that that's -- so it's becoming an anachronism now.
Does it really exist? But I think in a way that
teaches us that when we tie our regulation
to another regulation, we can sometimes have
problems.

MS. SONNABEND: Okay. Seeing no more
discussion, I'll put the motion on the floor from
me to remove these from the National List. Now,
for new people, I probably should explain that even
though we have already passed a change in this
policy, if we don't renew them for the list now,
the Department is so glacial in their progress that
they may be a gap between the time that that change
gets adopted and this.

So if we renew this, once that gets into
place, this will automatically come off the list.

CHAIR FAVRE: We'll begin the voting
with Jean.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.
MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: 14 no, 1 absent, the motion fails.


DR. BRINES: Thank you. We're in a new section of the National List now at Section 205.602 for non-synthetic substances prohibited for use in organic crop production. This listing reads, under Paragraph C, calcium chloride, brine process is natural and prohibited for use except for -- let me start that again.

Calcium chloride, brine process is natural and prohibited for use, except as a
full-year spray to treat a physiological disorder associated with calcium uptake, and the most recent technical report for this substance was completed in 2007. Thanks.

MS. SONNABEND: Thank you. Carmella.

MS. BECK: So as Dr. Brines stated, calcium chloride is listed at 205.602 as a non-synthetic substance prohibited for use in organic crop production. The annotation only allows uses of full-year spray to treat a physiological disorder associated with calcium uptake in organic tree fruit.

Calcium chloride continues to be inappropriate for direct soil application given its high chloride content and has solubility, various factors contribute to the inadequate uptake of calcium, which necessitates its continued allowance as a full-year spray.

All written spring and fall 2016 public comment supported the re-listing of calcium chloride. The subcommittee did not ask any questions of the public and has no concerns
regarding the continued listing of calcium chloride.

MS. SONNABEND: Thank you. Any discussion? Okay. Just for frame of reference, we do use this material. Some varieties are very prone to bitter pit disorder in apples, and it was interesting, the gentleman who spoke here, because he wants it approved for soil use, and he was talking about using 1000 pounds per acre for soil use.

And so I thought for those of you who aren't in crop production, I should let you know that we struggle with this because being a small farmer, it's very difficult to get inputs when most farmers are big farmers. So we have to buy a pallet of this at a time, which is 80 40-pound sacks, except, I was able to talk someone, our farm supplier, into giving me half a pallet, which is 40 40-pound sacks, and we use two sacks each time we spray, so we use 80 pounds on 10 acres. That might be a little wrong.

But anyway, just so you see the
difference in magnitude between the amount of this we're using versus the amount that it would for soil applied, because some people do get concerned with the chloride in this, even though it's a mined mineral, and the chloride really is a very minimal source of chloride when you use it in this way. Harold.

MR. AUSTIN: Add further clarification to that, Zea, we'll put on, roughly, 3 pounds per application, for a total of about 30 pounds full year, per season, of the calcium chloride. Calcium, for us, likewise, helps with bitter pit control in the fruit. It's especially essential for us farming organically, because, conventionally, they've got the tools once the fruit goes into storage that they can prevent some of the decay and the breakdown of the cell structure of the apple.

The calcium, what it does is, help strengthens the apple's cell structure from the calcium uptake within the fruit itself, and it's hard to get that to initiate. We start that about
when the fruit's about golf-ball size, and then we'll apply it once a week until about two weeks before harvest. But for us, we use it on our conventional fruit as well, but it's definitely a more critical use to have the availability of this in our organic production for sure.

MS. SONNABEND: Okay. Any further discussion? Then the motion is on the floor to remove this -- yes, remove calcium chloride, and this is from 205.602, which means that if we remove it, it is allowed unrestricted.

CHAIR FAVRE: We'll begin the voting with Harriet.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.
MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

MS. RICHARDSON: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: That's 14 no, 1 absent, the motion fails.

MS. SONNABEND: Thank you. Now, next listed on our agenda is the discussion document on strengthening organic seed and is Kiki here? And do you have her presentation? Okay. So the way we're going to work this is, I'm going to just present what we put out there for the discussion document, and then before we have the full discussion, we're going to invite Kristina Hubbard up to give a presentation about the survey on the state of organic seed use, and then we will launch into asking her questions, followed by discussion.

So in our three-plus years of work on seed purity from GMOs, it became repeatedly apparent that there were obstacles in creating a sufficient supply of organic seed, partially
because of incursion of GMOs into both our fields, and breeding lines, and things like that, and lack of incentive without strong adoption of organic seed, lack of incentive for plant breeders and growers to source more organic seed.

So after getting public comment on this in the seed purity thing, we sort of moved it over into the Crops Committee, where it belongs, with the idea to take another look at the NOP guidance 502.9, which covers organic seed in planting stock.

This came from a draft which was based on an NOSB recommendation in 2010, and the draft was put out in 2011, so this is quite a few years ago now, and with these very important issues like organic seed, it's always worth taking another look at it.

So we did that, we sort of summarize all of the points that had been raised along the way here, and we asked the public to comment on them, and also for more points. Because this is a discussion document and we're going to, I'm sure, have many future board discussions on it, I'm not
going to spend a great deal of time talking about the public comment, except to say that pretty much all the public comment that we got was supportive of us taking up this project and re-looking at the seed guidance because they felt that it was inadequate in a number of key areas, and so everyone does appreciate this effort.

Okay. So with that, I will ask Kiki to come up and Michelle is going to put up her slides. So when the subcommittee was discussing this, we thought it would be really good to hear from someone who has their pulse on the state of the organic seed industry and no one better than the Organic Seed Alliance, because they, at the time, it was actually in-between the time the draft guidance came out and the final guidance, they undertook a survey of all of the certified parties who wanted to participate on the state of organic seed in the country then, and then they have repeated the survey five years later.

And so I am going to tell you about Kiki before we bring her up here; before she starts. So
Kristina, or Kiki, Hubbard is the Director of Advocacy and Communications for the Organic Seed Alliance. She's worked for 15 years in the non-profit sector on issues of biotechnology, seed industry consolidation, and intellectual property rights.

Her Master's research focused on co-existence policy, was published in the Journal of Agriculture and Human Values. Her work is frequently published elsewhere, including two books, Organic Crop Breeding and U.C. Berkeley Press' forthcoming, Food Democracy.

She leads OSA's efforts to promote policies that support the development of seed systems that are responsive to the needs of organic agriculture and she's the lead author of Organic Seed Alliance's latest state of the organic seed report. She's from Missoula, Montana. Thank you, Kiki.

MS. HUBBARD: Thank you, Zea. I want to thank all of you for inviting me here. Thank you, Miles, for the formal invitation, and thanks
to the Board for your interest in organic seed, this
topic, and ongoing work. Thank you, too, to the
outgoing members. Zea, you in particular, as
stated earlier, have taken a lot of initiative and
leadership on organic seed policy initiatives and
we're really grateful to you, to your work, and
those of your colleague.

It's an honor to be here and share an
update on our state of organic seed project. For
those of you who aren't very familiar with our
group, we're a non-profit that works nationally to
advance ethical seed solutions to meet food and
farming needs in a changing world.

And we do this through research,
education, and advocacy. We have three plant
breeders on staff who work with other breeders and
farmers to develop new varieties of crops that do
especially well in organic systems, and we host
dozens of educational events every year to teach
farmers how to grow seed at a commercial scale on
their organic farms, as well as how to conduct
on-farm variety trials and plant breeding
And then our advocacy program promotes policies that support the development of seed systems that are resilient and responsive to the ever-changing needs of organic growers.

Our state of organic seed project is an ongoing one. We are committed to updating this data and our recommendations every five years so that we can measure the progress we're making and increasing the availability, quality, and integrity of organic seed available to growers here in the U.S.

Our most recent report serves as our first five-year update, so it's the first time that we're able to track these metrics, and again, measure the progress in the ways that I just mentioned, and we are making progress, as I'll mention and describe to you here shortly.

But just quickly, I want to be clear what our overarching goals are, both for the project and as a movement. We envision an organic food supply that is built on a foundation of organic
seed. We all know that when the federal standards were passed, the organic seed industry was barely in existence, and while we've made tremendous progress, we still have a ways to go to having the organic seed supply meet and expand to meet the growing demand of the broad organic food industry.

And while we know we have a ways to go to meet the diverse regional needs of growers, we do believe that our long-term goal should be, eventually, to have 100 percent organic seed usage and to meet that goal through measurable and reasonable means.

As we work toward this goal, it will never be our intention to promote policies that force growers to use a seed that may be inappropriate for their farms. And we want to advance organic seed to help organic growers meet the regulatory requirement, but more importantly, we believe that the benefits of developing seed systems that serve as an alternative to the dominant seed industry is incredibly important for the health and success of agriculture.
More broadly, I believe that this is especially important as we face three of the most historic seed industry mergers of our time that threatens to further consolidate and privatize our plant genetic resource space.

And we believe that it's an obligation as an organic community to create a different path for organic seed so that we have a system that, again, is much more responsive and resilient to the different needs and changing needs of organic farmers, and we believe we can create these alternative systems while still delivering high-quality organic seed that meets growers of all crop types and scales.

Lastly, we believe strongly that fostering organic seed systems not only helps us address the issue of availability, it also addresses other concerns in the areas of seed purity and intellectual property rights.

So what progress have we made? As our recent findings show, we are making progress, as I'll quickly summarize here shortly, and we arrived
at this conclusion through a number of surveys and other data collection methods. We collected, as Zea mentioned, we conducted a national survey of certified organic crop growers to understand how much organic seed they were using, and again, compare this data to the data published in 2011, understand the perspectives on organic seed and experiences with organic seed.

We surveyed accredited certifying agencies, 22 responded, representing about 70 percent of certified organic crop acreage in the U.S., to understand how they were enforcing the organic seed requirement, and what their needs were in terms of trainings and more clarity with the guidance.

We also surveyed organic seed companies to better understand what challenges they faced in growing their businesses in terms of creating and supplying a more robust supply chain of organic seed. We also surveyed researchers who are conducting organic plant breeding and other organic seed research to understand their
successes, challenges, and ongoing research needs.

We conducted a deep analysis of investments, public and private, in organic breeding, and other organic seed research, to understand advancements in this area, as well as gaps. I’m not going to dwell too much on those findings, but I’m happy to answer questions moving forward.

So just quickly, as I mentioned, we’re making progress. Over the last five years, 27 percent of growers responding to our survey say that they’re already using 100 percent organic seed, and this represents growers across crop types. Just a slight improvement over our 2011 findings, where 20 percent of certified growers said they were already using 100 percent organic seed.

More than 30 percent of the organic farmers responding to our survey say that they’ve increased their use of organic seed over the last three years. Again, this is across crop types. Just quickly, I have a copy of our state of organic
seed report for all of you that I'll provide you this afternoon, and suffice it to say, there's a lot of data in that report, over 100 pages worth, and so all of these findings are broken down by crop type if you want to dig deeper when you have the report in front of you.

We also found an improvement in terms of grower satisfaction with the quality of the organic seed they're using. About 75 percent of the growers responding say they have about the same issues with organic seed as they do with conventional untreated, and we also asked specific questions about quality issues, and we saw a slight improvement in, again, the satisfaction growers have with organic seed they're planting in the way of better germination rates, being true to type, as well as weed contamination issues. Again, representing an improvement over our 2011 report.

One exciting finding is that farmers responding to our survey demonstrate an increased understanding for the importance of organic seed. In other words, 85 percent of growers responding
to our survey agreed that organic seed is important
to the integrity of the products they're growing,
and that breeding in and for organic production
systems is important to their success and the
long-term success of the organic industry.

And I think this is an important finding
in that we are understanding and research is
starting to show the benefits of growing crops in
the environment of their intended use.

Again, I mentioned we've seen increased
investments with both public and private
investments in organic plant breeding and other
organic research initiatives. Happy to go into
detail about the different projects funded by
region, the programs funding this research, but
again, I just wanted to show this slide which shows,
then, the five last years alone, we have seen $22
million invested in these initiatives.

In our report in 2011, we reported a
mere $9 million since 1996. We have a tremendous
need to increase this funding, of course. This
funding still pales in comparison to research
funding going toward non-organic interest. Still, it's exciting to see interest and acknowledgment that this type of research for organic seed is important.

So in what areas have we seen little or no progress? First, as we saw before in the chart demonstrating growers increased use of organic seed or lack of sourcing of organic seed, we know that most growers still rely on conventional seed. I think we all know that. About 75 percent of growers use untreated conventional seed for at least part of their operation.

This demonstrates, still, a huge need and opportunity for us moving forward. We also saw that while across most crop types, we found an improvement in terms of increased acreage planted to organic seed in field crops, vegetables, and cover crops, we saw a decrease in forage crop acreage planted to organic seed, so this also presents both a lack of progress as well as an opportunity to focus on that particular area of the industry.
As we found in 2011, the largest operations are still using relatively little organic seed and there are a number of reasons for that, including reasons that are the same for smaller operations, whether it's not being able to find a variety in an organic form, or an equivalent variety, not finding desirable traits, even price, and we know price is not an allowable reason for not sourcing organic seed, but according to our survey, and as we all know, price is still a factor for growers at times when not sourcing organic seed, although we found it to be less of an issue, or less of a reason, I should say, in our last survey.

When we look at this chart here before you, we see, in vegetables in particular, the significant difference in acreage and scale planted to organic seed. So growers, for example, who have 10 or less acres are planting, on average, 75 percent of their acreage to organic seed. We see that acreage planted to organic seed decrease, or the amount of organic seed planted decrease, as...
acreage increases.

By the time we get to 480 acres, we see, on average, only 20 percent of that acreage being planted to organic seed. Of course, these larger operations have a huge impact on overall acreage planted to organic seed, so this is an important reality to keep in mind as we discuss and improve organic seed guidance and talk as a certification community, and as an organic seed community more broadly, since it's going to take a number of stakeholders to support the increased volume and diversity of organic seed that growers need.

Lastly, in terms of ongoing needs and areas where we have seen less progress, we were actually quite surprised to hear from farmers in our survey that they reported less encouragement from their organic certifiers to take extra measures to source organic seed.

In 2011, 60 percent of growers responding to our survey said that their certifiers were encouraging them to go beyond three sources, for example, or to conduct variety trials to
identify equivalent varieties. In our last survey published this past June, that number was switched and only 40 percent of growers said that their certifiers were encouraging them to take extra measures.

The issues are complex. Needless to say, we know that certifiers play an important role in encouraging the development of organic seed systems more broadly, because as you see in the second graph, I apologize, it's pretty small, we see that for those growers reporting that their certifiers encourage, they take extra measures to source more organic seed, indeed, they responded accordingly, and our data shows that, that those are the growers that actually, indeed, increased their organic seed sourcing.

So I'm going to quickly just run through a few ongoing challenges before moving right into recommendations. I want to keep this short and leave plenty of time for questions. As discussed in public comment, thank you, and in written comments, there is inconsistent enforcement in how
the organic seed requirement is being enforced.

And so that's one of the reasons why we're so grateful to see this discussion document to strengthen the organic seed guidance, and I think we and others in the community have provided some strong recommendations for how to strengthen it. We're also humble to the fact that we don't have all the answers, and so we're looking forward to ongoing dialog in that regard.

We believe there's a need for better data to track organic seed availability. If we are to move toward removing the exemption, say, by crop type and region, as Europe has done, we need better data to understand what organic seed is available, we need reliable data on an annual basis to understand gaps and to also identify where we're making progress, and if and when it is appropriate to close the exemption.

We also know that we need more funding and infrastructure for very necessary organic seed work, research, innovation, plant breeding, and other organic seed research, not just to advance
more appropriate genetics that support organic farmers, but to also better support organic seed producers in the field so that they have better resources to support their skills in developing a high quality organic seed crop, whether for their own farm or to sell commercially.

We also, on that note, lack a capacity of organic seed producers here in the U.S. This actually remains one of our biggest challenges moving forward, is training more skilled organic seed producers. It takes a special skillset, we know, to produce seed. And yet, there's a lot of interest. Our survey also shows that more than 60 percent of farmers responding to our survey are interest in taking trainings in organic seed production.

And in fact, about 60 percent are also already doing some seed saving or commercial scale seed production, so there's a huge opportunity to take advantage of the interest and existing knowledge base, and take that to the next level through trainings and education so that we can
build our capacity nationally to support a robust organic seed supply chain, and there's a lot that comes with that training, and I'm not going to get into now.

Lastly, of course, there remains, as we talked about this morning, the burden of genetically-engineered crops and excluded methods. I applaud the Board for all of your work to identify areas to improve, from an organic standpoint, areas for preventing the problem to begin with, and to encourage USDA Secretary Vilsack to move forward with policies, to explore policies, that ensure more shared responsibility for preventing the problem and making those players whole who are, indeed, economically harmed at times by the unwanted presence of genetically-engineered material in their organic seed and crops.

Intellectual property rights issues are of concern both for advancing organic seed research and to also, at times, inhibiting farmers in their role as seed innovators on their farm, be it through basic seed saving or crop improvement.
projects that help to diversify and build, again, a national supply chain of organic seed.

So finally, recommendations as they pertain to some of the documents in front of you this week. Our comments are quite detailed, our written comments. I'll point out our three main recommendations as they pertain to the organic seed guidance, which include establishing measurable improvements for organic operations that are not demonstrating improvement year to year.

We believe, two, that there are enough organic seed suppliers now to require, at minimum, consulting five sources, as well as encouraging on-farm organic variety trials. Not only are there more resources to support growers in doing so, they can be done in a way that doesn't have to be onerous to their operations, and we look forward to providing those resources or supporting that conversation further as appropriate.

We also believe that a stronger guidance should be coupled by regular certifier and inspector trainings. We've collected a number of
ideas through our certifier training, which I'd be happy to share with you following this meeting. Those trainings should be an opportunity both for discussing some of the challenges the certification community faces when enforcing the requirement and understanding organic seed availability issues.

It's also an opportunity to emphasize, again, the importance of making more improvement in the area of organic seed so that we can continue to ensure and move toward organic integrity along the entire production chain, beginning with organic seed.

And then as I mentioned before, it'd be really great, and I think appropriate, for the NOP to explore a role for establishing a system of reviewing organic seed availability in a systematic way. Ideally, this would be coupled with an organic seed resource, a central clearinghouse of information, such as the Organic Seed Finder Web site, that provides a resource for growers to source organic seed, and certifiers to
better understand through the lists available through such a database, what organic seed is available.

Ideally, these resources would work collaboratively so that we can both monitor progress, identify gaps, all the while helping growers find the organic seed they need to be successful. We do not have an easy solution or more creative idea for doing so, but I'm optimistic that there's an opportunity there that we haven't been able to clearly articulate yet.

And I want to speak quickly on the issue of excluded methods. I applaud the Board for unanimously passing that proposal. Miles, I strongly encourage you to take seriously the urgency in turning that proposal into a formal guidance.

I think it's essential that we now, with this general consensus, are very clear as an organic community, that we have this framework in place that will guide current and future decisions as guidance to help us not just draw a line in the
sand with some of these technologies that are currently excluded, but to have a touchstone moving forward in terms of what those principles are that guide our work as an organic seed community and as an organic regulatory community.

So I urge the rapid adoption of that proposal into guidance. And finally, on the issue of seed purity, OSA has provided a number of detailed recommendations on that topic. Again, I applaud the Board's work. I think there's a lot more work that needs to happen to ensure that we are not establishing policies that have the unintended consequence of slowing or even going backwards in terms of ensuring that organic seed is available, especially in at-risk crops like corn, but we are very supportive of the seed purity work in moving forward with exploring a seed purity standard.

And I, again, applaud your work on that and look forward to further discussion on that topic. That's all I have for you right now.

MS. SONNABEND: Thank you very much.
Are there questions? Harriet.

MS. BEHAR: Hi, Kiki.

MS. HUBBARD: Hi, Harriet.

MS. BEHAR: So in the upper Midwest, we grow a lot of grain, and there is a lot of pre-contracting with growers, and it seems that we're always asking the growers to trial and seed source, but many times it's the handler who's saying, grow this variety. So I'm wondering, too, if there couldn't be some guidance to certifiers to perhaps add a few more questions to their handling inspection checklist, such as are you pre-contracting? Are you looking for organic seed varieties?

I mean, because they are, obviously, then selling that product on to others who have specific needs. So I don't want to have the farmers be stuck in the middle that, you know, they are trialing out varieties that they know that their handler is not even going to want to buy.

MS. HUBBARD: Thank you for bringing that up, Harriet, because it's on my slide, but I
forgot to mention it, as a recommendation, and that I think it was a mistake with the current guidance that was finalized in 2013, to deliberately exclude handlers. At the very least, handlers that are responsible for directly sourcing seed that their contracted growers use, they should, at the very least, be required to have those organic seed questions as part of their organic systems plan, since as you say, at times, it's these contracts dictating whether organic seed is used or not.

Too often, varieties are required to be grown by contracted growers that are not available in organic form or in the quantity they need. And this is an important opportunity that is very doable with collaboration and coordination in terms of communicating, creating a feedback loop with the processor, the handler, the contracted growers, and the seed production companies so that the seed production companies are aware of the varieties and/or equivalent varieties that might need improvement, or to be produced organically, in the quantity they need.
But those conversations, especially at that scale, have to happen well in advance of the growing season, and so those types of questions and guidance need to be a part of this document so that we can make more rapid and impactful progress when it comes to some of the larger operations.

It's not always -- sometimes there's concerns with price, of course, but oftentimes it's not a disregard of organic seed or the importance of organic seed, but simply a lack of availability, say, in the quantity, but that requires more work. And so there needs to everybody guidance and a good faith effort on the part of certifiers to be asking those questions.

And again, especially for handlers who are either directly sourcing the seed or I would take that further and we would suggest that even those that are dictating a certain variety, even if they are not directly sourcing the seed, I think those handlers too should be responsible for helping to meet the organic seed requirement.

MS. SONNABEND: Dan.
MR. SEITZ: A couple questions. Is it conceivable that an at-risk crop could become so widely extensively genetically polluted by GMO seed that you could actually lose that crop or are there ways to ensure that no crop, no matter how at risk, there'll be that option to produce it organically?

MS. HUBBARD: Well, there's no threshold in place, so right now, a contaminated crop can still be organic. Does that answer your question?

MR. SEITZ: That answers that question, but in terms of the actual genetic -- being genetically compromised, could an entire at-risk crop be lost in terms of you not even having the possibility of growing it and it being uncontaminated. Over time. Yes.

MS. HUBBARD: I have great faith that our genetic resource base is still diverse enough and broad enough that there are alternatives if we are making investments in different lines, say, different parent lines for producing hybrid
organic seed, field corn, that we would need to then invest in producing crop improvement and seed production in lines that aren't -- that don't have levels of a prohibited substance, of an excluded method.

Part of the need here, of course, is monitoring, and testing, and data collection. Seed companies producing at-risk crops, that I talked to you, they're all testing, and at a great cost, and they have internal thresholds. And so part of it is monitoring the problem, but that takes a system for collecting that data, as well as an ongoing conversation about appropriate testing protocols and a possible threshold.

MR. SEITZ: And then just a follow-up question, and again, this is just from my standpoint of not being a farmer, and not raising seeds, and so forth.

MS. HUBBARD: Yes.

MR. SEITZ: If you say something, there's five percent contaminated, you know, bag of seeds or something, what does that mean in terms
of when you sow those seeds, are five percent of the plants that grow have genetic traits that have been modified or all the seeds are slightly producing something slightly different?

I mean, I just have no idea what that means when you have contaminated seed and it's actually sowed.

MS. HUBBARD: My understanding is that that percentage only represents the sample taken for that testing, so that seed planted would have the five percent content.

MR. SEITZ: But what does that mean in terms of the actual plants that grow, would you have a certain number of those being the genetically modified variety of that crop or I just --

MS. HUBBARD: Well, it wouldn't be, necessarily, a genetically-modified variety if that presence is unintended and it came through other routes. There are also other routes of contamination, of course, beyond just the seed, beginning with a low level of presence.

I'm not sure I'm totally understanding
your question in that it really depends on the situation and perhaps even other routes of contamination if you're asking what the end product would have.

MR. SEITZ: And I'm not entirely -- okay. Sure.

MS. RICHARDSON: Let me try with the answer. I think what Dan is getting at is this, if five percent of the bag is contaminated, is that then going to multiply when you plant it this year, next year, you save some, or whatever it might be, and you plant some more, does it mean that it goes from five percent to 25 percent? They have little seeds, they spread, so to answer it from looking at it from a plant domestication point of view is that what you'll end up with is, it really will depend on the type of gene, or genetic modification, or excluded method that's in that seed line as to whether or not you get an increase and how much that increase is going to be.

But there's still enough of a gene pool of most of these varieties that we have now so that
you don't have to be as worried, I think, perhaps, as you might be as to the expansion of that percentage when you plant a field that's going to have a certain small percentage in to start off with.

MS. HUBBARD: Can I add one thing, Zea, quickly?

MS. SONNABEND: Sure.

MS. HUBBARD: Just to add to the alternatives and diversity that exists, there is good genetic diversity out there that we can pull from for breeding new varieties and for seed production generally. However, especially in the case of corn, what we see is that these organic seed production companies, for field corn especially, are pulling from a very narrow pool of germ plasm.

A narrow pool because the biggest genetics firms make very few of these lines available in an untreated form that is appropriate for organic seed production. And at times, these licenses for licensing those lines, can even dictate whether you're allowed to test for
genetically-engineered material, which further
puts at risk -- further adds cost and further puts
at risk, their ability to produce and diversify the
organic seed supply for that particular at-risk
crop, and that's a reality that just needs to be
part of the conversation moving forward with
studying the seed purity standard.

It's not a reason not to, but it's a
reality that we have to be aware of.

MS. SONNABEND: Thanks. I'm going to
call on myself next because I had my hand up first,
then Tom, and then Scott. I did. I had my hand
up. And Dan's question is one of the key reasons
that we posed having a seed purity task force,
because we don't have enough research on what
happens to that seed if it's five percent to start
with.

We've heard indications that it can
increase a great deal, but as Jean mentioned, it
does depend on the crop, the pollination nature,
the conditions, you know, lots of variables, and
so that is one of the things we really want the seed
purity task force to study. Tom.

VICE CHAIR CHAPMAN: So I had two questions, one, can you speak a little bit more about the measurable improvements recommendation?

MS. HUBBARD: Yes, I think, again, we would hope that it applies to operations that aren't demonstrating improvement year to year, and that the guidance document, I think -- or excuse, the discussion document, I think, provides some good metrics to suggest ways to do that, either by percentage of acreage increased planted to organic seed, or number of varieties, so we agree that that's a first good step in terms of recommendations for measuring, again, reasonable progress.

We know the issues are complex, but we do believe we need to approach it in a reasonable and measurable way.

VICE CHAIR CHAPMAN: And then a couple items today have pointed to the fact that we have, we being, I guess, not me, but the program has limited resources and several items on the agenda
already, moving things forward can be difficult, if you were to, say, prioritize the biggest bang for the buck in terms of your recommendations, where do you think's the best area to focus first for greatest return?

MS. HUBBARD: The list of recommendations in front of you right now?

VICE CHAIR CHAPMAN: Yes, where of those?

MS. HUBBARD: I think improving and clarifying the guidance is a first great step and what easily follows is adding that as agenda items to your annual trainings that already happen, in addition to -- well, I'm not answering your question correctly because I'm giving you all these ideas.

Tom, let me just emphasize one thing again, this system for tracking availability, like, the actual seed supply, I can't actually overemphasize that enough because that will support the seed trade and encouraging them to make more investments to understand gaps in progress
we're making. It's going to help growers find organic seed that may be better, just as good as the unconventional untreated seed they rely on now, it'll help certifiers have more faith in their decisions when it comes to enforcing the requirement, and I believe there's a way to create this comprehensive system for tracking and to make that data available to serve all of those purposes.

And so in many ways, I think that's most essential thing you can do, although, it'll probably be the hardest.

MS. SONNABEND: Scott was next.

MR. RICE: Back to your point on encouraging handlers to use organic seed. We've seen that as a challenge in the growers that we work with at our agency, or the handlers. I was heartened, however, a couple years ago, to be on an inspection and going over organic seeds, and speaking with a rather large producer, processing vegetables, had worked directly with an organic seed producer trialing some carrot. It was mixed results, but it was something that they did on their
own accord and showed great interest and look forward to hopefully seeing that expand more.

And then with that same producer, being on less of a positive note, standing in a pea field that they'd seeded five times in the spring before they got a stand that could actually produce a crop. And pointing to, as you've repeatedly mentioned, the need for a greater research, so definitely see that as a need and also some bright spots out there.

MS. SONNABEND: Emily was next. Oh, Francis was next? And then Emily. Okay.

MR. THICKE: Thank you. Relative to the discussion about seed contamination, Dan, you were talking about that, and I had an interesting conversation with Dr. John Fagan of Genetic-ID recently and I heard about a technology I had not known about, and maybe you all know, he said you can clean up a seed supply by -- you can test seeds by scraping a little bit of tissue off and testing them without destroying their ability to germinate.

So you could make little lots up and you
could test ten seeds here and ten seeds there, and those lots that are clean, you could grow out again, start over, and have a new clean supply. It'd be a long process, but it can be done.

MS. OAKLEY: I just wanted to point out the obvious that when growers don't use organic seed and others do, those of us who do are at a competitive disadvantage to those who don't because we're putting in the investment, both in trialing, and obviously, in the cost of the seed, so I just can't emphasize enough the need to expand this effort.

And I also think these conversations go a long way, because they trickle down all the way down to the growers, and certifiers, and emphasize the need that what we do on our own farms is not enough. It's about the wider organic community and the practices that we bring on to our farms reflect that.

MS. SONNABEND: So one or two more questions, comments, and then I think we'll wrap it up. Miles.
MR. MCEVOY: Yes. Awesome work. Really good information will help us to move this issue forward. Lots of really good information. There's a lot of things to talk about here. I think the main thing that I'd like to say is that we have the regulatory framework within the regulations that we have to live within, and guidance can provide some help in terms of a way to comply with the requirements, or interpretations, but they're not regulations.

And so they can only take us so far, so for instance, on the excluded methods recommendation that was just passed, we will look at it at AMS and determine what's the best path forward for implementation. Guidance may be the best path forward. It's also possible that regulatory change might be another path.

So for some of the things that you're suggesting, measurable improvements, that's not a requirement in the regulations. The regulations require that organic producers, that's the producer that is the one that's required to do this,
use organic seeds. And they have to use organic seeds unless they're not commercially available.

There's a definition of what commercially available is and that's what the guidance tries to do, is to tease a little bit more what commercial availability is and the procedures for a grower to go through. And specifically, a grower has to have in their organic system plan that they have procedures for determining commercial availability.

And it doesn't specify how they do that, they can have many different methods of doing that, the guidance provides one of those particular methods. So the idea that a certifier can encourage the use of more organic seeds or use that measurement of more organic seeds being used as a compliance point, it's just -- it's not part of the regulations.

So if that's something that the Board wants to look at as a part of the regulations, then that's going to be a regulatory change.

Then the point on the data collection,
great information in the report, maybe we can talk with the Seed Alliance about some ways of incorporating this kind of survey into a NASS survey or the integrity database so we can get even better data on who's using the organic seeds, how much they're using, because I noted you got maybe about 10 percent of organic growers that participated, so, you know, how does that compare to all the organic growers?

It would be nice to get better data and I think you're totally correct that having an organic seed database in terms of what's commercially available, that's difficult, but that's probably the best thing that we could do to move this forward, because then you have that information available, everybody has the same information of what's available, what's not, and then a regulatory approach can be taken based on that data.

So we've made a lot of improvements or a lot of success with the Organic Integrity Database, maybe there'll be some additional
resources that the next phase could be to help to build a more robust organic seed commercial availability database to complement that. Okay.

MS. HUBBARD: Can I ask you a quick question? In terms of some of the recommendations for measuring progress, am I just ignorant in not thinking that those types of suggestions are simply provided as just that, suggestions in a guidance document? Are there other examples in guidance that provide suggested ways to measure such improvement or am I wrong?

MR. MCEVOY: Right, so the guidance could provide specific ways to -- could suggest that that's one way to measure success, but it's not part of the regulations, so if someone does not show that success, but they have other ways to comply with the regulations, then the certifier doesn't have any --

MS. HUBBARD: I understand what you're saying. I think I misinterpreted it at first. Thank you.

MS. SONNABEND: But to clarify what
Miles said, when this does go back to the Crop Subcommittee, the subcommittee could make a recommendation that involves regulatory change as well as additions to the guidance, and so that's something that we'll clearly want to take a look at going forward. Okay. So I think that we'll wrap-up this discussion and, Madam Chair, I request that we have our break now so this Crops Chair can go to the restroom.

MS. HUBBARD: I just wanted to thank our funders of our project, the Clif Bar Family Foundation, Seed Matters Initiative, and UNFI Foundation, made it possible for our second state of organic seed report, so I just wanted to acknowledge and thank them.

MS. SONNABEND: Thank you very much, Kiki.

MS. HUBBARD: Thank you.

CHAIR FAVRE: Okay, folks, we're going to take a break here and I'd like everybody back here at 10:45. Thank you.

(Whereupon, the above-entitled matter
went off the record at 10:32 a.m. and resumed at 10:50 a.m.)

CHAIR FAVRE: Okay. We're going to go ahead and resume with the Crops Subcommittee. Zea.

MS. SONNABEND: Thank you. Next up is the petition materials and we're going to start with aluminum sulfate, and, Lisa.

DR. BRINES: And I'll go ahead and introduce this one before turning it over. The petition for aluminum sulfate was request by Chemtrade Chemicals U.S., LLC, and was received by the program on March 1, 2014. The petition requests the inclusion of aluminum sulfate to Section 205.601 of the National List. There is also a companion request for livestock use as a litter treatment on 205.603 that will be discussed during the livestock section of the agenda later today.

In support of the petition review, we did receive a request from the Livestock Subcommittee to develop a technical evaluation
report. That report is available to the public on
the Web site and was completed in 2015. Thanks.

MS. SONNABEND: Okay. This is Francis.

MR. THICKE: Yes, so we're going to be
seeing aluminum sulfate twice, once in livestock
and once now. It was petitioned in both places.
And for livestock, it's commonly used in
conventional livestock production as a litter
amendment to reduce volatile ammonia.

In this case, they also want to petition
it for crop use, and actually, it's not limited in
the petition to just for manure that's been
treated, but actually, just for crop production.
And the reason they requested it is, aluminum binds
with phosphorus, and if you have too much
phosphorus in the soil, you can lose the phosphorus
to water resources and cause water pollution.

That's a big problem in a lot of places
in the Midwest where they put manure on every year
and every year, and they have phosphorus builds up
and up and up, and phosphorus is a real problem.
But in organic systems, we in the Crops Committee didn't think that was an important thing. Organic producers tend to only put as much phosphorus as they need for sufficiency. We usually are often more short than we are long, and so we don't have that problem that they have there.

As far as comments, we had a handful of comments that were opposed to it, saying that it was a hazard, aluminum sulfate is a hazard to human health, it's toxic to poultry, and it becomes a synthetic fertilizer when you apply it because it has the sulfur in it. And also, that the mining of bauxite to get the aluminum sulfate is an environmental issue.

So the livestock petition basically summarized, we in the Crops Subcommittee do not think that aluminum sulfate is needed in organic crop production because non-synthetic alternatives to aluminum sulfate are available to control ammonia in livestock facilities.

Number two, crop producers normally do not put phosphorus on at their soils levels beyond
sufficiency for optimum crop production, so excessive soluble phosphorus should not be a problem.

And number three, adding aluminum to low pH soils could cause toxicity to plants.

Any comments or questions?

MS. SONNABEND: I do not see any, so would you like to put the motion forward?

MR. THICKE: Do you want me to read the motion? Oh, okay. A motion to classify aluminum sulfate as synthetic first, and it's already been a motion and seconded.

CHAIR FAVRE: Okay. As a reminder, these are coming in as a seconded motion to the floor. And we'll begin the voting with Zea, is that correct? Yes? Zea.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.
MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: It's 14 yes, 1 absent, the motion passes.

MR. THICKE: And the next motion is to add aluminum sulfate at 205.601. Who's first on that?

CHAIR FAVRE: Sorry. Scott's first.

Go ahead.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.
MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: It's 14 no, 1 absent.

The motion fails.

CHAIR FAVRE: I just want to interrupt here, and as a reminder for everybody to please mute your phones and mute your computers. We're getting some noise and feedback up here. Appreciate it. Thanks.

MS. SONNABEND: Did you read the vote already? You did? Okay. So, moving on to our next one is soy wax. Lisa.

DR. BRINES: Thank you. This petition was submitted by Beyond Pesticides on September 30th of 2015. The petition requests the inclusion of soy wax to Section 205.601 of the National List. This review of this petition was also on the agenda.
of the last NOSB Board meeting in April of this year, and there was no technical report developed in support of this petition. Thanks.

MR. THICKE: Okay. So, there is already, now, a material called microcrystalline cheese wax that is allowed for use as a production agent for mushroom production on log-grown -- mushrooms grown on logs. And this would be in that same usage. However, even if you use organic soybeans to make it, it still would be a synthetic because the process of hydrogenation is a chemical change. So it still is a synthetic material.

We had some comments in favor of it. One certifying agency even mentioned that they had some requests from producers who wanted to use it. However, we had one comment from a grower who said he tried it and he was still working with trying to make it work properly. He had seen some cracks in the wax and some desiccation, although he did say he was optimistic that he may be able to make it work if he keeps working with it.

So his caution was that we don't take
microcrystalline cheese wax off yet, or whatever, you know, just to caution against that.

I think that's mostly what I had. Any questions or comments? Yes.

MS. SONNABEND: Well, I have a question first. The petition isn't to take microcrystalline cheese wax off, it's to put this one on. And so is the comment that we received enough in favor of putting this one on that it will eventually substitute for that?

MR. THICKE: It was unclear if it would eventually substitute or not, so I think the point they made is that, put it on, but don't take the other one off.

MS. RICHARDSON: Francis, do you want to present the reasons why we're going to be changing the actual wording of the --

MR. THICKE: Yes, I'm sorry. We also had comments on annotation. And do we have that? We can put it up for everybody to read it. There's a minor change. It really didn't change the meaning, but it just changed the order of what we
said. So if you compare this to what's written before, the new annotation, must be made from organic soybeans, soy wax from non-organic soybeans produced without excluded methods may be used when soy wax from organic soybeans is not commercially available.

So we checked with the program and they didn't think it was a substantial change. We just changed the wording around.

MR. SEITZ: I was a little surprised by the lack of producer support for this material, given that it's another synthetic going on the National List. We've used that as a justification in other proposals coming forward, like some of the poultry litter amendments. I'm curious to hear what the subcommittee thinks about the amount of grower support for this, or the lack thereof.

MS. BEHAR: So, one grower did write in, Joe Krawczyk from Field and Forest in Peshtigo, Wisconsin, and I know Joe, I've been to his farm, and he is very open to this, but so far in his trials, there has been some issue with it cracking
and then allowing unwanted bacteria and mold and fungi to enter into the log, and of course, then inoculating it with unwanted fungi.

So, anyway, I support this because I think one of the issues with the microcrystalline cheese wax is that it does not breakdown in the environment. And I have been in forests where there are shiitake logs that are decomposing and there's this whole little snow of little plugs of white cheese wax all over the forest floor.

MR. THICKE: It's also made from petroleum.

MS. BEHAR: Yes. It's a petroleum product and that's one of the reasons why it doesn't breakdown nearly as quickly. So this would breakdown, the soy wax, so that's why I support having both until we can at least develop a soy wax that is usable, because we do want people to grow shiitakes and not have a significant loss in the production system by not having something effective. So that's what I know about what the growers think.
MR. THICKE: Tom.

MS. BEHAR: That they would like to use it, but so far they haven't found it being exactly perfect yet.

MS. SONNABEND: Well, Scott said you could go first, Tom.

VICE CHAIR CHAPMAN: So I was a little confused about the biodegradability. I read through the petition, and unfortunately, we don't have a technical review on this item. I didn't see any -- I saw items being spoken about in regards to vegetable oil, but not the hydrogenated soy wax. And I didn't see any citations to an ADSM standard or another compostable standard. Did the subcommittee discuss compostable standards?

MR. THICKE: No. So, you said vegetable oil, but non-hydrogenated vegetable oil, right?

VICE CHAIR CHAPMAN: Yeah.

MR. THICKE: Not hydrogenated. Yeah. No, I guess the assumption in the petition was that it was biodegradable.
VICE CHAIR CHAPMAN: Okay. And then in an organic operation, would it be allowable to leave the microcrystalline wax in the environment or would that be considered, you know, degrading the natural system and not be allowed in an organic system? Do we know?

MS. SONNABEND: Harriet.

MS. BEHAR: When I was inspecting an organic shiitake operation, I mentioned it in the report and there was no further communication from the certifiers that they should clean it up. We're talking about a lot of little plugs of wax. There's many in each log and then they pile the logs, so there's just a lot of it.

MR. RICE: Yeah, I was struck by the lack of grower comment, with all due respect to the gentleman that Harriet was mentioning. And I guess I was a little confused as well that he talked about the formulations and he was working on that, but as far as the formulations that end up with other growers, is that something that would be their responsibility for determining or working
with, or are we talking about a product that would be commercially available?

I guess I can share some of the concerns of adding another synthetic that may or may not be biodegradable to the List.

MS. SONNABEND: Harold.

MR. AUSTIN: Well, I've got two points of concern. I actually voted for this in the subcommittee, but I'm going to probably change my vote when we do bring this to a vote. But a couple of concerns. One is about the degradation of the material after being used. And secondly, that we only did have one producer comment coming back into it, and that producer did not have success with this material. So it makes me wonder why we would put a material that the only grower comment coming back was unsuccessful use of it. It just doesn't make practical sense to me.

MS. SONNABEND: Anyone else? Okay. I guess we're ready to put it on the floor. It's the motion to add soy wax to the National List, with the annotation --
MR. THICKE: Zea, classification first.

MS. SONNABEND: Oh, classification first. Didn't we vote on classification last meeting, and therefore it stands? No, we do it again? All right. Classification that soy wax is synthetic.

CHAIR FAVRE: Okay. We have a seconded motion. We'll start with Emily.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.
CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: 14 yes, 1 absent, the motion passes.

MS. SONNABEND: Okay. Now we have the motion to add soy wax to 205.601 of the National List. And is that the changed annotation motion on the screen? Okay. I think we need that up there.

CHAIR FAVRE: It's not. This is the original petition -- proposal.

MS. SONNABEND: Okay. But we need it with the changed one if I'm going to read it.

VICE CHAIR CHAPMAN: Point of order, do we need to make a motion to amend first?

DR. BRINES: Oh, thank you. Yes, since this didn't come out of the subcommittee as an amendment, I would suggest that someone make a motion to amend the language, if that's the intent of the Board. That motion can be seconded, and then if the amendment passes, then you can vote on the amendment.

MS. SONNABEND: And is it two-thirds on
the amendment?

DR. BRINES: No. It's a simple majority.

MS. SONNABEND: Can I have a motion for the amendment?

MR. THICKE: I'll make that motion to amend the annotation as was read earlier.

MS. BEHAR: Second.

CHAIR FAVRE: Okay. We have a motion from Francis and a second from Harriet. Any further discussion? Okay. Hearing none, we'll start the voting with Francis.

MR. THICKE: Yes.

MR. AUSTIN: No.

MR. BUIE: Yes.

MS. BECK: No.

MS. SWAFFAR: No.

CHAIR FAVRE: Hey, guys, we're voting on the amendment.

MS. SONNABEND: We're only voting on this changed language.

CHAIR FAVRE: Yeah, we're voting on the
amendment, the change to the amendment. We're not voting on the main motion.

DR. BRINES: So, to clarify the outcome, if the motion to amend the list, the current motion, fails, then you'll vote on the original motion as it came out of the subcommittee.

CHAIR FAVRE: So do we want a reboot on that, everybody? Okay. All right. So, erase all those in the spreadsheet. Starting over. Francis.

MR. THICKE: Yes.
MR. AUSTIN: No.
MR. BUIE: No.
MS. BECK: No.
MS. SWAFFAR: Yes.
MS. DE LIMA: Yes.
VICE CHAIR CHAPMAN: Yes.
MR. SEITZ: Yes.
MS. RICHARDSON: Yes.
MS. BEHAR: Yes.
MS. SONNABEND: Yes.
MR. RICE: Yes.
MS. OAKLEY: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: It's 12 yes, 3 no, is that right?

MS. SONNABEND: No, 11 yes.

MS. DE LIMA: 11 yes, 3 no, 1 absent, the motion passes.

CHAIR FAVRE: Okay. So now we have approval for the revised motion, which it would probably behoove us to have somebody read that revised motion to us.

MS. SONNABEND: I can do that, I guess, as Chair. Motion to add soy wax to 205.601 of the National List as production aids. Soy wax, CAS No. 8016-70-4, for use in log-grown mushroom production. Must be made from organic soy beans. Soy wax made from non-organic soybeans produced without excluded methods may be used when soy wax from organic soybeans is not commercially available.

CHAIR FAVRE: Okay. So that's the motion on the floor. That's the main motion. Do
I have a second? Oh, it's already seconded? All right. Yeah, it's still the main motion. All right. So is everybody clear? Clearly, I'm not. All right. Sorry, guys. All right. So we have an amended motion that's been a motion made and seconded. We've had the motion read. Is everybody ready? All right. So we're going to start the vote with Harold.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: Yes.

MS. RICHARDSON: No.

MS. BEHAR: Yes.

MS. SONNABEND: Abstain.

MR. RICE: No.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

CHAIR FAVRE: Chair votes no.
MS. DE LIMA: And that's 4 yes, 9 no, 1 abstain, 1 absent, the motion fails.

MS. SONNABEND: Thank you. Next we have 1-methylcyclopropene, otherwise known as 1-MCP. Lisa.

DR. BRINES: Thank you. This petition was submitted by AgroFresh on November 24, 2015. The petition requests the inclusion of 1-methylcyclopropene to Section 205.601 of the National List as a post-harvest growth regulator. There was no technical report developed in support of this petition. Thanks.

MS. SONNABEND: Okay. This one was mine. I'm just getting to the front of my thing here. Okay. We received a petition to add 1-MCP to the National List as a post-harvest treatment for apples to delay fruit aging and slow down ripening in storage so that they can be stored for a longer period of time.

It's especially important to potential end users once the fruit is removed from storage so that it doesn't breakdown immediately and can
arrive successfully at the store and then at the consumer that it was destined for.

The product as petitioned is used in sealed storage rooms. It is important to note that 1-MCP also has a pre-harvest label, but that is not what we are considering now. We're only considering it for use in sealed storage rooms. A technical report was not requested because there was sufficient information in the petition for review.

1-MCP binds to ethylene receptor sites to slow down ethylene activity, and thus, slow ripening. It is a synthetic gas. It has a similar structure to ethylene and does not occur in nature, unlike ethylene. The ethylene receptor sites have a higher affinity for 1-MCP than ethylene, so it is always formulated with a natural sugar to stabilize the gas form.

So although the manufacturing process was proprietary, there's enough information to determine that it was a synthetic material that does not occur in nature. We go through the
categories of criteria that we use to look at materials and we have concluded that while there are not alternative materials for its use, there are alternative cultural practices in the broad sense, and some of these practices are -- but none of these -- all right, the alternatives are not designed to deal with once the materials are removed from the storage room until it reaches its final destination.

The alternatives noted by the subcommittee included nutritional approaches to enable apples to store longer, such as increased calcium in the fruit, excellent harvest, and post-harvest handling practice, such as picking at the right time for storage handling, timely getting the fruit into storage, and optimal storage conditions. Use of varieties that store better than others, and we've listed a few there. And consumers do have the option to choose fresh organic apples from the Southern Hemisphere, which I know no one thinks is optimal, but it is an alternative.
So the majority of the Crops Subcommittee found that this is not compatible for a number of reasons. It is a synthetic substance that does not fit in the category of exemptions in OFPA. And extending the storage life of a crop is not one of the criteria in OFPA that the NOSB must use. Compatibility is, and if Tom's argument holds about consumer preference, well, consumers probably have preference for Northern Hemisphere apples. If you told the consumers that they had been gassed with methylcyclopropene, I'm not sure that they would have that preference for that apple.

And the NOSB also has the opinion that having seasonal crops available year round is not a sufficient reason to add a synthetic to the National List. Discussion? Dan.

MR. SEITZ: So, just a question on the decision not to ask for a technical report. It would seem to me that a petitioner would have a vested interest in the course of -- in that petition being approved, and wouldn't it be useful just to
have something that you might say is a more objective, or at least a different perspective on that same substance? And I mean, in some ways, that's a more general --

MS. SONNABEND: I mean, the thing is that, the technical reports are really great on talking about how materials are made, and the fate in the environment, and like that, and not so great at talking about how alternatives actually work in the field. But we had expertise on the Crops Subcommittee to be able to evaluate how the alternatives work in the field. And the things like manufacturing process and environmental fate were covered in the petition itself.

So, yes, we could, but since it was kind of clear from the outset we were likely to turn it down anyway, it didn't seem worth spending the money to do a technical report for something that, then, we would just turn down. Tom.

VICE CHAIR CHAPMAN: Just to clarify, it's not my position that consumer preference matters. It's the 2004 recommendation from the
NOSB that is now in our PPM that uses that as a way to clarify the criteria compatibility with the organic system.

MS. SONNABEND: But I did say compatibility. It related to the compatibility criteria.

VICE CHAIR CHAPMAN: And I just wanted to make it that it wasn't me. It exists. Yeah.

MS. SONNABEND: Harold.

MR. AUSTIN: During the -- you know, I've got quite a bit of experience. We do use this in our conventional processing, handling, and our industry quite widely uses this product. It replaced a lot of really bad materials like diphenylamine acid, a lot of these other materials that helps for storageability and rots, things that were not necessarily good for human consumption or the environment.

The material actually is a gas that's put into the room that breaks down within a 24-hour period. The manufacturers actually have the responsibility of doing that. The compound itself
breaks down to carbon dioxide and water. We struggled to try to figure out on the Crops Subcommittee where we could possibly fit this material.

I've since, since we voted and our proposal got posted, I've gotten a lot of calls from the small growers, because they don't necessarily have the resources and the capability to do some of the horticultural practices that we've discussed within the Crops Subcommittee discussions, to do the due diligence that we do, and they also don't have the access to adequate labor force, at times, depending on the variety of apples that they happen to be farming.

I do think that this material, in hindsight, is a better fit in the Handling Subcommittee to review rather than Crops, and I think I would like to take -- at this point, I would like to make a motion to refer this back to the Handling Subcommittee for further review and also to ask for a TR to be performed on it.

MS. SONNABEND: Point of order --
VICE CHAIR CHAPMAN: Can I have clarification? I'm sorry. You say Crops or Handling?

MR. AUSTIN: Refer it back to the Handling Subcommittee.

MS. SONNABEND: Yeah.

VICE CHAIR CHAPMAN: Oh, okay.

MS. SONNABEND: So I just have a point of order on how we handle a motion coming like this from the floor, whether we have to immediately take it up and address it now and then proceed to a vote or what? Well, I guess it needs a second right now. Anyone seconding?

VICE CHAIR CHAPMAN: I'll second it.

MS. RICHARDSON: Before we vote on it, I'd be interested to get Dr. Brines' interpretation of whether a material that was sent to the Crops Subcommittee could then be sent forward, as opposed to back, to a different subcommittee.

DR. BRINES: Yes. Interesting question. Procedurally, under Robert's Rules, the motion is really to refer back to a
subcommittee. So it could be an existing subcommittee, it could be an ad hoc subcommittee. So you have flexibility under Robert's Rules.

I can't recall any similar action the Board has taken of recent years to do that, but certainly, the motion, now that it's been seconded, is a debatable motion. So you're welcome to participate in a discussion before having a vote on that motion to refer back to a different subcommittee. Thanks.

MS. SONNABEND: And then does that motion just need a simple majority vote rather than a full vote or the two-thirds vote?

DR. BRINES: Yes, similar to the other referrals to subcommittee, there's no additional threshold.

MS. SONNABEND: Okay. Emily.

MS. OAKLEY: Can you guys hear me okay? I don't know. It feels like my mic did something weird. All right. I appreciate your perspective, Harold, but as I said in the subcommittee, I feel that there are a lot of tools
that come from conventional agriculture that are useful that might also be useful to organic agriculture, but that does not make them appropriate for organic agriculture. And I think this is an example of that.

There are things that I might use as a vegetable farmer that, if I had conventional fields as well, I might want to use on my organic fields but wouldn't fit the criteria. And I think this is an example of that, so if we send it back to the Handling Subcommittee, I don't think it changes anything in terms of its applicability or acceptability for organic production or handling.

MS. SONNABEND: Lisa and then Harriet.

MS. DE LIMA: So, Zea, can you clarify, did I hear you right in saying that it gets applied after storage, but before it ships? No.

MS. SONNABEND: Gets applied during storage, I believe at the beginning of storage. But one of its characteristics is it helps the fruit hold up after it comes out of storage. I mean, that could be one month from the time it goes in and it
could be six months from the time it goes in. You
know, fruit's stored for variable amounts of time.

MR. AUSTIN: Upon the application of
the compound it literally stops the ethylene
formation within the fruit itself. So,
essentially, it's stopping the maturation process
during the storage.

MS. SONNABEND: I have Harriet, and
then Tom, and then Jean. Oh, Lisa had a follow-up.
Okay.

MS. DE LIMA: So it's basically the
opposite of ethylene? Yes.

MS. BEHAR: So we do have quite a few
materials on the crops list that are post-harvest
handling materials, and I think this would qualify
as a post-harvest handling material and not as much
as a handling material, which seems to be more of
a preparing a raw material for market.

MS. SONNABEND: Jean.

MS. RICHARDSON: Actually, my comment
was very similar to Harriet's. I think that the
post-harvest handling materials are normally done
in crops and I think that, you know, we haven't -- I think we should just vote on the motion and have it stay in crops and not go forward to handling.

MS. SONNABEND: Tom.

VICE CHAIR CHAPMAN: My question was about post-harvest materials and where they belong, so I think that was answered, unless someone has a different opinion.

MS. SONNABEND: Oh, well, I have a complementary opinion and I'm going to call on myself. Historically, although Lisa mentioned that in recent years we haven't had to deal with them, in handling we have ethylene was petitioned for wider uses, gib was petitioned as a post-harvest handling, but in the initial setting up of the National List, almost all the post-harvest materials were voted on by crops, including the ethylene for bananas, and several that we prohibited, such as potassium permanganate.

So when the National List came out at first, and then they moved those over into handling
-- and the fruit waxes are another one, that was handled by crops -- and then was moved over to the handling section to the rule when the National List came out. So there is precedence for this. Lisa.

MS. DE LIMA: So, I know that in your all's proposal you indicated that you didn't find an effect on human health or the environment, but I'm wondering if anything came back in public comment to the contrary?

MS. SONNABEND: I don't recall seeing any public comment to that issue. Harold, do you recall?

MR. AUSTIN: Nothing that I can recall. And I just would state that it does -- I mean, within 24 hours, it's broken down into carbon dioxide and water. The only concern, I think there was one raised about the application, but it's done by the manufacturer in the room, the room is sealed, so there's no access to this compound.

MS. DE LIMA: Just one follow-up. So, I don't know how it's manufactured, but is there a possibility that the way it's manufactured,
there's, like, an upstream negative impact?

MS. SONNABEND: The patent, which I looked at, which goes into a great deal of detail about it, does not indicate one. Now, that would be something a TR might identify, but if that is the only criteria your decision hinges on and not the other criteria, then it might be a reason to request a TR. Emily.

MS. OAKLEY: I was just going to say, I don't remember the details, but I do believe Beyond Pesticides wrote in relation to environmental hazard with the product, but I don't remember the details.

MS. SONNABEND: Tom.

VICE CHAIR CHAPMAN: So I got confused -- I was clarified and then I got confused with your complementary comment. I'm sorry, Zea. So are post-harvest handling items on 601, on 605, or on both?

MS. SONNABEND: Both. There are some on both. And if you will recall, the Department issued a post-harvest handling guidance not that
long ago which indicates that materials from both lists could be used in post-harvest handling. So it doesn't, in effect, matter, really, which list it's on.

Anymore discussion? Then I'm going to call on myself for one last comment.

It seems that this motion is just a stalling technique to muster up more support for this material, really, because we have done a complete review of it, and sending it back to the handling committee, I don't see what is to be gained from that, really.

So if there's no more discussion, we're going to, first, vote on the motion to send this back to the Handling Committee, which has been moved by Harold and seconded by Tom.

MR. THICKE: Quick comment?

MS. SONNABEND: Yes.

MR. THICKE: I'm a little skeptical, Harold, about their zero left after 24 hours. I mean, I wouldn't take that on faith until we have some -- small residues can be dangerous.
MR. AUSTIN: And there is some testing capability out of Sweden, or Switzerland, I do believe, to look for the residues on that. And I think that's another reason to give this some more time, because I think that's going to be looked at, so that we can try to take and see if there are detectable residues and if that's a viable concern or not. Because, also, I think, because of the consumer perspective of that, I think we owe it to that part of it to take a look at that to make sure.

MS. SONNABEND: Harriet.

MS. BEHAR: As a post-harvest handling material, it would not appear on any label that a consumer could see. So that's just kind of a hidden use there.

MS. SONNABEND: Okay. I think we're ready to vote.

CHAIR FAVRE: Okay. The voting will start with Jesse.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SWAFFAR: No.
MS. DE LIMA: No.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: No.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: Okay. I have to say that Michelle was just speaking to me about my mic when you made this comment, so I didn't hear what --

CHAIR FAVRE: This is to send it to Handling.

MS. OAKLEY: Okay. No.

MR. THICKE: No.

MR. AUSTIN: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: 5 yes, 9 no, 1 absent, the motion fails.

MS. SONNABEND: Thank you. Now we'll proceed to the original motion. And did we do classification already? No. Okay. So we're going to start with classification. The motion to
classify 1-methylcyclopropene as synthetic.

CHAIR FAVRE: We'll start the voting with Carmella.

MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: That's 14 yes, 1 absent, the motion passes.

MS. SONNABEND: Now, we can have more discussion on the main motion. So, Tom.

VICE CHAIR CHAPMAN: Yeah, well, I
wanted more time to review this item. I don't think there's enough information today for me to support it, so I'll be voting no on it. Just wanted to put that out there.

MS. SONNABEND: Any other discussion? Okay. So the motion to add 1-methylcyclopropene to the National List at 205.601.

CHAIR FAVRE: Okay. We'll be starting the voting with Ashley.

MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.
CHAIR FAVRE: Chair votes no.

MS. DE LIMA: It's 3 yes, 11 no, 1 absent, the motion fails.

MS. SONNABEND: Okay. Next is ammonium citrate. And we put up one proposal for both ammonium citrate and ammonium glycinate, so I believe we'll be talking about them together. Lisa.

DR. BRINES: Okay. And I can introduce them both at the same time as well. The petitions for ammonium citrate and ammonium glycinate were both submitted by Alpha Chelates on March 23, 2016. Since the initial submission, there were three updates to the petition, so three different petition addenda, which are all posted on the NOP website. And those were updates on June 13th, 2016, July 25th, 2016, and just earlier this week, November 15th, 2016.

For both petitions, the petitioner requests that addition of both ammonium citrate and ammonium glycinate to Section 205.601 of the National List, both as chelating agents. Thanks.
MS. SONNABEND: Emily.

MS. OAKLEY: These were my first petitions. And I'll just state upfront that public comment revealed some nomenclature errors in the description of the materials that will be corrected in the final recommendation, but they don't affect the Crop Subcommittee's recommendation on this proposal.

So, ammonium glycinate and ammonium citrate are being requested to be listed to the National List at 205.601 to be used as chelating agents. Ammonium glycinate and ammonium citrate are reactive with copper, iron, manganese, or zinc to form a chelate. The petitioner uses liquid micronutrient chelates using -- or cells, liquid micronutrient chelates, using ammonium glycinate as the chelating agent. Chelates are then used to provide micronutrients that are readily available to the plants in deficient soils.

Ammonium glycinate is manufactured through a reaction of ammonium hydroxide and glycine and ammonium citrate is manufactured
through a reaction of ammonium hydroxide and citric acid.

In addition to the actual materials themselves, the petitioner also put forth a case that the use of the term chelating agent in the regulation needs to be revised. The petitioner requested that the NOP define which bases can be used to neutralize acids to synthesize chelating agents. However, our committee determined that this was beyond purview of our review.

In terms of the discussion that took place within committee, we determined that there was insufficient information in the justification statement of the petition necessitating these materials for organic crop production. We sent a request to the petitioner asking for more clarification, but did not feel that the second addendum clarified the need any further than the first, original petition.

He then volunteered a second and then third addendum, which Dr. Brines just referred to, but none of those, in our view, attest to the need
for this material.

Additionally, we didn't receive any comments from farmers asking for this material, and no public comment from them stating the need for these materials. And we feel that there are already products on the market that adequately address farmers' needs. The petitioner did not provide evidence that chelates made with synthetic glycinate or citrate are needed to replace lignin sulfonate and non-synthetic chelating agents, such as fulvic acids, humic acids, and non-synthetic citrate currently in use by organic growers.

So we determined that these materials are not necessary, and I would ask if there are any questions by the rest of the Board. And I also wanted to give Dr. Brines a chance to elaborate further on some of the claims the petitioner is asking for clarification on with respect to chelates and chelating agents.

MS. SONNABEND: I also want to clarify one thing, that, although we are discussing them together, we will be voting on them separately.
Lisa, did you want to add?

DR. BRINES: Yes, just briefly. One of the items mentioned within the petition was about the, I guess, mischaracterization of some information in the materials for organic crop production draft guidance. So, there is an entry for chelating agents in that document. So, currently it does refer, for example, to citric acid as a chelating agent. And the petitioner has indicated that, really, the chelating agent in that case is citrate, rather than citric acid, so that's something that would need to be corrected.

Again, chelating agent isn't defined in the regulations. It is referred to in terms of lignin sulfonate, but in terms of the scope of the petition, I think Emily gave a good overview. I don't know if I have too much to add there. Thank you.

MS. SONNABEND: Thank you. If any of you did read the addendums and the public comment, I'm sure you're thoroughly confused because the petitioner tried as hard as he could to obfuscate,
or, you know, try to couch it in a bunch of, sort of, pompous terminology rather than outright state why his stuff is better than the other things we already have.

However, if any of you are confused about particular points, Francis and I have been helping Emily with this with a little more soil science background and we could possibly help understand this better. Yes, Francis.

MR. THICKE: As Emily mentioned, we got three addendums to the petition and they never did answer the question of why we need new chelating agents instead of the synthetic and non-synthetic ones we already have available. And the last addendum just came in, like, a couple days ago, and there was some research comparing their chelates with zinc without any chelates.

And so we know what that's going to do. We wanted information comparing the existing chelates with their chelates, or why it's needed, and we didn't get that at all.

MS. SONNABEND: Anyone have questions
or discussion? Okay. I think it is worth at least mentioning, the one comment from Beyond Pesticides about maybe we should really be looking at this, rather than a petition for an individual item, as a change to the micronutrients annotation to include citrates and glycinates.

We did talk about this at the subcommittee, but there was no strong desire from anyone on the subcommittee to add those categories to the micronutrient annotation because it seems like the ones we already have on there are working. The petitioner probably would be able to revise a petition and turn a new one in for that particular approach, but we're going to wait and see if that is what happens.

Anyone else want to talk about this before we start voting? Okay. So, first up would be ammonium citrate and the motion to classify it as synthetic.

CHAIR FAVRE: Okay. It's coming forward as a seconded motion and we will begin the vote with Lisa.
MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SWAFFAR: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: It's 14 yes, 1 absent, the motion passes.

MS. SONNABEND: Next would be the motion to add ammonium citrate to the National List.

CHAIR FAVRE: Comes as a seconded motion. We'll begin the voting with Tom.

VICE CHAIR CHAPMAN: No.
MR. SEITZ: No.
MS. RICHARDSON: No.
MS. BEHAR: No.
MS. SONNABEND: No.
MR. RICE: No.
MS. OAKLEY: No.
MR. THICKE: No.
MR. AUSTIN: No.
MR. BUIE: No.
MS. BECK: No.
MS. SWAFFAR: No.
MS. DE LIMA: No.
CHAIR FAVRE: Chair votes no.
MS. DE LIMA: Fourteen no, one absent, the motion fails.
MS. SONNABEND: Okay. Next up is ammonium glycinate, first to classify ammonium glycinate as synthetic.
CHAIR FAVRE: Comes forward as a seconded motion. We'll begin the voting with Dan.
MR. SEITZ: I just want to say this is my favorite type of motion to be the first one to
vote on.

(Laughter.)

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: 14 yes, 1 absent, the motion passes.

MS. SONNABEND: And next, add ammonium glycinate as petitioned at 205.601.

CHAIR FAVRE: Comes forward as a seconded motion. We'll begin the voting with
Jean.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: That's 14 no, 1 absent, the motion passes. Fails. Motion fails.

MS. SONNABEND: All right. Thank you. Next we move to potassium cellulose glycolate, petitioned item. Lisa.

DR. BRINES: Thank you. This petition was submitted on June 22, 2016 from Lamberti USA,
Inc. The petition requests the inclusion of potassium cellulose glycolate to Section 205.601 as a production aid. And there was no technical report requested or developed for this petition.

Thanks.

MS. SONNABEND: This was Emily also.

MS. OAKLEY: The petitioner requests inclusion of this as a synthetic inert ingredient. Potassium cellulose glycolate, or potassium carboxymethyl cellulose, CMC, is a chemically-modified polymer derived from natural cellulose. The petitioner proposes to utilize potassium CMC as a water retention aid during irrigation and in combination with liquid fertilizers and nutrients.

Potassium CMC is being petitioned for its water holding capacities and delivering water more efficiently to the plant's root zone. The subcommittee determined that water usage is not a criteria under OFPA and there was insufficient information justifying the need for this material in an organic production system.
Soil organic matter serves to naturally increase soil holding capacity and retention, water holding capacity and retention. Managing for and fostering soil organic matter is a key element in a good organic system plan. That was mentioned by several commenters as well.

Some of those practices include conservation tillage and no till practices to increase soil organic matter, decreasing compaction, minimizing water evaporation, and increasing rain and irrigation water infiltration into the soil. Plant, mulch, and cover crop residues can increase water infiltration and retention by preventing cresting and conserving water.

Incorporating residues in compost also improves soil fauna whose activity increases aeration, opens pours, and decreases compaction. All of these, in turn, contribute to increased water penetration and retention.

So, our conclusion was that synthetic water filtration and retention materials are
incompatible with a system of sustainable agriculture, that natural alternatives and good soil management practices exist, and water use is not an OFPA criteria.

There were commenters on this material. There were several that wrote similar comments as interested parties, but it was unclear if they were those selling the material. They certainly didn't state that they would be people who would be using the material. And then there were a number of comments in support of our proposal not to add this material to the National List, for the reasons that I mentioned in terms of organic matter and healthy soil being a component of a good organic system plan that does create a need for this material. Is there any questions so far?

MS. SONNABEND: Okay. Any discussion? All right. Soil chemistry getting the better of us. Let's proceed then to a motion to classify potassium cellulose glycolate as synthetic.

CHAIR FAVRE: Okay. Comes forward as
a seconded motion and we'll begin the voting with
Harriet.

MS. BEHAR: Yes.
MS. SONNABEND: Yes.
MR. RICE: Yes.
MS. OAKLEY: Yes.
MR. THICKE: Yes.
MR. AUSTIN: Yes.
MR. BUIE: Yes.
MS. BECK: Yes.
MS. SWAFFAR: Yes.
MS. DE LIMA: Yes.
VICE CHAIR CHAPMAN: Yes.
MR. SEITZ: Yes.
MS. RICHARDSON: Yes.
CHAIR FAVRE: Chair votes yes.
MS. DE LIMA: 14 yes, 1 absent, the
motion passes.
MS. SONNABEND: Okay. Next is the
proposal concerning hydroponics and bioponics --
MS. OAKLEY: I think we have to vote on
the motion.
MS. SONNABEND: Oh, sorry, sorry, sorry. Don't want to jump the gun and get there too soon. The motion to add potassium cellulose glycolate as petitioned to 205.601.

CHAIR FAVRE: Comes as a seconded motion and the voting will start with Zea.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

MS. BEHAR: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: 14 no, 1 absent, the motion fails.

MS. SONNABEND: Okay. Now, the
proposal for hydroponics and bioponics. I hardly
know where to start. We received just a little bit
of public comment about this. I'm still opening
my notes here, if you'll bear with me for a second.
Okay. I have lots of notes because we had lots of
comments.

Okay. The hydroponics task force was
convened at about this time last year to try and
resolve what the NOP saw as discrepancies in the
previous NOSB recommendations that related to
hydroponic growing systems, or maybe not
discrepancies, but deficiencies.

They were tasked with making it clear
what types of systems were in use and whether any
or all of them should be certified organic. They
worked through the winter, spring, and summer, and
we got their report, pretty much, quite late in our
planning process, but we did our best to craft
something for this meeting so that we could keep
it on the table before you.

While we were waiting for the report,
we discussed in subcommittee how we were going to
structure it, and frame it, and we also discussed this with Miles. The majority of the subcommittee early on, wanted to prohibit hydroponics without delay. So when the report came out, that is how I set to structure the proposal.

Tracy and I had a phone call with Miles to go over the structure before it went to the subcommittee, we are certain that the 2/3 vote should be necessary to approve hydroponics because there already was a 2010 Board recommendation to prohibit hydroponics, so to overturn that should take 2/3 majority.

And in the course of reviewing the task force report and crafting the proposal, we realized that, as you all saw from the report, there's a great variety of growing systems in solid substrate using various types of containers, and so we sort of questioned whether it might be possible to have a soil equivalent to a soil-based system in a container with either soil itself or compost, which the 2010 recommendation indicated they were okay with a compost-based system, but they didn't really
specify whether that would be in a container or not in a container.

So we decided we would craft a discussion document to talk about the range of issues that have to do with those containers and whether, you know, as soon as you dig up soil and put it in a pot, is that still soil or is that then hydroponic, and how big a container, and what is appropriate for growing media, and what isn't, and the relationship between nutrient sources and how plants get their nutrient.

So all of these, you know, very big wide open, sort of, continuum of things. We were, of course, accused of bias, but what we tried to do is have, as open as possible, a discussion on this container growing to see where we could draw a line in the future, and we realized that we could not complete this work easily, so the container discussion document was very, very preliminary.

Okay. So we'll discuss a little bit more about that later, but I would like Miles next to address what he sees will happen if this proposal
is passed or failed the way it is, because this has altered our thinking on it since we've been here and so I think it's important for this to get expressed. Miles.

MR. MCEVOY: Sure. So we appreciate all the work that's been done by the NOSB on this topic, also, the work that the hydroponic and aquaponic task force did. The task force got setup in September of 2015, took a little while for them to get established, the first concept was that they would have a year to complete their report.

The Board had requested that they get the report earlier to move this process more quickly through the process to see if they could get a proposal and a final recommendation out this fall. So the task force did speed up their process and got their report completed in early summer, which was a little bit challenging for them, and some complaints about that, but that was much faster than originally planned when we setup the task force.

There's a diversity of perspectives
that are described in that final report and so encourage the Board to look at the whole report. What we had found in the 2010 recommendation, in order for us to move forward in terms of rulemaking or guidance on this particular topic is, there were a lot of questions that we had.

So for instance, a clear explanation on the basis of each component of the recommendation that was in the 2010 recommendation, really, where to draw the line in the continuum from a soil-grown to a hydroponic system.

I think we've seen a lot of information, both in the task force reports and the public comments of, there's a continuum from a pure hydroponic-type of system to a soil-grown system, and if we're going to go into regulatory framework, it would be nice to have those recommendations from the NOSB, because that's what we like to base our regulations on is, recommendations from the NOSB.

We also asked to clarify terms and how the greenhouse and the soil-less organic production systems relate to things like sprout
production, mushroom production, aquatic plant production, water cress, wasabi, orchids, things that don't naturally grow in soil.

So first, we want to clarify that organic hydroponics systems are allowed under the current USDA organic regulations if they comply with the USDA organic requirements. So there's a number of innovative producers that have figured out how to do that. It's very similar to other areas of the organic sector, organic community, that have developed certified organic products where there's not specific standards.

So we have pet food, for instance, there's no specific standards on pet food, on apiculture, and in mushroom production. Not great. We need to develop standards for these various types of production systems, but they're in the market and they are compliant with the current regulations.

So NOSB recommendations guide AMS to issue either guidance or to conduct notice and comment rulemaking to change the regulations.
Depending upon what the recommendation is, we have various things that we can do with those recommendations.

So we'll review any recommendations that come from the Board on this topic and we'll determine whether or not we need to move forward with guidance or rulemaking. On this particular topic area, we believe that notice and comment rulemaking will be necessary to clarify this area of the regulations. Nothing changes with an NOSB recommendation, the only thing that happens is that that recommendation goes to USDA, goes to AMS, and then we have to take the appropriate action to implement those changes.

So changes to any of the organic regulatory standards are made by AMS through notice and comment rulemaking. Second, you've asked what happens when -- or what would happen when the proposal on allowing bioponics as consistent with organic production is voted upon, so it's a little hard to say because we have to wait for those final recommendations, but if the motion passes, then as
the motion says, then the NOSB would need to develop further recommendations, as they state in the motion.

A failed motion is not a recommendation, it's a failed motion, so it would not provide as much clarity as a final recommendation, but a failed recommendation, a failed proposal, a failed motion, would provide AMS with a lot of information about where the Board stands on these particular topics, and it may enable AMS to proceed.

What would be better, however, is to have a full recommendation from the Board on all these topics as we move forward to clarify this area of the standards.

MS. SONNABEND: Thank you, Miles. So those of you who -- oh, okay.

MR. SEITZ: Just a question, Miles, couldn't you -- could you have a failed motion that then was followed by subcommittee work that brought an affirmative set of recommendations along the lines of the failed -- of what was implied by the
motion failing?

MR. MCEVOY: Yes, certainly. If there's a failed motion and then the subcommittees go back and do some additional work to provide some additional clarity and recommendations, yes, that would help.

MS. SONNABEND: Okay. So I just want to clarify in case any of our audience didn't pick up on this, that what this means is, those who might not want hydroponics to keep going, even a no vote on that motion will not create that situation because the hydroponics are allowed, and we did not understand that properly when we conceived of going forward with this.

And then there's other implications, such as, if the motion is voted down, then we don't have the definitions, we don't have a past set of definitions that we're all using to talk about the same thing, and so really, definitions maybe should have been in a separate motion so that that could be universally adopted by the Board, because we got a little bit of criticism on some definitions, but
we're pretty close to being able to have definitions that we can all talk about the same thing with.

So we're sort of in a catch-22 here with this. I am going to summarize the public comment that came in, which, of course, it's very hard to summarize 3000-plus pages before lunch, but I'm just going to try, so I beg your forgiveness if I don't address your particular comment, but I feel like we owe it to the public to state what the concerns were about it, and then we're going to hopefully talk about some ways forward, possibly through a resolution or through deciding whether we need to vote or pull this back for more committee work.

MS. BEHAR: So I'm just curious, as somewhat as a point of order, if we could take exact wording out of the proposal, like you had suggested as far as some of the definitions, and have that be a partial, so at least we have something to move forward with.

CHAIR FAVRE: I'm sorry. That would
be considered as substantive change and would not be allowed at this meeting.

MS. SONNABEND: So apparently not, because we didn't -- and we haven't necessarily digested the comment we got on just the definitions portion, for instance, so, you know, there's that too. All right. So I'm just going to proceed with the rest of my presentation concerning the public comment. Hold on, if I get my windows out. Okay.

Well, obviously, we got tons of comments, both for and against hydroponics. We got them from all types of people, all types of farmers, all types of individuals. It was way too many for me to prepare slides on or to count, and so I'm just going to sort of mention some of the key arguments on both sides of the issue.

And I do want to state at this point that we do accept comments from everybody. Every single organic stakeholder in the room or who writes in has the opportunity to give us their thoughts and it is really not up to anybody to say that anybody else should not be able to talk about
something.

So the arguments in favor of hydroponics, first of all, that it is very efficient with water use and we got statistics all over the map, I'm not going to try and quantify that here, you know, it's, maybe, relevant to future deliberations, but really, it's too much for here.

Aquaponics, in particular, we got a number of comments. In fact, we got more comments from aquaponics practitioners than are data indicated are certified already for aquaponics, we got a lot, and they think it definitely should be separated out from plant growing hydroponics, because fish and fish waste creates a closed-loop system in which no other inputs have to be added, and there's already an extreme amount of microbiological interaction, and so it should be considered on its own merits.

We got concern that, already, organic produce is very limited in supply and having more people have access to a good supply of organic produce is a very important thing and at a
reasonable price, and that by having hydroponics, particularly in cities, it will make transport costs go down and this is really a good thing.

We got concern that young farmers have a hard time getting started because of availability of land and since hydroponics is very scalable to both very small and very large systems, it is a good entry point for beginning farmers.

Several people mentioned that the soils out there in the world are pretty contaminated and that you can close off the closed-loop systems in hydroponics from contamination from the outside. The comment that it preserves bio-diversity by not farming fields, and so allowing fields to become more natural. Highly questionable on that one, but that is a comment we got.

The organic label is about empowering consumers to identify products that match their values, and of course, we got lots and lots of, consumers want this, consumers want that, consumers don't know about soil, consumers choose organic because it's pesticide free and
environmentally sustainable, and then other comments that consumers care about soil, so that, for what it's worth.

Okay. Bioponics combines diverse natural activity of the soil food web with the resource efficiency of hydroponic techniques to produce more organic food on less land while using fewer inputs and water resources.

The focus of bioponics is not to replace in-ground soil production, but to promote the practice of organic production overall and extend the philosophy of organic beyond the soil to include resource conservation, promote social justice, and increase food availability.

Microbe populations aren't just high, they're also diverse. There aren't a great deal of studies that look at the diversity of microbes, but what there is shows a great -- an equal of greater diversity of microbial populations than that found in soil.

Mycorrhizae also thrive in hydroponics, possibly even more than they do in
soil. The nutrient cycling processes happen in solution with water whether in-ground soil systems or in contained growing systems like bioponics. The complex organic molecules that are breaking down are the same regardless of the production system.

With hydroponics, we no longer have to degrade the land, water, and existing biology to be able to produce crops. Indoor certified organic growing methods are ecological pathways that meet the challenges of sustainability with organic inputs while fulfilling legitimate and original foundation of the organic movement, quotes, although he didn't say where he quoted it from, to use the cycle of biology natural inputs while avoiding prohibited substances.

Okay. So a lot of people said these concepts in a variety of different ways. Several people suggested a separate label and that they would be okay with that. One type of label distinction was organic aquatic systems versus organic terrestrial systems. That, of course
then, the seaweed might fall under that aquatic system as well as the water cress and indoor gardening, but we're not dealing with that level of detail now, but I'm just saying, a lot of people brought that up.

Okay. Moving on to the arguments against hydroponic systems. Organic farming embraces nature. Farmers produce crops on optimally fertile biologically active soils that are alive, diverse, and nourish plants in subtle ways that we're only beginning to understand. Hydroponic growers exclude nature. Hydroponic growers produce crops in sterile surroundings and douse plants with liquid nutrients that cannot begin to duplicate the biological complexity of fertile soils.

Now, in the interest of never letting a good pun go unpunished, we got a lot of comments that said that we would be watering down what organic farming means. Some of them recognize this was a pun and others did not. Feed the soil, not the plant, has been a basic tenet of organic
farming from the early '70s. You cannot supply many diverse nutrients that are present in healthy biologically-based soil through a hydroponic system, even using organically acceptable inputs.

As organic growers, we have never considered the organic method, simply one of substitution of inputs for what is used commercially, e.g., fish hydrolysate for NPK fertilizer. It's a system which imitates nature at a fundamental level.

Growth and fertilization of crops in the organic community involves a conscious aiding of all the myriad natural and biological systems, which have made the minerals in the crust of the Earth available for use by plants through symbiotic relationship and fueled by sunlight, resulting in plants for food.

Part of the certification procedure has always been a statement of the overall plan for farm broad strategies and goals. Central to this has been building the soil accumulation of organic matter in soil, composting of organic residues,
none of these are part of hydroponics.

Organic growing was defined by J.I. Rodale and his staff as a system whereby a fertile soil is maintained by applying nature's own law of replenishing it, that is, by adding organic matter to preserve humus rather than using chemical fertilizers.

In contrast, to label hydroponics crops grown without soil, i.e., crops that are simply fed continuously in their container with available nutrients that are not the result of the soil system would require a change in the fundamental principles of organic production and would redefine what has been accepted as organic since the beginning.

The goal of organic production is to improve the soil with every crop in order to support the natural water cycle, sequester atmospheric carbon, and establish an increase soil till in an attempt to prevent extinction of the naturally occurring soil-based bacteria and fungi which support the nitrogen cycle that make human life
possible.

Okay. I also want to point out just a couple of individuals who weighed in. One is Jeff Moyer, who is the Director of the Rodale Institute and the primary author of the 2010 NOSB recommendation. He says, it's also important for your own work to know that future boards won't continually try and undo the hard work you put into decisions or populate the board with votes to undo decisions you make. This is imperative to the success of the entire system.

I don't have a quote from him, but I did question some of our commenters about Senator Leahy's intent when he wrote the bill and as the primary author of OFPA, he clearly did not intend for hydroponics to be included in it, and I don't have the exact quote from Michael Sligh about why the initial board passed their recommendation early on, which says, hydroponics could be allowed if the provisions of OFPA can be met.

I happened to be there for those discussions and I can second Michael's point of
view, which was, the general feeling that the provisions of OFPA could not be met, which is why they were saying that, because there was no rule at the time, there was no rule at the time to hang anything else on, and so it was just like, we're not ready to develop this, but it's very clear that the burden of proof would fall on whoever develops this to represent OFPA, and it was not felt that that could happen.

And then lastly, I think I'm going to have quite a few more comments, and we got a lot of them from international sources, a lot from the U.K., the Netherlands, et cetera, and actually, I'll read two more, one of them from someone who works with IFOM.

From one of the early organic farmers, Anne Schwartz, up in Washington, new technologies will continue to influence and change our food system and new defining language should be developed to assist those producers to label their products in a manner that educates eaters and clearly identifies production systems.
I don't believe hydroponics meets the true measure of organic systems that have as its foundation, plants and soil. I understand also that genetic engineering will continue to evolve and challenge everyone's understanding of food production systems, again, we need to continue to educate the consuming public of how this technology affects food quality, soil quality, and ecosystem dynamics.

At this time I have grave reservations about considering gene editing to be added to the definition. She is one of only a couple of people, besides myself, who realize how closely these topics are actually related. Genetic engineering, excluded methods, and the core organic principles of soil and the environment at the heart of hydroponics.

Okay. So now one of the overseas comments, IFOM formulates it as follows, organic agriculture should sustain and enhance the health of soil, plant, animal, human, planet as one and indivisible. And organic agriculture should be
based on living ecological systems and cycles, work with them, emulate them, and help sustain them.

Of course, other systems produce food in a sustainable way, are and will be developed, but not all sustainable production systems should be called organic. Growing organic means working on a sustainable production system within the boundaries of universally applied organic principles and these principles clearly take the living soil as the basis for plant production.

Okay. So I'm going to leave it at that. I have more to say from my personal point of view, but I will open it up to discussion from everyone else and chime in at the appropriate time now that we've covered the public comment, so the floor is open. Emily.

MS. OAKLEY: I'll be the brave first person to go. I want to talk on two topics, one, voting on this proposal as it is today and my position on hydroponics. First I want to say that when I applied to the NOSB, I actually really didn't know very much about this issue. I came into it
pretty ignorant, which some of my stakeholders might not appreciate hearing the truth of, but I didn't know very much about it and I wasn't immersed in this issue.

But since serving on the Board, it's the one issue that I've heard from repeatedly, over, and over, and over again very consistently, and I think I represent the smaller scale, family scale, farmer and a lot of the people that have been involved in this movement from the beginning.

I think we're all at this table today because farmers created this label, right? It didn't happen out of a vacuum. Farmers worked to identify and define what organic meant. And I think we've heard from many of those farmers who created this movement and we really run a grave risk if we don't listen to them.

I've heard, as a beginning farmer trying to get other beginning farmers to get certified, that they think the standards are already watered down and they use that as an excuse, actually, sometimes to not get certified, and I've
heard comments of hydroponics being a reason for
that. I think we need to take that into deep
consideration.

I know many of the public comments, both
from consumers and farmers, reflected this notion
of the watering down of the standards. Now, you
know, where you stand on that, we can discuss, but
we also have to really address the perception that
is out there among farmers who might get certified
or who might not, and consumers who buy our
products.

The farmers who get certified at the
direct-to-consumer level are the people who are on
the front lines. We're the people that interact
with those that eat organic food. And we really
define in the public's mind what organic farming
is, because it can talk to us, because it's not
anonymous, because they can ask us how we do what
we do, why we do what we do, and a lot of people
buy food from direct-to-consumer farmers because
they want a piece of that, because that's something
that they believe in.
A lot of those farmers are very concerned about this proposal not getting passed. Importantly, there are farmers who are already looking to other labels to identify what they're doing. I really hope that it doesn't come to that. I do not want that to happen to the organic movement, but I want to represent that there is a real risk of a splintering of the movement.

Now whether or not we can address that today is not the point, but I want to represent that perspective that I've been hearing, and that I've observed long before coming to the NOSB, there's the farmer's pledge in New York, those are good things, but I don't want to see farmers opt-out of organic certification because they feel it no longer represents their values.

We've heard a lot of comments about feeding the world, and those are the exact same words that were used to promote the green revolution in the first place, which was the basis against which organic farming created itself. Organic was created in opposition to this concept.
that we need to feed the world and the best way to do that is with lots of chemicals, or now, more recently, GMOs, so organic stands in opposition to a lot of that thinking.

A concern that I personally have developed that has nothing to do with the stakeholder comments that people have given me with respect to hydroponics is the input use. The continuous use of inputs to feed the plants. You know, whether we want to discuss soil or not discuss soil, we certainly have to address the fact that the crops are being grown using a continuous supply of fertilizers.

If I try to go out and feed all of my crops in the field every day with a backpack sprayer of fish emulsion and kelp, my certifying would not even certify my because that wouldn't be consistent with good organic management, so how can we address that as something that's feasible in water?

With respect to voting today, I've kept my comments, basically, to myself up to this point, except through the Crop Subcommittee calls, I feel
extremely strongly that everyone on this Board has been privy to both the task force report, task force presentation at our spring meeting, to the public comments from the spring meeting, on both sides of the perspective, the public comments at the fall meeting, both written and oral, at each of those meetings, to Crop Subcommittee discussions being invited on to those calls.

I feel we've all had a chance to hear a great deal about this. I'm so concerned that if we send this back to the subcommittee, the new Board Members are going to have so much catchup to do that it's going to be incredibly hard for them to know where to even get started. I feel this is going to delay us looking at this issue even further.

If we vote on it today, while it may not be perfect in everyone's view, I think it sends a message of communication that the stakeholders want to hear, and our subcommittee was strongly, from 5 to 2, in favor of voting for this position, and I hope that you guys will consider that today. Thanks.
MS. SONNABEND: Next. Carmella.

MS. BECK: I have a long statement. I'm going to read it. All right. I'll be outlining my reasons for why the proposal needs to go back to the subcommittee. First, because of confusing motion language, in particular, the motion states bioponics as consistent with organic production under the provisions and recommendations to be developed by the NOSB in 2017.

I cannot vote in favor of a motion without reviewing, analyzing, and understanding the referenced provisions and recommendations. Second, it is clear to me that we are not being consistent with language used to describe soil-less production systems.

The proposal is titled, Hydroponic, Aquaponic, Bioponics, and excludes container production. However, I'm concerned that a vote to disallow bioponics could potentially compromise the continued compliance of container production practices in the absence of vetted and accepted
definitions.

Thirdly, it's still my belief that we should have issued a discussion document in lieu of a proposal, as was done for the container production topic, in order to have provided the topic equal due diligence and equal opportunity to take both written and verbal comment into account prior to crafting a proposal.

Fourth, the hydroponic/aquaponic task force report was issued on 7/21/16, allowing the Crop Subcommittee extremely limited time to review, digest, and debate the 200-page report. In closing, the Board oftentimes works on very tight timelines to get work done. This instance was different.

I'd argue that we need to slow the process down, to be very thorough, and very deliberate, which I believe we owe to our stakeholders who are currently NOP-certified hydroponic and aquaponic operations, who, just like other NOP-certified organic growers, adhere to the organic production definition as stated, a
production system that is managed in accordance with the act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve bio-diversity.

The future steps I recommend include, one, create a discussion document, as reference in Part 3, Page 1, under the introduction heading in the discussion document, two, take into consideration current public comment, and three, discuss the standards needed for bioponic systems to be allowed under the NOP organic rules, along with possible limits on what sorts of systems would qualify as bioponics.

Four, outline the breadth of currently certified soil as bioponic practices, as referenced in the task force report, and finally, create separate discussion documents for each individual topic under discussion, as requested by public commenters.

MS. SONNABEND: Anyone else? Tom.
VICE CHAIR CHAPMAN: Can someone on the subcommittee let me know why we sped up the work of the task force, especially in light of the task force, members of the task force, objecting to it?

MS. SONNABEND: I can address that. There was concern that with a lot of members leaving the Board, including the two liaisons to the hydroponic task force, that something needed to get started while they were still on the Board before a whole new crop of Board Members would have to come in and get up to speed on this subject. That was the primary reason. Anyone else? Emily.

MS. OAKLEY: I would just say that my reason a little bit different, was just that I've been hearing from so many people who want to see action on this now, so that was my reason for wanting to see it happen sooner.

MS. SONNABEND: Jesse.

MR. BUIE: You know, I have a lot of concern, but the question that I would like to pose to this Board is, have we given the NOP the analysis and clarification needed in rulemaking? And it's
my understanding that if we vote it down, that this motion doesn't do anything to give them specific guidance. And so in other words, everything stays the same and that's not acceptable to me.

So I think we need to send it back and give specific guidance on what we expect out of it so that we can protect the label.

MS. SONNABEND: Tom.

VICE CHAIR CHAPMAN: So the task force had three parts, the third part was looking at a labeling option, can members of the subcommittee speak to how that was considered and the outcome of that?

MS. SONNABEND: Yes, I can speak to that also. We did have the ability to talk about a labeling option and, how do I put this succinctly, we did, and many people on the task force thought a label was a good idea, but thought the label should not be part of the organic regulations.

And so when I had initially talked with Miles about outlining the options for proceeding, we, on the NOSB, are limited to suggesting things
that are within the regulations to be able to change, and if we didn't feel we should change the regulation to have labeling, but we should change OFPA or have them get a new bill to the Congressional level, then that is outside of our scope, and that is how the majority felt. Dan.

MR. SEITZ: So I have to just admit that I find this a genuinely perplexing issue. On the substantive end, I feel that hydroponic practices should not get the organic label for the reasons Emily outlined, and the fact that the consumer, from my standpoint, who is, I have to say, schizophrenic on this issue as well, I think, has in the mind the small-scale farmer, the raising of soil on crops, and so forth, so to have for hydroponic methods to have simply an organic seal, I think, would be misleading.

If there were some additional clarification about the methods, that may be acceptable, and that's a complex issue in itself. I do think that consumers would prefer that so-called organic hydroponic would consider that
far superior to a conventional hydroponic, and would be heartened by the fact that inner city communities benefit from this, there are employment opportunities, and so forth, so clearly, very worthwhile.

But I would have to say on the substantive issue, without there being an additional, sort of, clarification, to just simply give hydroponic practices the organic label would not be in the spirit, nor in my interpretation of how the law is written.

What makes this perplexing to me is more the pragmatic issue of what is the right way for us to vote on this because I'm torn between what Emily said and what Jesse said. I think voting as the subcommittee suggested sends a very powerful message. This is where the Board stands and let's just make that clear, and then now let's go back to subcommittee and clarify if we have any additional recommendations.

Jesse's point, though, is also a good one, which is, if we want to move this along and
do it expeditiously, sending it back to committee may be precisely the way that we do this, and certainly, we can clarify. We have a subcommittee vote that clarifies where a number of people stand and we may hear other comments about that.

So I haven't yet decided yet on the pragmatic side, what is the better way for this Board to go, and I want to keep listening, but I did want to make it clear on the substantive side where I stand on this.

MS. SONNABEND: So I have Francis, and then Tracy, and then Tom, and then Ashley, and then Harriet.

MR. THICKE: Well, I agree with Dan that I don't think that it should come under the organic label, and, Michelle, do you have that slide? Can you do that? I think that it's not our -- I agree it's not our role to tell them how they should label it, but they should know that there's another umbrella they could create, that we're not going to just kick them out in the street. They can do something.
If you look at this little label that we were able to come up with, I mean, that's outside of organic and they could create their own umbrella, have their own label, and if we could go to the next slide, actually, USDA AMS, you can hardly read that, has a program called process verified program where individuals and organizations can apply to get this system in place.

So they could put their own certification system in place, they could create their own standards, and I think that would be a way that they could feel comfortable that they have a place to go if they're not in the organic home.

But back to the proposal, I'm in favor of voting for it today. I think that on the continuum, the container discussion document allows us, if we vote for this and turn it down, the container discussion document gives us plenty of space to pull in those gray areas if we need to. Thank you.

MS. SONNABEND: Okay. Tracy was next,
and then Tom, and then Ashley, and then Harriet.

CHAIR FAVRE: I want to speak to Dan's comments about, sort of, the mechanics of the process. I think when we first started this process, even before the proposal was written and we had conversations in the Crop Subcommittee, and as Chair, I sit in on all those calls, I think the will of the subcommittee was pretty clear.

The proposal, and particularly the motion itself, is very troubling to me. I agree with Carmella's comments, I am not comfortable voting for or against a definition that has not been made yet. And so that's my personal opinion, but the mechanics of it are -- and this speaks to Emily and Francis' comments about wanting to vote it through, if we vote it through, let's say we vote today and we reject the proposal, it fails, there is no recommendation going to the program.

If we vote for it, it simply means that there's going to be future work. It seems to me that -- and I'm loath to say this because I want be here to work on it, this is my last Board meeting,
so I would prefer to see it go back to subcommittee,
I would really like to thrash out the mechanics of
it and the definitions, and get everybody
comfortable, open it up for further discussion, and
have a very well-crafted clean document that
conveys our philosophical positions as well as some
practical recommendations for the program to make
rulemaking.

I feel as though, candidly, we've
failed in our task, regardless of whether we vote
for or against this proposal, of giving them clear
recommendation and guidance that they can then use
to go forward with rulemaking.

VICE CHAIR CHAPMAN: So my biggest
concern with this proposal as it's stated is, I
don't understand what I'm voting on. And that's
really the root of my uneasiness. So for those of
you who want to move this proposal forward now,
which, I'm looking, I guess, in the directions of
Emily and Francis, the task force came out with five
production systems. They were labeled A, B, C, D,
and E. We can pull out the task force report if
we need to, but it's not clear to me where those
five fit in under this proposal.

Can I seek my time to you guys to answer
that?

MR. THICKE: Which five items are you
speaking about?

VICE CHAIR CHAPMAN: There was five
different types of production systems that were
reviewed and outlined by the task force.

MR. THICKE: Well, in my view, we
defined in the motion, bioponics, including
hydroponics, aeroponics, and aquaponics, and we do
define them in our thing, so they are defined in
our glossary, and those are the ones we're defining
as not production systems that we want to move
forward with.

Now, we may have to go back, we probably
will, it's not like it's off the table if we vote
this down, we could go back and we could be more
specific about what we do want in the future.

VICE CHAIR CHAPMAN: It seemed to me
there was a lot of overlap between that and the
definition of container production as well. I couldn't, myself, understand a difference between what was defined in those. Like, they weren't discreet buckets.

MS. OAKLEY: I think that's why we have the discussion document. I mean, Zea can speak to this as well because she's the person who crafted both of these documents originally, and I'll just speak to the fact that when we worked on this in subcommittee, and I know Harold can probably -- this addresses some of what he said as well, when we were presented with this committee vote and the motion worded the way it was, we all thought that we were voting in opposition to hydroponics and that action could then be taken on that.

So I know some of us were surprised to learn that that was not necessarily the case, and the reason for the container discussion document was to allow us to elaborate further out what that might mean. And I don't think that voting on this now precludes, given the fact that Miles has stated that it's unlikely that they will take this and form
this into regulation, voting on it today because we can send a message of where we're headed.

Clearly, based on Miles' comments, we have more work to do regardless of what we do today, but I don't think voting on this stops where we're headed. And I think that any confusion over terms and containers, et cetera, can be fleshed out in the future.

MS. SONNABEND: Ashley.

MS. SWAFFAR: Okay. So you know this one's a tough one for me, so I don't particularly agree that the giant hydroponic industrial photos that we've seen from some public commenters, you know, should be allowed in organic production, but I do feel that some levels of containers should be allowed, and I'm just not comfortable voting on a motion that says that we're allowing or not allowing a certain type of production under the provisions and recommendations to be developed by the NOSB in 2017.

I'm not comfortable saying that just because I look at other huge bodies of work that
this Board has done and if we would have done the same thing in animal welfare, you know, look at this giant things, I just don't see where it would -- you would have gotten anybody to vote on that either.

You know, I think this is a huge issue and I'm not comfortable voting on something that's not yet been developed, so that's my point.

MS. SONNABEND: Harriet was next and then Scott.

MS. BEHAR: Okay. So I stand with that and I think there's a little bit of a misnomer about whether it's organic production or whether it should have the privilege of carrying the organic label. That's because we have seen that the national organic program has at least interpret our regulation that hydroponic using acceptable inputs is organic production.

But our law is a labeling law and truthfully, does it meet all aspects of the law? And is hydroponic just input substitution, which is what I think it is, and that's not, any of us
that have been organic inspectors, we know that
that's really the weakest organic operation we can
go on, is one that just changes a conventional input
for an organic approved one.

And then that we're always pushing
people, right, to approach things from a
systems-based viewpoint, and that, truthfully, the
most sustainable organic production systems, and
those that are privileged to carry the organic
label, are those that rely very little on inputs;
their own seed, recycling their own nutrients, and
of course, in the upper Midwest, we see this all
the time, trying to encourage people to bring
livestock back on the farm. All of those things.

And so I can go -- I had a whole little
speech, but I don't think I need to. I think I've
said where I stand and where I think we need to go.
So I want to talk to Dan's pragmatic point.

I think it's extremely important that
we send a message where we stand, I know there's
been some discussion how to do that, that we, as
a Board, do not feel that input substitution has
the privilege of carrying the organic label, that really looking in a holistic way and that we are not giving up on soil-based agriculture, that we need to be working on systems that are not just not degrading the environment, that are not just environmentally benign, but we need, we must, and organic is the promise of environmentally beneficial, that we are actively turning around the system.

It's in the hope of organic where we can mitigate climate change. We don't mitigate climate change with hydroponic systems, so this is a loftier goal where I think all of the pro soil-based people are coming from.

And I'm also concerned that if we don't send a strong decision out to the public on both sides, that hydroponic people will continue to invest in huge factory, industrial operations, that are huge investments, with the promise of the privilege of carrying the organic label.

And those in soil-based agriculture will be frustrated and say, I cannot compete...
because this is a year-round, right, we know grocery retailers, they want to buy year round, it's a pain in the next to deal with this little guy, and that little guy, and so we are then, in a way, promoting the industrial model of agriculture to carry the organic label, and that would actually stifle people from either going into soil-based organic production or going the extra mile, as we all know it is, to carry the organic label.

So I would like to vote with a secondary resolution that makes it clear that we are going to continue working on this, that our plan is to work closely with the NOP in developing something that gives him, Miles or whoever's sitting in his seat, the tools that they need to make it clear, and I am actually not so sure that we need that much of a regulatory change because it's been an interpretation of the NOP that has allowed the hydroponic to proliferate without really having a standard behind it that justifies that organic label.
MS. SONNABEND: Thank you. Scott was next and then I'm going to call on myself. Oh, and then Tom. Well, do you want to go before me? Oh, all right. Well, Scott, and then you, and then me.

MR. RICE: Thank you. I share some of the sentiments of my fellow Board Members here of just not being certain of what I'm voting on here. I think, you know, I started my experience in organic production on a small farm, moving to a teaching farm that was based in the soil, but I also worked with young folks that were innovating and trying new things on that farm that both included that soil and included hydroponic types of operations of many kinds.

And I hesitate voting on something that doesn't allow for some sort of middle road that permits that innovation in a way that honors the organic principles that we all hold dear. And as a certifier, you know, it's hard to vote on something that says it'll be developed later and doesn't have, sort of, careful, thoughtful, clear parameters. That's difficult for us to work with
and certainly difficult for organic producers to work with.

And so it's hard for me to then support this without some greater definition of it.

MS. SONNABEND: Tom.

VICE CHAIR CHAPMAN: So Harriet said that the rulemaking process could be quite easy and Miles' comment that rulemaking would be necessary. I was wondering if Miles could go a little bit more into what the rulemaking process is; the steps it would have to go through?

MR. MCEVOY: Sure. Well, from our perspective, this seems like it would be a significant rulemaking action, that there'd be quite a bit of work that would need to be done to really define and have an enforceable standard of what is allowable in organic production. It's not as simple as just saying it's soil-based. It's like, okay, what is soil? How much soil?

You know, the container piece of it, we want to resolve and provide standards in this area as quickly as possible, but this is complicated.
I think we've learned that over the last year, that it's not an easy fix. So rulemaking involves developing the proposed rule. There's a lot of different elements of that.

There's the regulatory text, is the easiest part of that, and then you have to justify why the rule is written in a certain way, and then this, I would imagine, the Office of Management and Budget would consider this a significant rulemaking action, and so then we have to do the cost-benefit analysis, which is called a regulatory impact analysis, and Regulatory Flexibility Act, which has to do with the Small Business Administration in making sure that it doesn't adversely disproportionately affect small businesses.

There's the civil rights impact analysis that's also conducted as part of the rulemaking process, so it takes a fair amount of time to develop the proposed rule, the regulatory text, the preamble, the regulations, and all the additional components. It then goes through
various stages of clearance, first is with the Office of General Counsel, next it goes through departmental clearance, which involves the Office of Tribal Relations, the Civil Rights Office, the Office of the Chief Economist, the Office of Budget and Planning Analysis.

And then when that is complete, then it goes over to the Office of Management and Budget, the Office of Information and Regulatory Affairs for interagency -- yes. Yes. It's a lot of fun. It's a long process, but it's a very important thing that we do. There's a lot of different areas of the organic standards that need to have the standards more clarified and it needs to be in the regulatory text because guidance is not going to get us to where we want to go on this particular topic.

We can't use guidance to enforce the regulations, the regulations are the only thing that are really enforceable. Guidance provides us with information of how to comply, but not the regulatory ability to take enforcement action.
So that's a brief overview of getting a proposed rule out. We also, you know, one thing to keep in mind, there's a new administration coming in, this is a significant -- I mean, it's quite a controversial topic, there's a lot of interest from Congress on this particular topic, the new administration's going to take a while to get settled in, there's no way that AMS is going to be able to move forward through the departmental clearance process until we would have clarification from the new administration in terms of their priorities.

MS. SONNABEND: Okay. I had called on myself next, and then Lisa, and then Jean. Okay. This is my personal statement regarding this. We heard, really, all kinds of things raised in public comment, soil is only one factor in our deliberations, but the soil is the most important component. The water is only one factor. The water is the most important component. The microbes are one factor. The microbes are the most important component.
The inputs are only one factor. The inputs are the most important component, et cetera. Zeroing in on core principles of organic leads me to recognize that all these things are important and more. Organic farming involves working with nature and nature cannot be controlled easily.

Organic soil farmers face the significant challenges of the natural world by working within natural systems of soil, water, climate, pests, diseases, and other environmental stresses to provide crops that have co-evolved in harmony with the natural world.

Now, I'm not an agrarian elder, but I am getting elderly by the minute, this has, maybe, accelerated that. And so I believe that controlled environmental agriculture is designed to remove the unpredictable side of the natural world by controlling as many of the factors above as possible and maximize crop production.

It's therefore an inherently artificial environment. For those who currently use organic inputs and develop microbial systems
to provide nutrition, it's admirable in its technological approach to providing healthy food with significant reduction in water use, more efficient use of some resources, and ability to be reproducible on small scales, and in a wide variety of locations.

And I want to emphasize this again, this is not an issue of scale. We heard from very small hydroponic producers, and of course, we know there are all sizes of crop producers. Elimination of the natural forces that influence co-evolution is not working in co-harmony with nature.

It's true that the natural world is becoming more contaminated and there are many threats to organic integrity out there, however, it's the premise of organic farming to work within that environment to prove the soil, and through that, improvement to improve the crops.

The concept of improvement is really missing from this hydroponic discussion. Now, the concept of improvement, as Miles stated on the seed issue, is questionable in the whole of the
regulations, but that's maybe something that needs
to be looked at further because I think every single
organic farmer out there -- well, once again, that
is an over-generalization, some don't try to
improve anything, but most of them do seek to
improve their systems in whatever way they think
is right.

So I certainly have no desire to put
anyone out of business and sincerely hope that
whatever position we can take now and in the future
will be implemented in such a way that the effected
parties can take whatever steps they need to to
align with whatever regulations evolve. If this
means trying to adopt a seal, such as Francis
suggested, with the processed-based verification,
then that's a good way.

I think the notification has to happen
soon so that that is the direction we're headed so
we're not putting people out of business and we're
giving them the chance, if they're in a liquid
substrate system in particular, to promote
themselves, and their own qualities, and their own
objectives in their own right.

I do think that the seeking a new label is something that, at least we on the current makeup of the Crops Committee, and possibly the whole NOSB, feel is beyond our ability to request in the existing regulations and so that it has to be pursued outside of the NOP regulations.

So we're going to -- procedurally, however, I apologize because I think that our best efforts have failed in trying to achieve in what we wanted to achieve in setting up the proposal. I did my best at what I could figure out to do at the time. Perhaps it was a little rushed. I'm completely torn between sending the clear message now is far better than waiting to send that same clear message later on.

And so I really would like us to send some clear message now, either through resolution or through voting on the motion, and I think I'm going to have to abstain on whether to send the motion back to the committee. Thank you. Lisa was next.
MS. DE LIMA: So like Dan, I have a hard
time with this one and I still don't really know
where I stand. I know that when I started in
organics 20-something years ago it was because I
thought it was the largest way that I, as an
individual, and that society as a whole could have
a positive impact on organics.

And as things -- so I tend to want to
stick to that ideal, but, you know, Harriet talked
about, in organics, and Zea talked about the
wanting to improve things, that this is the best
way to go about it, but then I'm also torn from,
sort of, being a, I don't know, would it be a
pragmatic or a realist environmentalist as to
what's really going on out there in the world.

Now I'm not saying that I want to
consider every alternative system, but I guess I'm
not ready at this point to rule, like, make a
blanket statement and rule them all out if there's
something out there that we think is compatible and
that could help us in some select situations, like
urban farming and making organics available to more
people.

So I'm super torn, but not ready to so
no to everything.

MS. SONNABEND: I think Jean was next
and then Harold.

MS. RICHARDSON: I'm from Vermont, you
know, so it's always a challenge, since I know Pat
Leahy quite well, so soil is the foundation, and
that's really where I come from. I'm looking for
consensus to see if there's anything around this
Board amongst the 15 of us that we can move forward
to send the appropriate type of message to the NOP
at the present time.

I don't think that this motion does it
for me for a number of reasons, not just, as Lisa
was saying, is that maybe there's something in some
of those hydroponics things that are okay. I
personally wouldn't want to see us have the organic
label on that lovely lettuce over there that was
grown 100 percent in a liquid and maybe we could
find consensus around 100 percent non-liquid as
being -- non-water-based, or whatever the material
is that they're growing in. Maybe that would be an area for consensus.

I think the aquaponics, as we've heard this week and in some of the written material, public comment, does have to be looked at differently and pulled out because it is a different system. It's a closed system. I would rather see us see if we could work on a resolution that would give us a consensus basis to send a message.

Obviously, this is going to go to the subcommittee regardless of what we do, whether we vote up this motion or not, back to the subcommittee. It's going to go on in subcommittee where they're going to have a great deal of work to do over the next few months.

And I certainly would agree with Francis that the idea of those fabulous systems that they've invented out there should have their own clear label because they're very worthwhile and amazing systems that allow high-quality foods to be available to a broad population and in urban
areas. They have their, you know, amazing points and I was very impressed with so many of those presentations.

So they shouldn't be discounted, it's just that I'm not sure that they should be labeled as being organic, but they should have their own separate label, or whatever it's called, a seal, a different type of seal, so I personally, I would have to abstain on this motion the way it's written because I don't want to vote on something that then says based on what's going to be developed in 2017 when I don't really have much of an idea of what that's going to be, and it may have kept some things, or thrown out some things, I can't vote on that.

So I would rather see us have a resolution and I know we have one that's floating around amongst us that we've been thinking about for the last day or two.

MS. SONNABEND: Harold.

MR. AUSTIN: Okay. I won't belabor this too much longer, but I've grown-up in farming
my entire life, so I know what it takes to take and
nurture the soil to take and get our crops to
produce what they need to do. I'm 100 percent
behind that. I mean, I've done that, I've worked
with growers, and I know what it takes. I know what
our guys take to take and get our crops, especially
our organic crops, because of the obstacles and the
challenges that we have.

It's difficult. It takes a lot of
time. It takes a lot of energy. But I also know
how aggressively progressive our growers are. You
put a challenge in front of a grower, especially
an organic grower, and they're going to find a way
to accomplish the next to impossible task.
They're innovative.

Just like Henry Ford, you know, when
we'd be driving a 1928 Model A, look what we're
driving today. Things develop. Things evolve.
Things change. Organic's no different. The
forefathers that developed the organics principles
were revolutionaries. Those that are a part of
this industry today are revolutionaries, and we
continue to be, whether you're soil-based or
whether you're looking at other options.

The cost of acreage today, when I was
a kid growing up, you could have bought, in our
area, an acre of ground for $500. You got out now,
you're going to spend $20,000 and you're still
going to have to do all the necessary improvements.
Urban sprawl's taken away valuable farm ground.

So you look at some of the new
innovative technologies and the things that these
people are doing to try to provide a sustainable
product to the consumer. Populations are
continuing to grow. Let's not stymie the
forethought and the outward thinking that these
revolutionaries that call themselves organic are
all about.

I think we should embrace it. Maybe we
don't want to accept all of the processes that
they're bringing forth, maybe we want to bring some
of them, I think we've got an overlap between the
bioponics discussion and proposal that we're
looking at as well as the container discussions.
I think we've seen within the public testimony that there's confusion.

So I think we need to do the due diligence, not only for the program, to give them solid defined definitions on what we're anticipating, what these things look like, and what they should be basing their rules and regulations upon, but I also think that we owe it to our organic stakeholders to take and send a clear message and give them the opportunity.

And I think right now, if we were to move forward with this, it's too fast. We didn't get the information back until mid-summer. We really truly haven't digested it and we sure in the hell haven't digested all of the comments that have come in from the different perspectives and the different possibilities.

We know the languages don't hold to be the same, the definitions, in the different certifying bodies around the world. We need to clarify this. We need to put these things together. We need to step back, take a hard look
at where we really truly want to go, and then let's
go there, embrace, and let's do it together. Let's
not have the division, let's not have the
divisiveness, we're better than that, but we need
to do it and we need to do it right.

Having said that, I would like to make
a motion to refer this back to the subcommittee for
further work and further review.

MS. SONNABEND: Is there a second?

MS. SWAFFAR: I'll second.

MS. SONNABEND: More discussion
focused on that motion. Oh, Emily.

MS. OAKLEY: Well, I known Zea invited
everyone to join our subcommittee calls when we
were discussing this and a couple of people took
the CS committee up on that, but I want to say that
if you all -- you are essentially saying you're
going to come into our subcommittee calls and work
on this issue, because we did work on it, and we
did spend, what I believe was, our due diligence,
and we didn't get any indication until this meeting
that the rest of the Board didn't agree with what
we'd done.

So I think you're putting the shoulder of responsibility on yourselves as well to assist us in this process. I also just want to say, you take a risk when you're the first person to speak. If you're going to blow your thunder at the beginning or save it for the end.

I just want to say that I feel like I'm probably one of the few people on this Board that is going to hear from the smaller scale farmers and the pioneers of this movement more than, maybe, the rest of the Board will hear, so I just ask you to consider that, and I might be passing some of their comments on to you so that I don't feel like the sole ear for those comments and everyone else can understand that important perspective.

MS. SONNABEND: Don't forget there are five new Board Members we could foist it off on. Dan was next and then Harriet.

MR. SEITZ: So I wish we were in a place where we could send a clear message that this Board does not consider what you might call pure
hydroponic to be acceptable under the organic label
and I really like the distinction that Harriet made
that it isn't technically whether something's
organic but it's really about the privilege of
carrying the organic label.

My concern if this is not sent back to
subcommittee is that we have heard that there
really is a genuine split on this Board, as Harold
pointed out, and we may actually, we who want to
send a strong message, be risking that this motion
would actually pass, which would be the opposite
of what would serve that goal that a number of us
have of, excuse the pun, containing this new
production method in a way that is clear to
consumers and clear, and in line with the spirit
and the letter of the law.

So I'm wondering whether now it really
might be the most pragmatic thing, even though,
again, I would like to send a pure strong message
that by sending it back to subcommittee, we don't
risk actually, potentially, having a worse outcome
of this motion potentially passing. And I just
can't read my fellow Board Members well enough right now to know whether that might be a possibility.

MS. SONNABEND: We have a mostly formed resolution that we can put on the floor for discussion after this vote is taken, and I think while it's been going around in email, I think we're pretty close to agreement on it, and that could be entertained after we deal with the initial motion, so that if it does go back to subcommittee, or for that matter, even if it fails, we can have the resolution to go along with it.

And a resolution, it'd be nice if it was unanimous, and we can talk about it to see if we can get unanimity, but even if it's not, we can still vote on it and majority would carry it, right? Okay. Harriet was next.

MS. BEHAR: So I think the strongest message would be to vote down the resolution. That said, I don't think actually whether we vote it up or down, or sideways, it would make any difference because we've heard from the NOP that they can't
really move forward with anything.

So it's really, in my mind, mostly the message, that I don't want new hydroponic operations to move forward on what I feel is pretty thin ice, frozen hydro, and I don't want new soil-based operations to feel marginalized in where they should feel most embraced.

So I am probably not going to vote to send it back to subcommittee, but I'm probably assuming that the entire Board, there'll probably be a majority that will vote it back, and I'm offering -- I know Jesse has offered to be the lead and I'm offering to work with you, Jesse, to try to put some regulatory language together based on all the public comments and to keep informed, the rest of the Board while we are working, so when we come to the next meeting, everyone will be onboard, there won't be any confusion about what we're trying to say, and I hope that will be a message, that there is a way forward.

Of course, we don't know how long that trip will take, but I do think that -- well, I guess
I've said what I said.

MS. SONNABEND: Point of order. At this point, I'll be calling you in a second, can we vote this motion now? If the motion doesn't pass to send it back to committee, can we vote the original motion in the Board, then take lunch, then come back after lunch with the resolution so we have time to get it to Michelle, and get it up on the screen, and then discuss that motion, either right after lunch or later in the deferred motions portion?

CHAIR FAVRE: Yes, it's my intent for us to take a vote on this issue before we go to lunch and then we will have an opportunity to thrash out the details and if we so choose, bring it back immediately. If we need more time, we do have that sloppy spot in the schedule a little bit later for deferred votes.

MS. SONNABEND: Discussing the motion to send it back to committee and then we'll vote on that, and then if we need to, we'll discuss the full motion. Jean.
MS. RICHARDSON: Yes, I would support having it go back to the subcommittee. I sort of agree with the original intent of the way in which the motion was developed in subcommittee. I'm not on the Crop Subcommittee, but I did sit in on the, I think, probably, all of the discussions that were had on hydroponics in the subcommittee.

I think that we didn't really -- we rushed the task force. I mean, the papers that they wrote, I wouldn't really give them a terribly high grade, actually, that came out of the task force. They did need more time, it turned out, I wished they'd don't it faster, but they were slow, and there wasn't -- since, you know, we pushed them to get as fast as we could for very logical reasons, so that those of us going off the Board could have had the opportunity to at least begin to clarify the issues and move them on for the necessary detail to make rulemaking work.

And we've certainly found, in looking at the task force report, and I read all of that, and attached documents, that we still didn't really
have enough detail and information necessary for us to make the high level of professional decision making that we really owe it to all the people and all the stakeholders out there, whether they're in hydroponics or in solid soil-based farming.

So I think that the time is necessary for us to do a much better job. We also heard some really eloquent presentations from all sides here at this meeting, and we need time to be able to absorb that information in order to do our due diligence in really having a high-quality document coming out of the subcommittee next fall.

And it's a great disappointment to me that it is taking so long, but I think it's better for us to be on time at the right place. And so I think that we should send it back to subcommittee, and as I said earlier, I would have to abstain on the present motion the way it's set.

And I did, as you probably recall, Emily, express my concern on this recommendation to be developed -- making our decisions based on provisions and recommendations to be developed
next year. I still find that a very weird way to do things. Okay. So that's my bit.

MS. OAKLEY: I just have a question.

So I understand that Jean and Ashley have both expressed a concern regarding this motion being premised on provisions to be developed in the consecutive year. Are there other specific comments and problems that people have that they want to see addressed? Because I'm not hearing a tremendous amount of detail that would give us guidance that needs clarification.

So before you vote to send it back, I think we need to hear some of the very specific problems that you feel exist with it.

CHAIR FAVRE: I actually think I've heard quite a few specific concerns. In my case, I'm not clear on where we draw the line, if there is a line to be drawn, in that spectrum between pure water to container with heavy percent of organic ingredients. So I think we need more clarity around what would be acceptable in that spectrum of production, if any of it, and if it's none of
it, I think we need to say categorically, no form of what is currently being called hydroponics is acceptable.

That is predicated on having very clear definitions of where those spectrum points exist. I also think we need very clear mandate from the subcommittee, or language back from the subcommittee, on what constitutes a container. The discussion document, I think, is a great effort and when I said earlier that I felt we failed in our task, that is not to denigrate the work that has been done.

I think this was a Herculean job that the subcommittee did, and, Zea, you were an incredible workhorse on getting that done. I think I have deep concerns about the timeframe as well, I think it was rushed. I know that I didn't get to fully digest the task force report and I was terribly disappointed in the results of the task force report.

I feel like they should have been locked in a room and said, you're not leaving here until
you give us some feedback on where you have consensus, instead, they took their toys out of the sandbox, and went and pouted in different corners, so I'm sure I'm going to hear that.

MS. SONNABEND: There is absolutely no consensus to be had.

CHAIR FAVRE: Yes, there was absolutely no consensus.

MS. SONNABEND: And no amount of them staying in a room together, except for termination of life, would have changed that.

CHAIR FAVRE: Well, that could have probably been arranged. So having said that, I just feel as though we need more clarity around those specific things. I think we need some further in-depth detail about containers and, you know, I think we do have consensus on certain things on this Board and I would like to see that further articulated in anything that comes forward.

MS. SONNABEND: Before I call on Francis, Emily, one of the other things that I heard brought up a couple times is that aquaponics should
be separated out from the proposal as being the closed-loop system. Okay. Francis.

MR. THICKE: Well, as far as the motion, the way we understood it in the Crops Committee, you can tell me if I'm wrong, is that a yes vote means we will go ahead and develop provisions and recommendations. A no vote means we will not. And so it's not like if we vote no, we don't know what we're doing, or if we vote yes we don't know -- I mean, if we vote yes, we're voting that we're going to make recommendations for a provision, if we vote no, we're not going to do that, and then we assume that that means that no on hydroponics.

So it was clear to us then, I think. And as far as the thing about definitions, we have the line drawn in that motion. We have the definitions of those items in there. And so I don't see that's a problem myself, but I can see where the votes are, so I'm not going to belabor it.

But the only thing I want to mention is
that I'm worried about kicking the can down the road is that we'll get another generation of new hydroponics coming and then we'll have to deal with that too.

MS. SONNABEND: Did I skip over you, Dan? Okay. Thank you. Carmella.

MS. BECK: I'm trying to keep track of my thoughts here. In terms of kicking the can down the road, I think that certification bodies have done a really good job. I can't speak -- I've seen notifications from a handful of them that have references that this is a current hot topic. I've seen it in certification letters and it says, you know, keep in mind that this is a hot topic at the NOP and you should know that at some point there could be changes.

So what I'm saying is that certifiers are following this very closely and I think they've been communicating to their impacted growers that there could be changes that may take place, which would be helpful in the decision making of whether or not they're going to do future investments. So
that's just one thing, I think, that is important to keep in mind.

And then, Emily, with regards to your question about what's missing, I think Miles outlined some of the items and if you look at Page 2 of the actual proposal, the hydroponic/aquaponic proposal, the last, you know, healthy chunk is dedicated to the information that's missing.

And so, you know, this is what we decided not to necessarily go into heavy detail on when we issued the proposal because we understood that the will of the subcommittee was not to move it forward, so it's pretty comprehensive, and it is paraphrased, and so, you know, we can probably go to the original document and find precisely what's needed.

MS. SWAFFAR: So one other things, Emily, I would like to see is, if this gets sent back to subcommittee and you bring it forward at a future meeting, I would like to see the container document brought forward at the same time as the proposal. Yes.
MS. SONNABEND: So I think we need to call a question and we're all getting hungry, and therefore, a little groggy, and so we could vote on sending it back to the committee and then see what our next step is, which might be towards lunch.

CHAIR FAVRE: Okay. Is it the will of this Board that we will proceed with the motion to send it back? Okay. So let's see, where did we leave off voting? Scott. You have the dubious distinction of beginning the vote on, this is the motion to send this proposal back to subcommittee for further consideration.

MR. RICE: While Dan may have preferred the vote that he had, I get this one. Yes, I move to send this back to subcommittee.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.
VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes, with a caveat, which is, I hope that we see a resolution coming out after lunch that makes a strong statement on behalf of the points made by a number of us.

MS. RICHARDSON: I agree with Dan.

MS. BEHAR: No, but I'll work on it.

MS. SONNABEND: Abstain.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: That's 10 yes, 3 no, 1 abstain, 1 absent, the motion passes.

CHAIR FAVRE: Okay. I appreciate everybody's patience. I'm actually proud of the way that we handled this. I know that there's lots of strong feelings about this and I think the good news is, I do believe we're going to have a resolution that will be able to present a united clear message going forward.

At this time, it's 1:15, and I'd like everybody back here at 2:30, please. Thank you. We'll pick back up where we left off.

(Whereupon, the above-entitled matter
went off the record at 1:13 p.m. and resumed at 2:32 p.m.)

CHAIR FAVRE: Okay, folks. I hope everybody got caffeinated, and energized, and fed, topped up, whatever. We are going to re-commence with the discussion around a possible Board resolution. We're working on it. It'll come to you as soon as possible. Zea, as Crops Subcommittee Chair, do you want to start the conversation off?

(Off mic comments.)

CHAIR FAVRE: Okay. Then I'll at least speak to it philosophically. So when we first started floating the idea of a Board resolution when we thought there might be a chance that this proposal for hydroponics was going to go back to subcommittee, at least my intent behind the resolution was to find consensus on those items that we could all agree on, and one, to bring the Board together so that we had a unified message going forward.

I think we're actually,
philosophically, we have some differences of opinion, but there are things that we have common ground on and I wanted to make sure that was conveyed, not only to future Board, but as well as to our stakeholders in the audience and in the official public record.

And so what we've done is, we worked really hard to try to state, philosophically, what our position is on hydroponics, recognizing, at least in my case, in my cohorts that are going out after this meeting, we won't have a voice in the future discussions except through public comment, and we wanted to have a chance to leave a legacy of our philosophical position for the future Board to work on.

There have been plenty of times in my tenure on the Board, particularly, I know, around sunset, for instance, when we were doing sunset analysis, when we're going back and looking at documents from a long time ago, sometimes the nuance of the philosophical positions are not always captured, and so we don't always know and...
we don't have a breadcrumb trail, if you will, to follow.

And if those of you that were here in the past, I felt very strongly, for instance, what we call the aquaculture legacy document, we needed to leave some sort of philosophical breadcrumb trail behind us as we go forward, and that's what we're attempting to do here.

And so with that, I'm going to turn it over to Zea for any further discussion.

MS. SONNABEND: Well, so I think it's fine if we just go into the discussion document on containers to mostly show what our first future workload will involve and then come back to the areas where we have common resolution.

So, you know, one of the things, clearly, about sending it back to committee is it means that we have not adopted any definitions and we tried to put the same definitions in both documents, but what we want to -- where we're trying to get to, and I think I said this at the outset, in first considering how we could deal with it, we
had the whole continuum of, you know, dig up some ground and put it in a pot, and add some compost, and then you have a container, and is that okay for growing plants in?

And then all the possible nuances in-between that and growing in totally liquid. So my intent from the very beginning was to limited this discussion to solid substrate containers. That was somewhat of a mouthful to put in the title, but I thought it made it clear in the first paragraph, and that is still our intention, is to proceed with discussion on whether some parameters can be reached for what the constituents would be of solid substrate in containers.

This is a particular gray area from the 2010 recommendation because the recommendation says it must be in a compost-based system, but does compost-based mean 20 percent compost, 100 percent compost, 50 percent compost, and it even -- there was a component of it where the Board at that time said, we determined that compost is equivalent to soil in these systems.
Well, that was challenged by several public commenters saying compost is not equivalent to soil and you need to take another look at that. So there definitely are quite a few issues unresolved and this was just throwing it all out there, along with citing some portions of the task force report where they talked about these issues and also, some other standards from a few countries, such as Canada and Sweden, who do have standards for container production.

So basically, we sorted it out into -- the first portion was to make it clear what would be covered by this particular thing. And because this was only discussion and not a position thing, but it was never our intention for sprouts or seedling transplants of annual crops to be prohibited.

And I think everybody agrees with that and that is one of the areas we have consensus. Second, we try to make it clear that mushrooms and other things that don't naturally grown in soil would need their own set of standards and so would
not necessarily be covered by that.

Wild aquatic plants are covered in the wild crop section, but cultivated aquatic plants are a gray area, but they're kind of outside the scope of this exact document, and there are seaweeds that are being certified, I believe, from farm situations, although I'm not totally sure about that.

But anyway, we're not probably going to get that far because that's a non-container environment, but might be okay for certification. So what are the considerations besides what is in the scope and what is out of the scope of this document?

Well, obviously, land considerations is a key one. Land considerations have to do with the land underneath where a container system might be growing and we recognize that container systems encompass everything from a rooftop garden, for instance, where you built raised beds on a roof and then bring actual soil up there, and then maybe amend the soil with compost and other additives,
but you're still on soil that is not touching the
Earth's crust, and so we would consider that a
container of sorts.

Greenhouses, where they have to dig out
the soil and put an impermeable layer between that
and the Earth for various reasons, and then put the
soil back in, that is then considered a container.
And there's everything on down the line to, you
know, individual tiny plugs where the roots are in
this tiny plug and then the rest of the root is in
water and that gets much closer to the pure
water-based system.

And so there's every single thing
in-between that, and we saw pictures of a lot of
them since we've been here.

So we're going to have to decide to draw
the line and unlike this morning where the line is
drawn, the line is not yet drawn here, but we're
going to consider whether, like, if you're having
a rooftop garden, whether the soil would have to
be three years away from prohibited materials, just
like it is on the land, whether land that has a pot
put on top of it or that underlying land has to have three years.

And also, the effect on natural resources, and so how are you meeting the natural resources clause in the rule that includes bio-diversity, the effect on wildlife, and all of those other components, because those, of course, are a very important part of an organic system plan.

Rotations is another aspect. Rotations, right now, there are a number of cropping systems that are allowed to have a modified version of rotation to achieve the same goals as a physical rotation. Perennial orchid systems, for instance, have a rotation that usually involves cover cropping and hedgerows to attract beneficial insects and things like that, and how would that look in a container situation?

We got quite a lot of comments back that just changing the growing media consisted of a rotation. We haven't talked about any of these in any level of detail yet and, you know, while some members of the subcommittee may already have a
position one way or another, I think most of us do not have an exact position of where that line is going to be drawn to prohibit all the containers, even the ones that contain soil.

Okay. Then of course, container size and growing media are issues and I go into different ways that people are trying to assess what size of container is appropriate and the characteristics of growing media.

The Canadians have done more work on this than us, but they don't grow as wide a range of crops in containers as we seem to, and so their standards alone would not be sufficient. We have to continue taking more looks at it.

The of course, there's the issue of nutrition and nutrition involves not only the source of the fertility, but how that nutrition finds its way into the plant. This is often the crux of the dissension, whether it's from liquids, whether there's microbes, whether there isn't microbes, and I very purposely did not make microbes its own topic because it is very much tied
in with the whole broader concept of nutrition and soil.

So we did hear back quite a bit of comment on, we should have made microbes its own topic because microbes is the distinction or not between these systems. We'll take a look at that. We got some interesting comments on, you know, one of the reasons that microbes isn't its own thing is because measuring what a sufficient diversity or amount of microbes in it is not something that we have very much expertise in and the task force didn't address it particularly.

We got several citations in in public comment of some literature we could read on this subject. We got the suggestion that we setup an expert panel for spring with experts on microbial conversion of mineral nutrition into plants and soils, and that's a possibility of what we could do.

The other issues which I did not address in detail, but we heard a great deal about some of them right now, energy use in sustainability and
then electric and natural lighting. While the
gentleman was talking, a couple people who showed
their warehouses with plants, and I recalled a
recent article from Scientific American about the
hazards from LED lighting, which I circulated to
my fellow Board Members, but there are some very
real issues to consider with lighting sources,
especially when we get into these
highly-artificial environments.

And people brought up some other issues
also, which the subcommittee will have some time
to digest and work further on this no matter what
resolution we adopt, because it is still on the
subcommittee work plan and these things will be
tackled in the future. That's it.

CHAIR FAVRE: Okay. So that leaves us
with the opportunity to discuss the Board
resolution, yes? Yes, Michelle, let's go ahead
and put it up on the screen if you would, please.
Okay. So let me see if I have the latest copy here.
It's kind of hard for me to read that far away.
Okay. So we've been working on this since,
actually, the day before yesterday, I think, just
in case, and here's where we currently stand.

I'm going to read the resolution and
then we are going to open it up for discussion. And
the first thing I want to say is, this resolution
is not intended to say what we specifically on the
issue of soil-less media, whether we do or do not
support soil-less media. Again, this is an
attempt to find where we have common ground, and
there's plenty of discussion on even what the
definition of soil is, and we weren't prepared to
try to hammer that out in the last hour and 15
minutes or so after many months of trying to work
it out.

So this is not all-inclusive and I think
it's important for both sides of folks on this issue
to recognize that there's still lots of work to be
done and lots of details to be worked out, but
here's what the resolution says as it is right now
and then we're going to open it up.

It says, "The National Organic Standards Board brings forward the following
resolution. The NOSB respects the efforts of the former NOSB that led to their 2010 recommendation on terrestrial plants in greenhouses. The NOSB recognizes that the foundation of organic agriculture is based upon a systems approach to producing food in the natural environment which respects the complex dynamic interaction between soil, water, air, sunlight, plants, and animals needed to produce a thriving agro ecosystem.

"At the heart of the organic philosophy is the belief that our responsibilities of good stewardship go beyond the production of healthy foods and includes protection of natural resources, bio-diversity, and the ecosystem services upon which we all depend. We encourage the future NOSB to consider the wider perspective as the Board undertakes the challenges of assessing and defining innovations in agriculture that may or may not be compatible in a system of organic production.

"In the case of the hydroponic, bioponic, aquaponic issue, it is the consensus of
the current members of the NOSB to prohibit hydroponic systems that have an entirely water-based substrate. Although that was the original intent of the proposal before us today, the current proposal, as structured, does not achieve this objective.

"While the NOSB does not believe that the liquid substrate systems should be sold under the USDA organic label, these growers deserve the chance to promote their very own commendable qualities and objectives in their own right."

So that's where we stand right now and I'd like to open this up for discussion. Harriet then Francis.

MS. BEHAR: Just looking at the very last sentence, I'm just wondering if we could add, just make it clear that -- and add the words, with a different label if they so choose. Just to make it clear that it's a different label, or seal, or whatever. To me, it does say that it doesn't deserve the organic label, but I don't know. I'm just looking for clarity.
MS. SONNABEND: Francis and then Emily.

MR. THICKE: I don't think I'm going to be able to support this resolution. It doesn't endorse the 2010 NOSB recommendations. It only wants to take a consensus on prohibiting water-based substrate and that sort of implies that the other ones are -- you know, we're okay with the other ones. I don't see the value of it, frankly.

CHAIR FAVRE: Emily.

MS. OAKLEY: I was wondering if you could clarify to the audience what I heard in the room, that you're trying to send the message to growers who are growing in water, and simply water, like the lettuce next to Michelle, that the NOSB does not -- can agree that that is not allowed, at least agree that that is not allowed.

CHAIR FAVRE: There is a statement in here that says, "It is the consensus to prohibit hydroponic systems that have an entirely water-based substrate." That's what that statement means. Zea and then Harriet.
MS. SONNABEND: I mostly want to point out to Francis that we haven't decided that it needs to go further as a group and so we don't have consensus on that. This is an attempt to find common ground of those areas that we do have consensus on, and so if we can all agree that we should prohibit the water systems, in no way, I think, does it endorse the other systems. I mean, it clearly just says, we are going -- we agree that we're not, you know, in favor of the water systems. We have to send the clear message to the practitioners of those systems that it is time to start pursuing their own label, if that's what it's going to be, and that's why I tend to support the resolution.

CHAIR FAVRE: Yes, go ahead, Francis.

MR. THICKE: I guess, then, I still feel that there's a strong implication. I think anybody who looks at the deliberations probably could assume that water-based systems are not going to be approved. If they can't get that from what we've done so far, we haven't done much, but we had
an opportunity to take a stronger stand and we did
not want to take that, and now we're going to back
off and take a very weak stand, and I think it sends
the wrong message.

CHAIR FAVRE: Harriet, did you have a
comment?

MS. BEHAR: So I just want to make sure,
Francis, that you saw the addition of the may or
may not, because I'm not sure you can see the
screen, and the original one --

MR. THICKE: I did hear that, yes.

MS. BUTLER: Okay. So I am not happy
with this 100 percent either, I'm very concerned
that it's not clear about soil-less systems,
however, I will vote with the majority here because
I feel that it does send not a strong a message,
but it gives the next people on the NOSB an
understanding of maybe not where we're -- of the
consensus where we're at and also the gray areas
where we are not, because there are many on this
board that, and I don't know exactly how many, but
many that would want to find a place for, perhaps,
soil-less, and that's why we can't find that consensus.

And so I think we need to have something, because right now, we have nothing, and so this is a starting place. I think on the public record there's very strong discussion that will help, also, the new people coming on as well as the public, that we do want to work this through, and that we don't want to drag our feet on it.

CHAIR FAVRE: Dan and then Zea.

MR. SEITZ: So for me, this is not a perfect statement, but I can live with it for three reasons. First, that for the point that Harriet just made, that it really absolutely is clear that purely water-based systems are not acceptable. Second, I don't think that the statement does endorse anything short of that. It really leaves that as an open question, so I think you'd have to really read into this something that's not there to say that it does endorse, say, container, or whatever. That leaves an open question.

And then earlier in the statement, it
does reiterate the importance of an integrated system, not one that's based purely on inputs and substitution, so at least the statement embodies that holistic approach that I think so many of us consider to be absolutely at the core of organics.

So again, not perfect, but I feel better than not having a statement and make some strong assertions that may serve us.

MS. SONNABEND: I was next and I just want to point out that if we don't come up with a statement that we can all agree to, then we are left with a motion to send it back to committee with no other statement, and that's a lot weaker message than sending just this statement.

MR. THICKE: I guess I don't see it that way. Sorry.


MR. AUSTIN: Like everything else that we've tried to work on around this topic, we've struggled with trying to find commonality with putting together a resolution, but I think this is probably as defined of a resolution as we're going
to get when we've got 14 different perspectives sitting around the table.

I think we represent all the different factors that evolve to constitute and make what the organic family and the organic community is all about. This isn't perfect and I don't think any side of this debate is going to accept the fact that this is a perfect resolution.

But I think it's a resolution that's been developed from a point of what we can try to at least come together and agree upon to some point of commonality, and send a message, and leave a message for those that are going to follow in our footsteps so that everybody that sees this is going to understand that we have taken at least the first step in trying to resolve this issue.

CHAIR FAVRE: Jean.

MS. RICHARDSON: Yes, I'll just echo, really, the comments that Dan was saying. It's not perfect, I don't think it reflects exactly what anyone of us wants, so to speak, based on the level of information we have right now, but I do think
that compromise is incredibly important, and it does contain, I believe, the essence of what, I think, all of us feel in our hearts as can be captured in there in terms of the ecosystem approach that's being described there.

So I would ask that this be one of those times when you try to compromise, if you will, your most purest of feelings on this and have it be a consensus of all the 14 of us, because I think it's really, really, really important to send forward a message that's capture on paper for the Board starting in January next year when we are, as we all know, going to be in a very different administration.

CHAIR FAVRE: Emily.

MS. OAKLEY: I have a couple of thoughts on this. First is, my hesitation is that this has been crafted in a short amount of time and there was so much hesitation to vote on a proposal that had been given at least more time to be looked over and considered, that I have a very hard time voting in a such a short amount of time on something
without being able to get feedback from the constituents that I represent on how they feel about this position.

I certainly agree and want to take a statement that this Board does not want water pure hydroponics to be allowed and that we don't agree with that, at the same time, my reason for not wanting to vote for this is that when I read it the first time, I read ambiguity.

While it might be clear to everyone here what you all mean, it may not be clear to the people that read it, so if I read it and felt ambiguity, I have concern that others would do the same, so it's going to be hard for me to vote.

My final comment is that if Francis and I are the only two that don't vote in support of it, I certainly don't think the rest of the world is going to wonder, you know, where the Board feels on this position, or how the Board feels on this position, I think they're going to understand that Francis and I would be voting no simply out of concern for the broader potential implications of
voting yes. Does that make sense?

CHAIR FAVRE: Zea.

MS. SONNABEND: I just ask you, Emily, how much ambiguity is there if we don't vote for this and then it just is a motion to go back to the committee?

MS. OAKLEY: Yes, I wish we had discussed that further when we were deliberating this earlier. I feel that, you know, the motion that we had before is that we send back to subcommittee actually said this, in essence, so I mean, I didn't have the confusion with that proposal that others did, so I can't speak to, you know, where you all are coming from, but for me, I felt we were making a similar statement with that proposal.

I feel there's -- if this is, like, the basic form of consensus that we could reach right now, it also leaves me, just to be perfectly frank, disheartened and a little bit concerned about what the future discussion of this is going to mean as we try to hash out all the details since we all have
such nuanced perspectives on what should or shouldn't be allowed.

MS. BEHAR: So what this statement says is the consensus of this Board right now, and the consensus is no pure water, and it leaves everything else up to those of us that will still be here to work on it, and so I'm seeing this somewhat of a poker game. This is the cards we have, there's five cards leaving, we will get five new cards, and we will see what happens from there.

CHAIR FAVRE: I'm okay with that as long as I'm a queen.

MS. BEHAR: So I guess I don't see -- I'm not as disheartened with this statement because at least it gives us a very strong basis, and to me, the ambiguity is where, then, those of us who are staying will have the chance to then convince our current and future Board Members to move forward in the way that we would like them to, but this at least sends a very strong foundation that water-based -- that pure water-based, is not where we want to be.
CHAIR FAVRE: Tom.

VICE CHAIR CHAPMAN: Compared to the points already raised, mine is fairly minor, but if we can't achieve consensus on this statement, but we still want to vote for it, I would want us to remove that word consensus.

CHAIR FAVRE: Francis.

MR. THICKE: On that point, Tom, I was just looking in the dictionary on the online and it says consensus means a majority opinion, so you could do it either way if you want.

CHAIR FAVRE: Jean.

MS. RICHARDSON: Emily and Francis, are there any words that you want to add to this? I mean, are there any words that you would like to see in there that would encourage you to broaden our negotiating pie here so that we can be in a win-win situation?

MS. SONNABEND: Better consensus words, not, you know, really extreme position, because we clearly don't have that as consensus.

MS. OAKLEY: Well, I was going to ask
Francis that question, but I mean, my main concern, beyond that, is just not knowing how this is going to be interpreted by the wider community, and in particular, the community that I feel I represent. So if I support it and I'm met with great disappointment for doing so, then I will not have achieved my objective as a representative of their feelings on this Board.

So it's just something that's come up without the ability to get any other perspective or feedback.

MS. RICHARDSON: But I mean, I represent consumers and there's a million of those that agree or disagree with everything I say every day. That's normality.

MS. OAKLEY: And that's true, and that's a good point, and I would like to discuss with Francis for just a moment.

CHAIR FAVRE: Do we need a huddle moment over there in the corner? Huddle up. In fact, I'll tell you what, we have the option -- let me make this statement, then I'll listen to you,
Francis. We have the option to table this until we have the deferred vote at the end of the day, and so if you guys feel like you want a little bit more time to chew on it, that's fine.

MR. THICKE: Sure, and I could just make one suggestion, you asked if there's anything we could, I would go back to what Harriet had put in earlier after, too, that, prohibit hydroponic systems that have entirely water-based substrate, and here, or are wholly dependent upon liquid fertility inputs. I would be okay if you put that in there.

CHAIR FAVRE: I think we've had some -- let's hash that out. Yes. So what do we think, guys? We want to defer this for a little bit more? Get through the livestock, come back. No pun intended, ruminate on it a little bit. Come on, did nobody get that but me? Okay. All right. Do I have to have a motion to summit that?

All right. So we're going to table this and let's go ahead and we're going to move on in our agenda. We do have that space at the end
of the agenda to come back and discuss this as part of a deferred vote. So, Ashley, are you ready to -- oh, it's PD, I'm sorry, I don't have my agenda open in front of me. I've got all sorts of things piled on it. Okay. Yes.

MS. SWAFFAR: Were we going to discuss the container document at all or just -- Zea presented it, but we didn't have any discussion on the container document.

CHAIR FAVRE: Do you feel as though there's more need for discussion on containers?

Okay. All right. Well, let's do it now before we move on then, before we move on to PDS, let's go ahead. You had a comment on the -- sure. Carmella has a comment on the container production.

MS. BECK: All right. Let's get to this statement here. All right. So it's not going to be new information, but currently, NOP-certified container production growers have relied on the NOP regulation and the 2010 production standards for terrestrial plants in containers and enclosures proposal as the basis for
their certification.

Organic container production growers consider themselves to be legitimate organic farmers. They have applied for and obtained organic certification by an NOP-accredited organic certification agent.

They, like all certified organic farmers, adhere to the organic production definition as stated, a production system that is managed in accordance with the act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve bio-diversity.

Since substantive public comment was submitted that addressed the Crop Subcommittee question regarding container size, amount of compost, or soil, and growing media, liquid versus solid, nutrition sources, and varying requirements for different crop types. The farmers who submitted detailed feedback offered to provide
ongoing support and data to the Board when requested.

I'd encourage the Board to consider these farmers as a resource for additional information in the future. There will more likely be a need to request information from a broader swath of impacted organic container production growers in the future.

I make the following suggestion for the Board's consideration. I would suggest that the Board consider issuing a subsequent discussion document in lieu of a proposal in order to re-review the detailed hydroponic-aquaponic task force report, which was 200 pages, gather additional data, research the current Canadian container production proposed regulation changes, to learn from their experience of working with very prescriptive requirements, and in order to allow the five new Board Members ample time to review all background materials, the task force report, and previous deliberations. That's my comment. Thank you.
CHAIR FAVRE: Thanks, Carmella. Any other comments about the container discussion document? Okay. So we will circle back around to the resolution after we get finished with the other subcommittee. So at this time I'm going to turn it over to Tom Chapman for the Policy Development Subcommittee.

VICE CHAIR CHAPMAN: Okay. We have two items on the PDS agenda, one is proposed revisions to the Policies and Procedures Manual and the second one is the proposal on reorganization of Sunset 2017 materials. Which one are you popping up first? Let's go with the PPM. PowerPoint.

We can switch to the sunset proposal if you have that ready. I think I can talk about the sunset procedure without it being on the screen. So the sunset proposal is a proposal to break up the 2017 materials, all 207, I believe, of them, and distribute them over the course of the next few years; over the course of four years.

The response this time mirrored the
response that we received in the spring to the proposal, which was support across all stakeholders. There was two questions raised. One was, in the previous proposal we had proposed several different ways of reorganizing the sunset grouping materials together, and sought feedback from the community on groupings we may have missed or other suggested groupings.

And then the question was, how did we actually -- what was the methodology used to decide on this final grouping. We basically chose every grouping we possibly could do, grouped them together, wherever the first material on that grouping lied, then we sequentially renumbered the items, and wherever the first groupings first item hit on that sequential numbering, all those materials got pulled up into that grouping.

The other question was around confusion into the numbering system on the chart on the very first page. I acknowledge that the numbering system is quite confusing. Using 2000, 2000, 2000, 2000 all next to each other is not a very easy
way of describing this, but in an attempt to make it much clearer to the stakeholders are being reviewed, when we're going to be adding the items to our work agenda, and you'll see in the upcoming work agendas later on in this agenda, all the items have been added to the next cycle of review, and so that should make it quite clear which items got pulled up into where, but the appendix at the end of the chart also shows what review cycle they're being lumped into.

The subcommittee supported this proposal and voted on it unanimously. Any questions? Zea.

MS. SONNABEND: I'm probably a little late to this discussion, but what would be the procedure to change something, as per my request today, that we try to combine copper sulfate for rice in the future with the regular copper sunset review? Is there a procedure setup for that?

VICE CHAIR CHAPMAN: So are those in different years -- they're in different years of sunset, right?
MS. SONNABEND: Yes.

VICE CHAIR CHAPMAN: We chose not to deal with that piece.

MS. SONNABEND: Well, you just chose not to mess with this whole batch because, you know, it was out of cycle, but is there a procedure so that in a future round we can add that to each other? And maybe if not, which I'm assuming there isn't yet, but maybe do you want to discuss going forward on policy how committee chairs could make requests for something like that?

VICE CHAIR CHAPMAN: Yes, we did briefly discuss that in the committee, in relation to this specific proposal, because there's other items, like peracetic acid right now is across the list, but it's broken up for one of them.

MS. SONNABEND: Right.

VICE CHAIR CHAPMAN: I think also water is coming back, so that might breakout now. There's several. Those are two examples.

MS. SONNABEND: Yes, it just makes so much sense to try and do that going forward.
VICE CHAIR CHAPMAN: Yes, I agree. I agree. So we had chosen not to do it as part of this proposal, but thinking of a way to deal with that in the future, I think, is a good idea and I can bring that back to the subcommittee.

MS. SONNABEND: Thank you.

VICE CHAIR CHAPMAN: Yes. Any other questions? Seeing none, Madam Chair.

CHAIR FAVRE: Okay. We've got a seconded motion on the floor to accept this proposal. We're going to start the voting with Emily.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.
MS. BEHAR: Yes.
MS. SONNABEND: Yes.
MR. RICE: Yes.
CHAIR FAVRE: The Chair votes yes.
MS. DE LIMA: That's 14 yes, 1 absent, the motion passes.

VICE CHAIR CHAPMAN: All right. Next up is the PPM. All right. So following the revisions to the PPM in the spring meeting, we received a lot of public comment. There was items raised at that time were not addressed to those revisions, so we took that back to the subcommittee and coming forward with these proposed revisions. It's a brief 132 slides, so it's early in the day, I think we should be fine.

The first change we proposed was a change to the administrative team. There was questions about what the team did and how it functioned, so we added a sentence clarifying that, that the team basically makes no decisions, and that if there's anything that needed to be decided, it would be elevated to the executive subcommittee.
We did receive an additional question after this was published about whether it was the DFO or the ACS on the admin team and both are able to come. When the ACS is the only representative, they are the acting DFO, so we didn't think additional clarification was needed.

We made changes to the record-keeping section to update the old reference to Schedule 26, which has been updated by archives to Schedule 6.2, and this is cited also in our charter, and we provided a weblink to that document as well.

We also had received public comment asking that a record request, that we cite the GSA memo from March 14, 2000, and we did that here, again, with a weblink to its location. We also received comments that our record-keeping requirements, which specified several things that need to come out of this meeting, the meeting of the Board, we missed documents provided to the Board at the meeting, which is a FACA requirement, so we added that here as well.

And then we also made it clear that the
voting summary that we accumulate as we make votes will be part of that public record that gets published with the minutes.

We received several other comments related to FOIA FACA disclosures, several around having the NOSB enforce or act to get FOIA FACA requests to be fulfilled more thoroughly or quicker. The subcommittee thought that was out of our purview. We do not do the mechanism of releasing FOIA and FACA requests. That's a function of the government.

And so we recommend those people use their administrative and legal means to seek whatever answers they may need.

On the substance material review process and the process of going through the environmental item, which will be coming up on the agenda, we noticed that there wasn't a procedure for the NOSB to propose removal of a substance where there isn't already a petition. We thought it would make a lot of sense to be able to have the Board make proposals to remove a substance.
And so we laid out procedures in which we could do that and all these changes here, this outlines that process and places it in the correct order of priority.

We had received questions around precedence of our rules that we operate under, since it's a mixture of legislation, our PPM, the regulation, and custom, and Robert's Rules, and so here we outlined the order of precedence.

Lastly, when we were looking at the voting of members, we noticed that there was actually an inconsistency in the way our officers, we noticed there was an inconsistency that in one section it required a majority vote, while below, it required a plurality to win the officer elections, and that makes it quite unclear what is required to be an officer.

Luckily, the last few elections had been uncontested, so this had not been an issue, but after discussion on the subcommittee, we thought it would be best to have a majority system, and so revise the words below to allow for a
majority system.

I think there was a question about doing instant runoff voting, but we didn't think we had the sophistication to implement such a process, so we have a classic runoff voting system setup here.

We also made it possible for votes by acclimation, although there was a typo in that word. We'll fix that. And anyone who gets nominated can withdraw in case the weight of the office scares you a little too much.

Lastly, we put in words around the open docket procedure, the practice that we used here to open the meeting docket as early as possible to allow for a forum to solicit public input on items that may or may not already be on the agenda. We received comment on this as well saying that it didn't fulfill the full intent of the open docket procedures.

I do think it fulfills most of that intent and we can go into detail if we need to, but oftentimes as we implement these procedures, they don't always come out as perfect, and I do think
this is a great compromise to open up this channel of communication.

Lastly, there was several comments about the way the PPM revisions were presented and that they didn't follow the procedures for proposals. I wanted to point out that in the last revision we added a Title IX to the section, which outlined the process for revising the PPM, which was the process we followed in this case.

Lastly, we received, again, new items were raised, both by the public and we had an item referred internally from the Executive Subcommittee, and that will be items that the Policy Subcommittee will work on in the future, if they can.

One was the clarification of our conflict of interest policy, which seems to be related to special governmental employees versus representatives, which we are, however, that is in there today because that's how it was written in a memo from the NOP, a mechanism by which the public can raise conflict of interest issues with members
and the process by which we review ancillary substances as part of our material review process.

So that's it for the PPM. I joke, there was only nine slides. Any questions? Ashley.

MS. SWAFFAR: Appreciate the cut down on the slide number, but the font size, I think there was just as many words.

VICE CHAIR CHAPMAN: Yes. It's copy and paste. Any other questions? Seeing none, this came from the subcommittee as a motion to approve unanimously.

CHAIR FAVRE: Okay. We've got a seconded motion. We'll begin voting with Francis.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.
MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: It's 14 yes, 1 absent, the motion carries.

VICE CHAIR CHAPMAN: And that concludes Policy.

CHAIR FAVRE: Thank you, Tom. I'd like to turn it over to Ashley to discuss Livestock.

MS. SWAFFAR: Okay. So starting the Livestock Committee, we didn't have any sunsets this year, but we did have four petition materials. We'll start with Jean on the ivermectin removal. Wait. Sorry. Dr. Brines.

DR. BRINES: Thank you. The petition for ivermectin was submitted on June 26th of 2016 by Board Member Dr. Jean Richardson. The petition requested the removal of ivermectin from Section 205.603 of the National List as a parasiticide. The last technical report for ivermectin was
completed in 2015 in preparation for the Sunset 2017 review, which was completed last year. Thanks.

MS. RICHARDSON: Thank you, Dr. Brines. So we have here an issue for which there is broad stakeholder support to remove ivermectin from the National List as a parasiticide in livestock production.

The criteria upon which the petitioner asked for this to be removed are criterias 2, 5, 6, and 7 in Section 6518(m), the toxicity of the mode of action of the substance as breakdown products or contaminants in their persistence and areas of concentration in the environment, the effect of the substance on biological and chemical interactions in the agro ecosystem, including physiological effects of the substance on soil organisms, the alternatives to using this substance in terms of practices or other available materials, and its compatibility with a system of sustainable agriculture.

The reason this petition is being
submitted is that during our work on sunset, the last round of sunset, we determined that we wanted to make some changes to the parasiticides that were on the list and we had three parasiticides on the list and they were all approved during our -- or retained on the list during our sunset review last year, but with the caveat that we knew that we were going to -- we had the discussion document, as you know, as you recall, followed by the proposal in which annotations were made to two of the parasiticides on the list, which would, we thought, make it easier to be able to remove the third one, ivermectin.

We received an enormous amount of public comment to remove ivermectin from the list, along with all the other comments that we had on the other parasiticides, although we didn't get as many comments this time on this petition because obviously people had commented last year, and those comments are sort of carried forward into our analysis of this petition.

Because we didn't, at the time, have the
mechanism in the Policy Procedure Manual for the NOSB itself to petition, as you understand, I therefore, as an individual person, submitted a petition just by the normal procedure that is setup for any other person to send in a petition, which is why we did this cumbersome thing.

So I wrote the petition and the NOP responded to me just -- in terms of you all understanding the methodology so that we followed precisely those procedures that are set out by the NOP and by the NOSB in our steps toward bringing this to the Board.

So the petition came to the Board, we determined it didn't need -- in subcommittee, we determined it didn't need an additional technical report and we went straight to a proposal, which I'm presenting to you today.

We made changes to the other parasiticides that would allow for veterinarians to be able to use the -- sorry, for producers to use the fenbenzadole without a prescription directly from the veterinarian and we made
modifications, as you all recall, in the parasite control that we passed.

If I can read them out to you, all parasiticides, I remind everybody, were continued to be prohibited from any slaughter stock, that the milk withholding period after treatment with fenbenzadole or moxidectin be changed from 90 days to 2 days for dairy cows, and as you know, it's almost never used in dairy cows at all, and 36 days for goats and sheep, and that the listing for ivermectin remained as it was presently listed with a 90-day withdrawal period, which is how it is now, that moxidectin be allowed for both internal and external use, that was a change, and that fleece and wool from fiber-bearing animals be allowed for certified organic, even if use of parasiticides was necessary at some time in the animal's life, and that fenbenzadole be allowed without written order of a veterinarian.

So that then meant once those changes were made, it would mean that the most egregious of the three parasiticides could be removed from
the list. Those other materials had been added originally in the hope that ivermectin could fall off the list, and so that's our process that we're doing now. As I say, it's strongly supported.

One of the primary reasons why we need to remove ivermectin is that it has a negative impact on dung beetles in pasture. And obviously, good pasture management really requires that we have the dung beetles there in order to deal with all the manure. It's very logical and obvious that if you have the -- if you decrease the ability for the manure to get taken away, you have negatively impacted your pasture.

Also, the ivermectin is a much more powerful material, it has also demonstrated some resistance, and we know that all of the uses for which it has been used can be handled by the choices of the other two materials that are remaining on the list. Again, but however, to remind everybody, that the first line of defense is obviously good management practices and it's not to use any of the parasiticides, or you can use
homeopathic, et cetera.

So it's not the intention of the new parasiticides -- that we're not looking to increase the use of parasiticides, but instead, to try to decrease them. And I will remind everyone at this point, as I'm sure you're aware, is that, we had hoped to bring to this meeting another proposal to further clarify emergency treatment, what it actually means for parasite control, that will be coming up at the April meeting.

So we've received -- let's see, what else? So we determined when we reviewed the science on this material that it is toxic to the environment, so it meets criteria -- fails Criteria 2, that is, that is has a negative impact on dung beetles, critical component of pasture management, and of course, pasture management is a requirement for organic farming, that there are two alternative synthetic parasites which can be used as alternative medications, that high-quality pasture and range management grazing techniques can reduce the need to use any parasiticide, and
that there are many alternative herbal remedies, Criteria 6, and that the use of ivermectin is incompatible with a system of sustainable agriculture.

Public comment received for this meeting comes from a limited number, but a good range of representative samples of stakeholder, all supportive of removing ivermectin, including individual farmers, certifiers, several of whom pointed out that ivermectin is rarely used. This is, you know, individual certifying agencies pointing this out.

The Organic Trade Association recommended removing. Beyond Pesticides commented that it's not essential and it should be removed. And a couple of other individual farmers. We did have one concern that was expressed, actually two, from people that were concerned that it might have a deleterious effect if ivermectin was not available for swine breeding. These were two from the Midwest.

And I followed up by contacting three
different veterinarians who work with pig farmers, and the response was that ivermectin has little value for internal parasite control in swine, but can help for lice and mange, but that the other materials would be just as effective. They felt that it was perhaps that the swine producers had not yet taken up the use of the other parasite controls and that this would not be -- have a negative impact on the swine industry.

So I would, therefore, recommend that we remove this ivermectin from the National List.

MS. SWAFFAR: Thank you, Jean. We'll open it up to the Board for comments. Emily.

MS. OAKLEY: I just wanted to thank your subcommittee's efforts on this, and you in particular, Jean. I'm really happy to see this and I'm going to be glad to vote for it. Thank you.

MS. SWAFFAR: Tracy.

CHAIR FAVRE: I'm also very happy about this, although I struggle, I know that livestock producers have so few tools in their toolkit, and I'm loath to take some away from them, but to me,
surmounting that is the desire to make sure that we have healthy ecosystem function in our pastures, and I think the impact on dung beetles, I can see it, I don't use any parasiticides in my flock, but I do have healthy dung beetles and I know that that makes a huge difference in how quickly the manure cycles in my pasture, so I'm happy to see this.

MS. SWAFFAR: Harold.

MR. AUSTIN: Jean, would there be any concerns about resistance buildup to the other parasiticides with the removal of this one from the toolbox?

MS. RICHARDSON: Not based on the data that we presently have. That is one of the sets of questions that we did talk to with scientists. There's some for ivermectin right now, actually, but, you know, the other ones, they get used, not a great deal in organic farming, but management of the pastures and range lands and selection of breeds is a far more common approach.

You know, goat farmers, a little bit tougher for them, but again, management, so no, I
haven't seen data that would support that at the present time.

MS. SWAFFAR: Harriet.

MS. BEHAR: I support the removal of ivermectin, but I am just a little bit concerned that not everyone who might wanted to have weighed-in would have gotten the chance, although, ivermectin has been on the list since the beginning, and every time it's come through for sunset, they have heard the frustration of the Board of not being able to get rid of it, and then having to keep it.

So I support it, but I wish there would have been a few more producers. I think there will be many producers out there that will be surprised and I hope that the certifiers get the word out, if we do vote this off, right away, so they're starting to put in, you know, the 18 months or so that it'll take by the time it actually is no longer allowed, that they will be prepared, and it won't be a burden for them.

There's actually even more than just
the dung beetles. If there's manure that goes into an aquatic environment, it will live in the water for -- you know, in, like, the mud and such for a long time, and that, well, I did some research myself, my dear, and I had to be convinced, and there was a -- when the manure is not incorporated into the soil, then it really remains active for a long time, and of course, in a pasture situation, soil incorporation is not an issue.

So there's some issues there, so I am going to support this.

MS. RICHARDSON: Yes. Just to clarify your comments, we received hundreds of comments in 2015, before you were on the Board, that came from farmers and producers, and from dairies, and a wide range, so we actually have not only sent out the message in two different presentations that we did during sunset over that entire year when we received a large number of comments, but the message has clearly gone out that this was going to be going off the list.

MS. SWAFFAR: Tracy.
CHAIR FAVRE: I want to comment on Harold's question about resistance. I don't remember the specifics of it because it was during the sunset review that I dug into this pretty heavily, but I seem to recall that both moxidectin and fenbenzadole are inherently less likely to develop resistance because of the class of drugs. And like I said, I don't remember the specifics of that. You remember that too?

Yes. So that actually was a big convincing factor for me as well.

MS. SWAFFAR: Scott.

MR. RICE: Just a quick comment from the concern about getting the word out on this material from certifiers, we, with every renewal, every year, be it livestock, or crop, or whatnot, our producers are submitting a list of materials and while certain not -- inspectors find sometimes that not all materials made it on that list, more often than not they do, and that gives us the opportunity to catch those at that time of renewal and alert them, in addition to the alert, or rather,
notice that we give them when this is posted in the Federal Register.

MS. SWAFFAR: Jean.

MS. RICHARDSON: That's a good point, Scott. The other thing that I've noticed as an inspector for a number of different certifiers, is that certifiers frequently send out, I think they always send out, a letter saying, hey, guys, notice, this one's coming up, and so producers directly get letters with their annual renewals and things like that so that they can be forewarned long before it gets taken off the list.

MS. SWAFFAR: I'd just like to thank you, Jean, for your leadership on this. This was important for me to also get off the list, so I'd just like to thank you for that. Any other discussion? We'll hand this back over to you, Tracy. This motion comes to remove ivermectin.

CHAIR FAVRE: Okay. We're going to start the voting with Harold.

MR. AUSTIN: Yes.

MR. BUIE: Yes.
MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: That's 14 yes, 1 absent, the motion passes.

MS. SWAFFAR: Okay. Moving next into all the fun litter amendments. First up we will talk about aluminum sulfate. So aluminum sulfate has -- I'm the lead on all these too, also, sorry. Sorry, Dr. Brines, real quick.

DR. BRINES: Thank you. Yes, this is the same petition for aluminum sulfate that was considered earlier under the Crops portion of the
agenda, so the petition was submitted March 1, 2014 by ChemTrade Chemicals, U.S., LLC, and requests the inclusion of aluminum sulfate at Section 205.603 of the National List. The technical report for this substance was completed in 2015.

And just a point of order for the Board, since the material was classified previously earlier this morning, you don't need to redo that vote on the classification for the livestock use. Thanks.

MS. SWAFFAR: Thank you, Dr. Brines. So aluminum sulfate has been petitioned as a poultry and livestock bedding amendment. The manufacturing process for all forms of aluminum sulfate included in the petition involves reacting liquid sulfuric acid with either bauxite or containing aluminum hydroxide and hydrated aluminum or synthetic hydrated aluminum previously refined from bauxite.

So aluminum sulfate is applied in two forms, a dry or wet form. Dry aluminum sulfate is applied using drop spreaders and slinger
spreaders. Liquid aluminum sulfate is applied using a vehicle designed with a storage tank, a pump, and a PVC sprayer wand equipped with stainless steel nozzles.

Typical dry product application rates range from 50 to 200 pounds per 1000-square foot and liquid product application rates range from 20 to 55 gallons per 1000-square foot. Some of the public comments that we received in was because the petitioned use of aluminum sulfate does not meet OFPA criteria of absence of harm to human health, environment, essentiality, or compatibility with organic production, the petition should be denied.

And then we did not receive any public comments in support of listing aluminum sulfate. So open it up for any discussion. Francis.

MR. THICKE: I would just add that the aluminum is a concern for me because it's going to go back into the soil. And as I mentioned earlier, aluminum can be phytotoxic, especially in low pH soils, so of the three, this is the one would be giving me most concern.
MS. SWAFFAR: Harold.

MR. AUSTIN: I would just take and concur with what Francis just said. That would be my concern too, is the impact on the soil.

MS. SWAFFAR: Any other discussion? All right. Turning that over to you, Madam Chair.

CHAIR FAVRE: Okay. This motion comes as a seconded motion, and we'll start the vote with Jesse.

MR. BUIE: Yes.

MS. SWAFFAR: This is to classify. This is a classification. I'm sorry, we do not have to do classification. The motion is to add aluminum sulfate as petitioned.

MR. BUIE: No.

MS. SWAFFAR: Because we did classification in Crops via Dr. Brines.

DR. BRINES: Yes, so thanks. So once again, this is the same material that was petitioned under the same petition earlier today and discussed during the Crops portion of the agenda, and since the Crop Subcommittee and
Livestock Subcommittee both brought forward, sort of, the same proposals to classify, the whole Board did have the opportunity to discuss and vote on the classification during the Crop section of the agenda.

So presuming that classification decision has not changed, the material continues to be classified as synthetic, so you don't need to vote on it separately at this time. Thanks.

CHAIR FAVRE: Okay. We clear? Okay.

Let's reboot that. Jesse.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.
MR. THICKE: No.

MR. AUSTIN: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: 14 no, 1 absent, the motion fails.

MS. SWAFFAR: Okay. Moving on, sodium bisulfate. So the petition purpose of sodium bisulfate is to control ammonia in poultry houses --

DR. BRINES: So, Ashley, before I --

MS. SWAFFAR: Oh, sorry, sorry.

DR. BRINES: I'm not in your sight line. All right. So this petition for sodium bisulfate was submitted on May 13, 2014 by Lehigh Valley Organic Growers, Inc., on behalf of Jones-Hamilton Company. The petition was also updated on August 19th of 2005 with a petition addendum, so both the original petition and the addendum are posted on the NOP Web site.

The petition requests the inclusion of sodium bisulfate at Section 205.603 of the National List as a litter treatment and a technical report
was requested and developed in support of the review of this substance, and that report was completed in 2015. Thanks.

MS. SWAFFAR: Sorry about that, Dr. Brines. Okay. So sodium bisulfate is petitioned for use to control ammonia in poultry houses. It is intended as a topical litter and dirt pad treatment. It stated that it was not intended for use in feed, food, or drinking water, and according to the petitioner, a litter amendment such as sodium bisulfate minimize ammonia volitation, improving poultry health, and maximizing the litter's ergonomics, environmental, and financial value.

Sodium bisulfate is used as a top dressing to poultry litter to control ammonia. It is widely used in the conventional commercial poultry industry. Sodium bisulfate is typically added to poultry litter prior to placement of chicks. The high temperatures during breeding enhance ammonia volitization at a time when chicks are most susceptible to health challenges.
And sodium bisulfate is applied at rates of 93 to 100 pounds per 1000-square foot. Today there are two methods for producing sodium bisulfate. One involves mixing sodium hydroxide with sulfuric acid which will react to form sodium bisulfate in water and another way involves reacting sodium chloride in sulfuric acid at an elevated thank you to produce sodium bisulfate in hydrogen chloride gas.

According to the petitioner, the liquid sodium bisulfate is then sprayed in cooled so that it forms solid beads. The hydrogen chloride gas produces dissolved in water to produce hydrochloric acid, which may be sold as a byproduct.

So we had extensive public comments on sodium bisulfate. Some of those include that because the petitioned use of sodium bisulfate does not meet OFPA criteria, the petition should be denied. There were other comments from several veterinarians that said that they have seen organic producers suffer needlessly when the use of sodium
bisulfate could most likely have prevented conditions in the barn.

There is also a food safety benefit of salmonella control to consider from the use of this product. And then one veterinarian wrote in and said that currently over 50 percent of the organic flocks they oversee, care for, are breaking with necrotic enteritis at 12 to 15 days of age, with double or triple the normal amount of bird stein in that timespan. They felt like they were playing Russian roulette every time they placed a flock of birds because they were worried about succumbing to infections with no tools to prevent or treat.

And we also heard from a couple producers during public comment state that they're having ammonia issues in which the OMRI list of products were not successful in reducing, and they also stated that they were having disease challenges also.

And during public comment we heard from two different manufactures of OMRI-listed products that stated, one stated they had 2 million birds
currently using their products and they had not
seen or heard of any grotesque mortality and they
have seen reduced ammonia levels. Quite the tough
one. So I'll open that up for discussion. Jean.

MS. RICHARDSON: Ashley, you're a
poultry expert for many years, and as an inspector
I've been in lots of poultry houses, so what, in
your experience, and from the research that we've
received, are the range of alternatives for dealing
-- the alternative materials that would make this
something that we didn't want to add?

MS. SWAFFAR: The alternatives for
ammonia control or necrotic enteritis control?

MS. RICHARDSON: Well, both, although
it was petitioned for ammonia control, right?

MS. SWAFFAR: Yes, it was petitioned
for ammonia control. You know, the proper wind
rowing and house prep of the litter, you know, it
is important to raise broilers -- we're talking
about broilers, not layers, this is not really a
layer issue, it's a broiler issue.

You know, proper buildup of litter is
very important. You can't change litter, per se, every flock, because, you know, we did hear from those veterinarians that you need that buildup, and plus, you need that base for heat too. I'm not saying you got to leave it in there for 15 years, but, you know, proper wind rowing, plenty of time between flocks, things like that.

And then in ammonia, you know, you do have to run your fans a little bit. You know, we can't just naturally ventilate 40,000 birds in a house and expect everything to be okay. There's lots of alternatives. You know, there's a couple OMRI-listed products that we did hear people say they were using successfully. Francis. Yes, I'm sorry, I meant to go to Francis first.

MR. THICKE: Because we had a lot of comment on this I asked if I could put up a short PowerPoint just to look at what's going on with these three materials. And on the left is ammonia. This, of course, is what comes out of the litter from, basically, the protein of the chickens eating and then in their manure.
And all three of these products have the acid, and when you combine an acid with that ammonia, it makes it ammonium, and then it's no longer a gas, because ammonia is a gas. And so now it's precipitated in the matrix. And so the next slide, Michelle, please. Oh, I got it. I'm sorry. Right here.

If you look on the upper right-hand side of this slide, what you see is that that's ammonia at high pH, where that red arrow is, at high pH, the balance between ammonia and ammonium is highly towards ammonia. As you bring that pH down to about 6, you get down to about almost 0 ammonia.

So a key thing is to get that pH down, and which all three of these products do, so that's kind of important to recognize that. And so it can be done with synthetic materials, it can be done with non-synthetic, of course.

And another thing is, some of the materials have, like, the acid bentonite, which we're going to talk about next, have a clay particle. Oh, I'm sorry, I moved my own and not
yours. The clay particle, and this is, bentonite is a highly-charged, negatively-charged, clay particle. And so ammonia was a plus charge thing, so the ammonium will get sucked right into that clay matrix and held.

And that's beneficial because then it keeps it there, and then when you put the manure on the field, it works as a nitrogen fertilizer, it'll be released to the soil from there. And so that is another feature, so really, these products have, some have, two features, one is, they acidify it and make ammonium out of the ammonia, the other one it to put it in the matrix and hold it until it gets out in the field.

So that, I think, is important to recognize. And I'm not an advocate, but I wanted to look at how we can do that naturally. Well, first of all, these are the three. You can see aluminum sulfate, the aluminum turns into hydrogen when you put it in the soil. Aluminum turns into the aluminum hydroxide, and it releases a hydrogen ion, so that becomes acidic.
The sodium bisulfate has that H in the middle, that's the acid, and that will acidify it. The acid-activated bentonite, which we're going to talk about next, it's a clay, bentonite is a clay, treated with sulfuric acid. So it's acidified and has the clay that could suck it up.

Now, one of the natural materials that's been talked about here is this Activated Barn Fresh, which has citric acid to acidify it, to bring it from ammonia to ammonium, it has a clay to take it up and hold it, then they add diatomaceous Earth, I think, as a carrier, and maybe to dry out the litter a little bit.

So I think those are the concepts that we need to keep in mind, that it can be done in a natural system, and I'm not advocating for this, but we have natural material or non-synthetic materials that can do the job.

MS. SWAFFAR: Harold.

MR. AUSTIN: I think one of my concerns with this material, with the sodium bisulfate, from the one comment that we heard, you know, I grew up
around dairy cows, so chickens are not my cup of tea, but I do think the basic fundamental principles of what we try to accomplish organically in anything that we do, the one statement that just stuck with me and was that the material, they were able to take and keep their bedding, or their litter, for 15 years.

Good God, if we did that in a dairy, Lord have mercy. It just seems like that type of a material, that type of a process, is just bad stewardship and bad -- you we're just populating and giving them a tool to practice bad farming practices. And I mean, that's just my personal opinion, but I can't support this one moving forward.

MS. SWAFFAR: Tracy.

CHAIR FAVRE: So I have to say, after the public comments yesterday, I was horribly confused and, you know, rather than clarifying things, I walked away very confused, because on one hand, we heard from one group of public comments that this material was absolutely necessary and on
the other hand, we heard that it can be managed without it, based on management.

So I hesitate to even use this word because it has been my albatross, but I feel as though, based on conversations with people who know this industry better than I do, that in some ways, the opportunity to adjust, if I should say it, methionine, in the future -- sorry, might be struck by lightning for even mentioning the M word.

The fact that we have made some progress on flexibility around the use of methionine, not that I'm in favor of increasing use of methionine, but part of this is a problem that we've created by having to overfeed protein and form a soy in order to get the essential amino acids up has created greater ammonia in the barns.

And so I'm a big fan of a systems holistic approach and while we have certain tools to look at individual problems, it might have been better for us to look at this as a whole system, as Francis and Ashley, and others, have mentioned, management without, you know, having one silver
bullet, and so that is something to consider.

And I guess in the end, I am still a little ambivalent about where we need to go on this, but I feel as though we need to make a decision.

MS. SWAFFAR: Appreciate you stealing my thunder on the methionine, because that was what I was going to talk about. Harriet.

MS. BEHAR: So I did my own little survey, you know, informal survey of many of the certifiers here to find out if there was kind of a rampant mortality of chickens in organic chicken houses around the country, and I did not hear from -- and there was, you know, a lot of certifiers here, and I'm not hearing that anywhere, so it's hard.

I'm very sympathetic to the producers, and of course, to those poor chickens that are dying, but it seems to be somewhat isolated and not that there -- across the country, there are very large and very small chicken houses that are producing broilers successfully with 5 percent or less mortality, and anybody around chickens knows
that that's an acceptable -- I mean, chickens just
tend to kind of sometimes keel over, but not -- we
don't want to have the large mortality.

So I have to lean towards the opinion
that perhaps something can be done at a management
level that can fix this problem without adding,
kind of, an enabling synthetic, as Harold has said,
so I will be voting against this.

MS. SWAFFAR: Francis.

MR. THICKE: I have one more concern,
and this is sodium. We heard from a number of
commenters that the acid is what's important for
killing the bacteria. We heard from one that the
sodium was important. And we found out that there
was an association with that person with the
manufacturer.

But never the less, it's put in -- they
put it on at rates of 93 to 100 pounds per
1000-square meter, and in multiple applications,
and there would be a huge amount of sodium going
in there, it seems to me, and that's going to go
back in the soil.
And in some soils in particular, the saline sodic soils, which Harold's familiar with, it would disastrous to put that on there, so that's an issue for soils I'm concerned about.

MS. SWAFFAR: Emily.

MS. OAKLEY: I echo Harold's comments and I also feel like the public commenters in support of this product were those who were growing conventional chickens and then moving into the organic industry and wanted to, maybe, bring this tool with them, and so I think that we have alternative methods and we don't need this.

MS. SWAFFAR: Dan.

MR. SEITZ: I was struck by just one thing, in the operation where the birds were dying like flies, excuse my mixed metaphor there, I was just struck by the huge size of that operation, and I just wonder if anything that huge is compatible with organic.

MS. SWAFFAR: Emily.

MS. OAKLEY: I'll just echo that.

MS. SWAFFAR: Okay. So my thoughts on
these issues is, you know, I grew up around a conventional industry. Obviously, living in northwest Arkansas, which is home to three of the top ten broiler producers, I have a lot of friends and family that produce conventional broilers, so I've been around some of this and the one thing that just kind of reaches out to me is, this is a little bit of an enabler-type material that is continuously reapplied throughout a flock and that just really concerns me that we're not encouraging people to deal with things a little more naturally, but we're giving them synthetics as band-aids.

And as Tracy said, you know, I really think a whole lot of this problem with ammonia is because the broiler producers, and layer producers, are having to overfeed protein because their birds are not getting enough methionine, and I would really urge the program to act swiftly on the averaging that our Board passed last year because we are seeing issues with that and, you know, if we do see the animal welfare, our recommendations do come out next year, there are
guidelines in there that state ammonia levels need to be below 10 parts per million and corrective action must occur if it is above 25 parts per million.

And so this, you know, helping producers by giving them a correct diet can also help them with this. And then one thing I wanted to state on the disease challenges that some of the producers were talking about, you know, I did a little light reading last night before I went to bed on necrotic enteritis, and, you know, read several scholarly journals, and Poultry Health Today, and things like that, and, you know, there were a lot of reasons that point to why producers have necrotic enteritis outbreaks.

And it seems that all antibiotic-free poultry do have these outbreaks because traditional industry has just used a lot of antibiotics in the past to help control this. There were, you know, several things that these articles states, you know, vaccinating your birds for coccidiosis, reducing pathogens, such as good
bio-security and sanitation procedures, and then modifying the diet and feed additives.

So I read several articles that talked about some of the cereal grains can really effect and you see these disease challenges in birds, and, you know, there was a lot of talk about probiotics and prebiotics also helping this.

So I think there is a toolbox for producers with necrotic enteritis. They just need to start using them. Even essential oils were mentioned, so there's a lot of great stuff in there. Got to think outside the conventional mindset sometimes. So any other discussion? Madam Chair, this comes to you, a motion to add sodium bisulfate. Classification. Move to classify as synthetic.

CHAIR FAVRE: I'm sorry, say it again, please, Ashley.

MS. SWAFFAR: Sorry. I'm confused. A motion to classify sodium bisulfate as synthetic.

CHAIR FAVRE: Okay. It comes as a seconded motion. We'll start the voting with
Jesse. Sorry. Bad information, Carmella.

MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDSON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: Yes.

MR. BUIE: Yes.

CHAIR FAVRE: The Chair votes yes.

MS. DE LIMA: That's 14 yes, 1 absent, the motion passes.

MS. SWAFFAR: Okay. Next motion is to add sodium bisulfate as petitioned to 205.603.

CHAIR FAVRE: Okay. And we'll start the voting with you, Ashley.

MS. SWAFFAR: No.
MS. DE LIMA: No.
VICE CHAIR CHAPMAN: No.
MR. SEITZ: No.
MS. RICHARDSON: No.
MS. BEHAR: No.
MS. SONNABEND: No.
MR. RICE: No.
MS. OAKLEY: No.
MR. THICKE: No.
MR. AUSTIN: No.
MR. BUIE: No.
MS. BECK: No.
CHAIR FAVRE: The Chair votes no.
MS. DE LIMA: It's 14 no, 1 absent, the motion fails.
MS. SWAFFAR: Okay. Let me pull up my next one. Okay. Next one, Dr. Brines.
DR. BRINES: Yes, the final item on the Livestock portion of the petitions is acid-activated bentonite. This petition was submitted on March 9, 2015 by Trinico Ag, Inc. There was also a petition addendum that was
submitted on April 17, 2015, and both the petition and addendum are available on the NOP Web site.

The petition requests the inclusion of acid-activated bentonite to Section 205.603 of the National List as a litter treatment. There was a technical report requested in support of the committee's review of this material and that report was completed in 2016. Thanks.

MS. SWAFFAR: Thank you, Dr. Brines. So last one, acid-activated bentonite has been petitioned as a litter amendment to control ammonia, so acid-activated bentonite is prepared by treating naturally occurring bentonite clay with sulfuric acid. The product is manufactured by spraying 46-weight percent concentrated sulfuric acid onto a pre-weighed bed of bentonite clay granules as they are tumbled in the mixer.

Their rate of addition to a poultry house is typically 100 pounds per 1000-square foot of litter surface area, but can range up to 200 pounds per 1000-square foot, depending on the age and depth of litter. The product is applied to the
poultry litter only once at the beginning of each
new grow-out cycle.

Application is typically done three
days prior to bird placement in the house, but can
be done up to the day of placement. The product
can also be applied to bare ground after old litter
is removed, but before new litter is added. New
litter would -- I'm sorry. And then the TR also
states that the petitioner described
re-application methods in cases where ammonia
levels may exceed 25 parts per million.

The re-application is intended to occur
while birds are present and at an application rate
of 100 pounds per 1000-square foot. We didn't
really receive very many public comments on this
material. One stated that because the petitioned
use of acid activated does not meet OFPA criteria,
the petition should be denied and we did not receive
any public comments in support of acid-activated
bentonite.

So is there any discussion? All right.
None. Okay. So I'll turn this over to Tracy.
The first motion would be to classify acid-activated bentonite as synthetic.

CHAIR FAVRE: Okay. This comes as a seconded motion. We'll start the voting with Lisa.

MS. DE LIMA: Yes.
VICE CHAIR CHAPMAN: Yes.
MR. SEITZ: Yes.
MS. RICHARDSON: Yes.
MS. BEHAR: Yes.
MS. SONNABEND: Yes.
MR. RICE: Yes.
MS. OAKLEY: Yes.
MR. THICKE: Yes.
MR. AUSTIN: Yes.
MR. BUIE: Yes.
MS. BECK: Yes.
MS. SWAFFAR: Yes.
CHAIR FAVRE: The Chair votes yes.
MS. DE LIMA: 14 yes, 1 absent, the motion passes.
MS. SWAFFAR: Okay. Next motion is to
add sodium -- or I'm sorry. No. Acid-activated bentonite at 205.603.

CHAIR FAVRE: Start the vote with Tom.

VICE CHAIR CHAPMAN: No.

MR. SEITZ: No.

MS. RICHARDSON: No.

MS. BEHAR: No.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: No.

MR. BUIE: No.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: It's 14 no, 1 absent, the motion fails.

MS. SWAFFAR: Okay. That wraps it up for the Livestock Committee. I really wish we could have, like, talked about methionine or
CHAIR FAVRE: Gee, I'm so sad that we didn't get a chance for that. Okay, folks, we're going to take a 15-minute break. I have, by mine, we'll call it 10 after, so everyone will be back here at 25 after, please, and we'll be starting back up with the discussion of the resolution for hydroponics, so don't miss it.

(Whereupon, the above-entitled matter went off the record at 4:08 p.m. and resumed at 4:28 p.m.)

CHAIR FAVRE: Okay, everybody. Let's get back started again. All right. So once again, we are going to open up the discussion on the Board resolution in regards to hydroponics. Zea, do you want to start the conversation, or how would you prefer to do it? No?

Okay, all right. So we'll just jump into discussion and debate. So Emily, go ahead.

MS. OAKLEY: I just wanted to clarify that we left it with Francis reading Harriet's original proposal and adding into the sentence, "It
is also the desire of the current members of the NOSB to prohibit hydroponic systems that have an entirely water based substrate or," this is what would be added, "are wholly dependent on liquid fertility inputs."

So we sort of discussed that, and then we got to the point where we needed to probably discuss that in front of everyone. So I don't know how people feel about that.

PARTICIPANT: Can you read it one more time?

CHAIR FAVRE: Yes --

PARTICIPANT: Do it very loud and very slowly.

(Off microphone comments)

CHAIR FAVRE: Yes, bigger font or something, I don't know. It's hard to see it from here.

MS. OAKLEY: All right, Michelle --

CHAIR FAVRE: In fact, why don't you read the paragraph in its entirety in which it would belong, Emily, if you would please.
MS. OAKLEY: Yes, where is that? Is that up further, higher? Why am I missing that?

(Off microphone comments)

MS. OAKLEY: Okay, okay.

CHAIR FAVRE: So read it what it goes --

MS. OAKLEY: Right. Or, are you ready now Michelle or whoever? In caps. "Or are wholly dependent on liquid fertility inputs." Correct, yes. On liquid fertility inputs.

(Off microphone comments)

MS. OAKLEY: Right, that's it. So what do people think about that?

CHAIR FAVRE: Okay, so the way I interpret that, Miles just was asking for clarification, let me speak to this to make sure we're all on the same page, is that we're saying here that it's hydroponic systems we would be strongly, we are conserving funds, we are prohibiting hydroponic systems that have an entirely water based substrate and are, or are wholly dependent on liquid fertility inputs.
Okay? Ashley?

MS. SWAFFAR: I would just like a little bit of discussion from everyone on this, on that added in, you know, I'm a little concerned about containers.

CHAIR FAVRE: Emily, did you have a comment? Or --

MS. SWAFFAR: Yes, I would like to, you know, how would that affect some container production, you know, and even transplants. I think you could maybe even make a case there.

MS. OAKLEY: I think transplants are covered separately and are not part of this conversation. So --

(Simultaneous speaking)

MS. SWAFFAR: -- containers then. Well, I would like to just kind of open that up. Just people that are a little more educated on containers than I am, if that would really affect them.

CHAIR FAVRE: Carmela?

MS. BECK: So we're getting into a
level of specificity that I'm not necessarily willing or interested in going to. I was, I feel that the entirely water based substrate I'm okay with.

But now what we're doing is we're going back to the discussion document where there was six areas for us to define, nutrition being one of them. And you know, we didn't vote, or we're going to be talking about this in the next semester.

So I'm not comfortable that in there because we discussed wanting to vet this, taking the public comment into consideration. So again, I'm okay with the water based, but beyond that, that's a level of detail that I would rather wait to discuss.

CHAIR FAVRE: Francis?

MR. THICKE: One problem with the entirely water based system means that there could be no substrate at all with just water and liquid nutrients. The plant could just be held up by a wire or something and it could just be in a liquid bath which is what that implies is possible. So
that's not very good.

CHAIR FAVRE: We're prohibiting that.

MR. THICKE: That's what I'm saying.

That's a very low bar.

CHAIR FAVRE: Harriet?

MS. BEHAR: I'm not sure who to ask. So
the reason why I originally suggested this when I
had read the IT was that I felt that at least I don't
think this gets rid of containers but it gets rid
of containers that basically get no nutrition from
whatever substrate they are in.

So this is, the word could be 100
percent dependent, it could be primarily
dependent. This is, to me, that this is strictly
input substitution. But you could still have
something in a container as long as it does not get
100 percent of its nutrition, those plants in that
container, from a liquid fertility input.

Then we're not against it. That's
also, to some of us, it's not saying that we're all
for it either. But if this says that we're against
anything that is dependent on 100 percent of its
nutrition, at least to me, wholly, from an outside input with those roots not taking in any nutrition from whatever substrate it's in.

Now we know that the water doesn't have any nutrients in it and is relying on liquid fertility. This is saying basically any other substrate that has no fertility whatsoever would not be allowed.

CHAIR FAVRE: I'm going to call on myself first and then we'll go down there. The one thing that is still to be ascertained or thrashed out is that there are certain water liquid fertility inputs that do not come in a plant available source and that then must be converted by the microbes growing on either the substrate or in the root zone.

And for me, I'm not against liquid delivery of nutrients. But that's a subtle nuanced distinction that I think that somehow we have to make clear. So if some, we're talking about a fish emulsion for instance that is not immediately plant available, it has to be converted
by the microbes in the root zone, I would find that
an acceptable form of liquid input.

But the ones that are wholly synthetic,
immmediately plant available, that's what that says
to me. And I'm not sure, I don't know how everybody
else feels about that. Scott and then Zea.

(Off microphone comments)

CHAIR FAVRE: It's acceptable to me if
it's interpreted in the way that I just explained.
But you know, that's why it gets a little squirrely.

MR. RICE: And that was precisely my
point in the way that that is, with the addition
of this I think and the fact that it took Harriet,
you know, several paragraphs to explain what that
means is sort of problematic to me. And as well,
for you to continue to explain it. So that's what
gives me some discomfort on that, and the addition
of that.

PARTICIPANT: How about any plant
available liquid fertility inputs?

CHAIR FAVRE: Zea?

MS. SONNABEND: Thank you. While I do
support that language on a personal level, I feel that it is more important to have a statement with full consensus. And if we don't have a full consensus, then I will bow to that.

CHAIR FAVRE: Okay. So it seems to me from the three or four comments that I've just heard that that statement actually pulls us further away from consensus on the Board, is that what I'm hearing? Despite our best efforts? Speak up. Dan, go ahead.

MR. SEITZ: Well, let me say I actually, I prefer having that in there, and it seems to me it's pretty clear shorthand for what Harriet explained. So for me it doesn't pull me away from consensus. But again, if we -- whatever statement we can get with the most votes that says something that actually has some substance, you know, I think that's preferable.

CHAIR FAVRE: Tom and then Harriet.

VICE CHAIR CHAPMAN: I echo Scott's comments. I'm more confused by this than the previous statement and am not supportive of it.
CHAIR FAVRE: Harriet?

MS. BEHAR: I just wanted to know if Emily and Francis were okay with it?

MS. OAKLEY: Yes.

MR. THICKE: I'm okay with it as it is written.

CHAIR FAVRE: Okay, so unfortunately I fear as though we have reached an impasse, an insurmountable impasse at least in regards to this. So I'm not exactly sure where that leaves us, although it seems to me that we've had some defections from the support of this with that statement in there. Although we gained two, we lost four. So I don't think that got us any closer. Zea?

MS. SONNABEND: We could still put the resolution forward without that and vote, and then just have it be a majority/minority situation. And if Tom wants to change the word consensus to say majority.

CHAIR FAVRE: How do we feel about that? Scott?
MR. SEITZ: In my opinion, that's better to have something than nothing.

CHAIR FAVRE: Scott and then -- what's her name.

MR. RICE: As Francis pointed out, we could still leave the consensus in there and we have a majority of us without this language. We would be in agreement. But if it's smoother not to have that, I'm not going to have that hold it up either.

CHAIR FAVRE: Jean?

VICE CHAIR CHAPMAN: Can I speak to that real quick? Just, I looked up the Webster definition and it says an idea or opinion that's shared by all the people in a group. So I think it's actually, again, confusing what consensus means if it's not all.

CHAIR FAVRE: Just for the record, we can wordsmith things like nobody's business up here. I just want to mention that. Jean?

MS. RICHARDON: I think if we take out the yellow highlighted phrase and then we vote on it as a non-consensus document as Tom suggested,
and but at the bottom that we have then the dissenting opinion if you will, or whatever we want to call it, there are two persons dissenting, would have preferred the addition of, and give the phrase wholly dependent on liquid fertility. And that way we're sending forward the opinion of all 14 of us are captured there so that the minority perspective which is then, is captured in the vote going forward.

CHAIR FAVRE: This will become the world's largest board resolution.

MS. RICHARDON: No, it's straightforward.

CHAIR FAVRE: No, I agree. It is important to me that everybody's voice be heard on this. I just want to reiterate one more time, this board resolution was intended to show where we could be united and leave the more sticky issues for further debate as it goes forward and back to the subcommittee. But I respect the positions of others on the board that feel as though they can't budge on that. Francis?
MR. THICKE: I'm fine with that, but I think that we should then do a poll of how many people support that other language because if you say only two people support that language, it's really not necessarily the case. There could be more people who support that other language.

CHAIR FAVRE: All right. So I think we are of the opinion that we've gone as far as we can go, as far as people are willing to support. Everybody's voice has had a chance to be heard. Some people say compromise means nobody gets what they want. This might be a very good example of that.

So Michelle, if you will back out that section in yellow. Yes. And if you, I was going to say put it down below but you've already deleted it, unless you can get it back. There you go. So cut it and paste it down below.

And then I would seek a motion from the Board to move this forward.

PARTICIPANT: Question, Tracy.

CHAIR FAVRE: Okay, so Miles is just
saying it's unclear and that we're going to have to do something with it. So nothing like making sausage in public. So what do we suggest here folks? How do you want to do this?

MS. SWAFFAR: Could you put a paragraph on the bottom, the last paragraph that says there was a minority opinion that stated that they were concerned --

MS. SONNABEND: That that phrase should be inserted.

MS. SWAFFAR: Yes, yes.

CHAIR FAVRE: Okay, so we've gotten some guidance on procedure here. What Dr. Brines has advised us is that we actually go through the process of making a motion, putting forward the motion without the controversial language, put it forth for discussion.

Then if someone wants to put forth a motion to amend the resolution with the language which we'll put up there and then we'll vote on, and then we'll have it all fully documented, everybody will be happy. And then in the end,
we'll end up with the vote however we end up.

Everybody okay with that? Okay.

MS. BEHAR: I have --

CHAIR FAVRE: Yes?

MS. BEHAR: So my question is could I vote for both?

CHAIR FAVRE: Yes, of course.

PARTICIPANT: Yes, vote first for the amendment and --

CHAIR FAVRE: Okay. So first of all, all right, so as a reminder to everyone on the Board as well as in the audience, this is a non-binding Board resolution. This is not a recommendation that will go forward to the program that they then have to act on. But our hope is that this does provide some sense to future Board that works on this controversial issue where this current Board feels and stands philosophically on the issue. We all clear?

MR. THICKE: I'm confused with what we're doing here. We're voting twice? Two different -- can you explain again?
CHAIR FAVRE: Okay, so first thing we're going to do is vote on a main motion for the resolution as it stands without the controversial language. And then --

PARTICIPANT: Someone's going to move the main one --

CHAIR FAVRE: I'm sorry. Yes, someone's going to move, I spoke incorrectly. Someone's going to make a motion to move this forward, we'll take a second, then we'll have discussion. If at that time someone wants to bring forward a motion to amend the current resolution, then that would take a motion and second, then we'll have discussion on that. We'll take a vote on the amendment, and then that will resolve the issue.

Yes, and then we will vote on the main motion.

PARTICIPANT: Whether to amend it or not.

CHAIR FAVRE: Whether amended or not, yes, correct. Okay? Clear as mud? All right, so
I will entertain, I would entertain a motion for this Board resolution.

MS. BEHAR: I'll move.

CHAIR FAVRE: I have a motion from Harriet. Do I have a second?

MR. THICKE: I'll second.

CHAIR FAVRE: I've got a motion and a second. Further discussion?

MS. DE LIMA: Madam Chair, just a question real quick. That does not include the yellow portion?

CHAIR FAVRE: That's correct.

MS. DE LIMA: That's just hanging out on the bottom?

CHAIR FAVRE: It's hanging out. It's hanging out at the bottom until we get this all straightened out. And when we get to the point of if there is a motion to amend the resolution, we will type it up with the full, you know, language. Everybody will be clear before we move forward.

MS. BEHAR: Could I amend my own motion?
CHAIR FAVRE: Yes, sure. Is there any further discussion first on the main motion? Okay, are we ready to vote? Okay, so far so everybody's clear I do not have a motion to amend.

PARTICIPANT: Looking to the language because we didn't have it memorized.

CHAIR FAVRE: Okay.

MR. THICKE: Can I --

CHAIR FAVRE: Yes, sir.

MR. THICKE: Thank you, ma'am. I would like to move to amend this motion with inserting the words, "or are wholly dependent on liquid fertility inputs." And you know where that goes.

CHAIR FAVRE: And do I have a second? In the record, in the record.

MS. OAKLEY: I second that.

CHAIR FAVRE: Okay, is there any further discussion? Harriet?

MS. BEHAR: I support that amendment having made the original motion.
CHAIR FAVRE: Any further discussion? Harold?

MR. AUSTIN: We will add further definition to explain what that yellow highlighted is though so that when people see this in the future they understand actually what it's stating.

CHAIR FAVRE: Yes, if the motion passes.

Yes, the discussion will be retained, but it won't be retained in the final motion, in the vote unless that motion to amend passes. Zea?

MS. SONNABEND: Well, I do support that language in the amendment. I'm not going to vote for it because as I said, I think it's more important to we get more consensus on the original motion.

CHAIR FAVRE: Harold and then Ashley.

MR. AUSTIN: I guess point of clarification. This is a motion to amend to reinsert these words, not put in the-- okay.

CHAIR FAVRE: Yes.

MR. AUSTIN: Sorry. Now we're clear.
CHAIR FAVRE: Yes. Ashley?

MS. SWAFFAR: Yes, I will not be boating with this because I am concerned on how this could affect container production. So I can't support this amendment. Sorry.

CHAIR FAVRE: Is there any further discussion?

(No audible response.)

CHAIR FAVRE: Okay, seeing none, we have a motion to amend the Board resolution to insert the phrase, "or are wholly dependent on liquid fertilizer inputs, and after the paragraph that includes that have an entirely water based substrate.

Can I have a motion and a second? We will begin the vote with Dan.

MR. SEITZ: Well let me say there is justice or balance in the world.

CHAIR FAVRE: Karma is a bitch, isn't it?

MR. SEITZ: Karma, okay. Next time when there's something I like, I'm just going to
be mum about it. So I will vote yes for this amendment.

MS. RICHARDON: Yes.

MS. BEHAR: Yes.

MS. SONNABEND: No.

MR. RICE: No.

MS. OAKLEY: Yes.

MR. THICKE: Yes.

MR. AUSTIN: No.

MR. BUIE: Yes.

MS. BECK: No.

MS. SWAFFAR: No.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: No.

CHAIR FAVRE: Chair votes no.

MS. DE LIMA: It's seven yes, seven no, one absent. The motion fails.

CHAIR FAVRE: Okay. This is sort of the exact opposite of consensus that we just --

(Laughter.)

CHAIR FAVRE: Okay, so the motion has failed. Now we will be voting on the main motion.
And that motion for the resolution is, yes?

VICE CHAIR CHAPMAN: I move to amend consensus to majority.

CHAIR FAVRE: Okay, I have an additional motion to amend the word consensus to majority. Do I have a second?

PARTICIPANT: Second.

MR. RICE: I'll second it.

CHAIR FAVRE: Was that a second from the audience? I thought it was from out there. Okay, I have a motion from Tom and a second from Scott. Any further discussion?

Okay, seeing no further discussion, we will start the vote on the motion to amend the word consensus to change it to majority with Jean.

MS. RICHARDON: Yes, I guess so.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

MR. RICE: Yes.

MS. OAKLEY: Abstain.

MR. THICKE: Abstain.

MR. AUSTIN: Yes.
MR. BUIE: Yes.

MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

CHAIR FAVRE: The chair votes yes.

MS. DE LIMA: That's 12 yes, 2 abstain, one absent. The motion passes.

CHAIR FAVRE: Okay, now we have an amended resolution to include the word majority instead of consensus with the original language without the first proposed amendment. We have a motion and a second. We will start the voting on this resolution with Harriet.

MS. BEHAR: Yes.

MS. SONNABEND: Yes.

Statement of Reasons Yes.

MS. OAKLEY: No.

MR. THICKE: No.

MR. AUSTIN: Yes.

MR. BUIE: Yes.
MS. BECK: Yes.

MS. SWAFFAR: Yes.

MS. DE LIMA: Yes.

VICE CHAIR CHAPMAN: Yes.

MR. SEITZ: Yes.

MS. RICHARDON: Yes.

CHAIR FAVRE: Chair votes yes.

MS. DE LIMA: It's 12 yes, 2 no, 1 absent. The motion passes.

CHAIR FAVRE: Okay, ladies and gents, that's the way you do it. Thank you very much for your patience as we work through that. I appreciate the civility in which this discourse took place.

Okay, it somehow seems like we need a break, but we're not going to take one. The world goes on. Okay. Next on our agenda is the subcommittee work agendas.

Okay, as most of you know who are the die hards that are still here after all of this discussion, at every fall meeting we present a work agenda plan that the subcommittees have generated
and we have presented and had discussion. So we're going to start with CACS with Carmella.

MS. BECK: All right, so you'll see then that we have, should be moving towards a proposal for the infield annual evaluation of inspectors, and then a discussion document on the eliminating incentives to convert native ecosystems into organic crop production.

CHAIR FAVRE: Okay. Any of the Board members have questions about that? Okay, next up is crops. Zea?

MS. SONNABEND: Okay, all those things up there are on the work agenda. I thought we had a more, like, easier to read list. Okay, well anyway, we have petitions that are going through the process of TR development, and a few of them are so new we haven't commissioned a TR yet.

But we have fatty alcohol and aerobic digest state, polyoxin d zinc, sodium citrate, natamycin, and ammonium nonanoate.

Then on our continuing projects is trying to keep going the work of the inerts working
group, and we will need to appoint new members since June and I are the current members, both of us are retiring, or maybe just, no me and Jessie are. So Jessie will keep going and a new member will be appointed.

Contamination issues and farm inputs which Harriet is working on what the next step will be. I don't think biodegradable mulch is a discussion document because we commissioned a new TR for it. And so who knows what, it's actually slated as a 2019 sunset and I think that is what is going to happen to it. So something might come in the spring, but it might not.

The NPEs in the inert sanitation is on hold until the rulemaking is done for the change in inert sanitation, but then I would like to bring it right forward again. I won't be around, but hopefully you guys will remember.

And then anaerobic digestate we already discussed above under the food waste. And then, I mean, under the TRs. And then the container in greenhouse production proposal and of course the
overall proposal that just got sent back to the
crops subcommittee concerning hydroponics.

CHAIR FAVRE: Oh, there's more?

MS. SONNABEND: Good thing I'm getting
out of here. So we're going to look and see if we
need to do anything based on the public comment that
came in about the marine algae listing on crops.

We have a TR for a newspaper annotation
change in development about the hydroponics thing
and container thing. I don't know why they're on
there twice.

We hope to advance the seed,
strengthening the organic seed guidance to a
proposal. And then there's a long list of sunset
2019s which I'm not going to read them all, except
for you will notice that the biodegradable
bio-based mulch is among them.

Is there more below that? And look,
there's copper again, isn't that special. So
there you have the list of the subset materials.

CHAIR FAVRE: That's a pretty big list.

MR. AUSTIN: Okay, for handling,
you've added a couple of things that I didn't have on my list. That's good. Okay, so for our work, for the handling, we've got the sodium chloride for generation of chlorine dioxide gas that was referred back during this session, sodium dodecylbenzenesulfonate.

I didn't think I was going to say that one again, SDBS, that will continue forward. That one we're just waiting for a TR to get back. L-methionine for handling, we've got a petition to add that so we'll be looking at that, short DNA tracers.

Other projects, packaging substances used in organic handling including BPA, phosphates document, we'll be looking to continue work on that, nutrient vitamins and minerals, the annotation change is temporarily on hold but we will leave that in case we end up moving forward with that.

Marine algae listings, we'll continue the work on that as a result of this meeting. Magnesium chloride reclassification, that one is
temporarily on hold while we're waiting for the classification guidance to become finalized as well as we do have a TR requested for that one as well.

Both of the tocopherol proposals that we were working on, those have both been referred back, so those will continue to stay on our work plan. Then the sunset 2019 materials, the attapulgite, bentonite, diatomaceous earth, nitrogen sodium carbonate, active sodium chloride, borite, calcium hypochlorite, carbon dioxide, chlorine dioxide, magnesium chloride, potassium acid tartarate, sodium hyperchlorite, sodium phosphate, casings, and pectin. And that concludes our work agenda materials.

CHAIR FAVRE: Ashley, livestock?

MS. SWAFFAR: Okay, so livestock we've had three petitions here lately that we are currently waiting on TRs, sulphur glycolic acid and hypochloric acid. We still have all the aquiculture stuff that's listed in our work agenda, but we are waiting on the aquiculture rule which
we hear might come out.

    We have sunset '19 materials which you see there. Our other projects is defining emergency treatment for parasiticides, we're committed in the subcommittee to bring this forward in the spring, so do look at that.

    Other project also is the organic poultry task force that we ask the program, we had sent this to the program, and that would be the intent of that is that the organic poultry working group could be created for the purpose of identifying issues around organic poultry production that are barriers to achieving the objectives stated in the NOSB spring 2015 resolution around synthetic methionine.

    And let's see. We do have a couple other things. No, no. Marine algaes, we are just monitoring the work by the crops and handling committee on that. Probably going to add some other poultry stuff.

    CHAIR FAVRE: Okay. Lisa?

    MS. DE LIMA: So other than the usual
petition into your tracking, we'll be continuing
to work on the excluded methods discussion document
and see how far we can get that, maybe into a
proposal by spring, maybe not. We'll see. That's it.

CHAIR FAVRE: Tom, development?
VICE CHAIR CHAPMAN: We have PPM
dates, that's an ongoing item.

CHAIR FAVRE: Okay, any discussion and
debate from the Board? Okay. Yes, Miles, go
ahead.

MR. MCEVOY: Yes, just looking at the
list, it looks like some subcommittees don't have
very much on their agenda, and the crops one just
looked incredibly long. So --

CHAIR FAVRE: That's sunset.

MR. MCEVOY: Yes. Just, that's a lot
of very intense topics on the crops area. So good
luck.

CHAIR FAVRE: Zea?

MS. SONNABEND: Since it's open for
discussion, what did you think of Bill Wolf's
suggestion of having the NOP staff write some of
the proposals and we just review them?

MR. MCEVOY: Well, it's possible, in
certain areas.

MS. SONNABEND: Paid staff, unlike us
volunteers.

MR. MCEVOY: Right. If the Board was
interested in that happening, you might want to
pick a particular topic to see how that goes, a
trial/pilot type of thing.

CHAIR FAVRE: No, he's not touching
that one. Okay. All right. Emily?

MS. OAKLEY: I want to echo Miles'
comment and just suggest that our new chair,
whomever that might be, add additional people to
the crops subcommittee because we do have a big work
agenda.

MR. MCEVOY: Yes, actually we have
presented things to the Board, for instance the
peer review proposal. It was the procedure for
conducing the peer review. We presented it to the
Board for their review and recommendation on that
particular one.

So if there are topics that fit into that kind of a format, then that might be more appropriate for a pilot of that kind of concept.

CHAIR FAVRE: Okay. Thanks, everybody. All right, so now we are going to move on to the election of next year's NOSB officers. And yes, okay. We're going to start with nominations for chair. Do I have a nomination? Yes, Jean?

MS. RICHARDON: Tom Chapman.

CHAIR FAVRE: I have a nomination, there's a nomination for Tom. Do I have a second?

MR. RICE: Second.

CHAIR FAVRE: I have a nomination from Jean, second from Scott Rice. Any discussion? Do we feel as though we need to make a vote or can we do it --

Oh, excuse me, yes. Are there any more nominees?

(No audible response.)

CHAIR FAVRE: Going once. All right.
Yes, encourage competition. Tom's encouraging competition. All right, so I believe that we can then elect Tom with proclamation. Are we in agreement? Acclimation, proclamation. Acclimation, thank you. Okay, so Tom, congratulations. Next year's chair.

Okay, next up we'll be seeking nominations for vice chair. Do I have a nomination? Yes, Harold.

MR. AUSTIN: I would like to nominate Ashley.

CHAIR FAVRE: I have a nomination, a motion from Harold. Do I have a second?

MS. DE LIMA: Second.

CHAIR FAVRE: Second from Lisa de Lima. Any discussion? Are there any further nominations?

(No audible response.)

CHAIR FAVRE: Okay, I believe we can declare Ashley vice chair with acclamation. Congratulations.

Next we'll be seeking nominations for
secretary. I would like to nominate Jesse Buie for
secretary. Do I have a second?

MS. RICHARDON: I'll second.

CHAIR FAVRE: I have a motion by me, second by Jean. Any discussion. Any further
nominations? Francis?

MR. THICKE: I nominate Harriet.

CHAIR FAVRE: Okay, I have a nomination for Harriet. Do I have a second?

MS. BEHAR: I'll second.

CHAIR FAVRE: Okay, so we have a nomination and a second. So it looks like we have
a contested vote. So Tom is passing out ballots. Per our PPM, the way it works is if there is a
contested position it goes to secret ballot from the Board. And then Tom will collect the votes,
give them to Michelle.

All right, no, we'll do it to the vice chair. Secretary and vice chair. All right, so
those two will figure it out, give us a count.

(Pause.)

CHAIR FAVRE: Okay, all right. The
votes have been counted, and the majority vote shows that Jesse Buie will be our new secretary for 2017.

Okay, whew. I'm happy that's over. I'm going to now turn it over to our new Chair, Tom Chapman with the ceremonial passing of the gavel, which I didn't even get to whack this time.

VICE CHAIR CHAPMAN: So next item on the agenda is farewell to outgoing members. Is this you first?

MS. RICHARDON: Point of order. Do we need a motion to remove? We're sunsetting off the board.

VICE CHAIR CHAPMAN: I think that's by acclamation as well. I think we need a classification vote first.

(Laughter.)

MR. MCEVOY: Okay, I think we did honor the five members that are leaving the Board on Monday, I don't even know what day it is.

Okay. On Wednesday, it's now Friday. There's very few people left, so I think it's very
important in these meetings when we have people leaving the Board that we recognize and celebrate them on the first day when there's lots of people here to recognize all the work that they've done.

So certainly want to honor and celebrate the work of the five NOSB members that this is their last meeting. They still have a couple months of work left, however, until the, what, January 25th or something, 3rd, 4th?

Something like that. So a couple of days into the new administration, you'll get to experience that and then you'll be off into the sunset.

PARTICIPANT: No pun?

MR. MCEVOY: No pun. So they have contributed hundreds of hours to the organic community, listening to comments, developing proposals, making recommendations. We owe them a debt of gratitude for the service they've provided.

I would like to actually read a poem that sort of to me in some ways represents to me the value of these people, the value of these
people, the value of their contributions.

So this is a poem by Marge Piercy, To Be of Use. "The people I love the best jump into work head first without dallying in the shallows, and swim off with sure strokes almost out of sight.

"They seem to become natives of that element, the black sleek heads of seals bouncing like half submerged balls. I love people who harness themselves, an ox to a heavy cart who pull like water buffalo with massive patience, who strain in the mud and the muck to move things forward, who do what has to be done again and again.

"I want to be with people who submerge in the tasks, who go into the fields to harvest and work in a row and pass the bags along, who are not parlor generals and field deserters but move in a common rhythm when the food must come in or the fire be put out.

"The work of the world is common as mud, botched, it smears the hands, crumbles to dust. But the thing worth doing well done has a shape that satisfies, clean and evident."
"Greek amphorae for wine or oil, Hopi vases that held corn, are put in museums, but you know they were made to be used. The pitcher cries for water to carry and a person for work that is real."

And the work that they've done here, the recommendations, the proposals is very real work that will really move the organic community forward. So thank you so much to each and every one of you.

(Applause.)

MR. MCEVOY: So I think we have letters and plaques, right? Do we want --

Okay. And so I think that each member may want to make a few statements. So you want to start with you, Tracy?

CHAIR FAVRE: Thank you, Miles. I just want to say that I have, it has been a true honor to work with this outstanding group of people. In the course of five years, I can truly say that this has been the most rewarding professional experience of my life to date, and
it's mostly due to the give and take and the back and forth and the things that I've learned from this Board experience.

I have to say I'm learning, I've learned things, I've learned a lot but I've learned things that I didn't really expect to be the things that I've learned, primarily about consensus building, true leadership by example, and the nobility of fighting for a just cause with civility.

And I want to thank everybody for that. I think it's very true to say that there are very few easy decisions that come before this Board. There are some which we celebrate. But more likely that they're mostly difficult decisions, and primarily they're shades of gray.

There's very few discussions that we have when there's only one single right answer. And so I do appreciate, and I've said I think repeatedly in my time on the Board that the discussion actually ends up with a stronger and better final outcome than we would have come from individuals.
And if I can finally say one last thing for the future Board, I would like to recognize that there are diverse perspectives on the Board, and that we need to make sure that we always rigorously debate the issues and make sure that our constituents know how seriously we take the issues, and finally again recognize that there is rarely one single right answer.

And again, I just want to thank everybody for the opportunity and the honor to have worked with you. Thank you.

MR. MCEVOY: Thanks, Tracy, for all that you've done as being a passionate and professional and a very effective Chair, ensuring that all voices are heard, moving us along, and holding NOP accountable. So thank you so much.

CHAIR FAVRE: I would like to make one last presentation. Jean had the wand. Somebody said to me earlier that I had the Texas Bullwhip, and I am hereby bequeathing a tool to the new chair to be used at his discretion. And I'll let him decide if he wants to open it now or not.
VICE CHAIR CHAPMAN: I actually own a machete made out of metal. So I'll bring that in next time.

CHAIR FAVRE: Yes, this is just in case anybody's alarmed, this is plastic. It won't do any real damage, but it is just symbolic.

PARTICIPANT: Good luck with TSA.

MR. MCEVOY: Okay next, Jean. To me she has been an amazing leader and really brought us together after some trying times. And her granddaughter wrote a little thing about her that I think is just perfect, so I want to quote her granddaughter.

"Grandma is a good leader. She cares about other people. She puts other people before herself. For example, she takes a lot of time to serve on the Organic Standards Board. She is kind and giving. She is a good example of a strong leader." And this is from her eight year old granddaughter that recognizes how valuable Jean is to the organic community. So thank you, Jean, for everything.
MS. RICHARDON: I wasn't going to say anything, but I will, very, very briefly. So these are sort of words of wisdom from the old lady. So always strive for consensus, always, always. Try to make your pie bigger, negotiate it larger so that there is a piece for everyone. And you can have everybody around the table.

Remember, everything in nature is interconnected. So if you get really fixated on one tiny thing, never, never lose sight of the context because everything is interconnected and we all have to take care of the commons.

And last but not least, be kind and loving. Oh, you see, I shouldn't have read that thing out, it makes me weepy. Be kind and loving and very forgiving towards each other all the time.

Thank you.

MR. MCEVOY: Next, Carmela. As the chair of the Certification, Accreditation, and Compliance, right, subcommittee? I always get the CACS thing confused. First Latina on the National Organic Standards Board.
That's very important, very much an honor to be at the forefront of that. Very careful and deliberative and always appreciate that your ability to listen to all sides of the debate and bring those perspectives forward. So thank you, Carmela, for your service.

MS. BECK: I'm going to read my statement. So I would like to first thank the National Organic Program, especially Miles McEvoy, Emily Brown Rosen, Dr. Brines, and Michelle Arsenault, among many others for your indisputable commitment to the organic program and community.

I would also like to thank previous, current, and future NOSB members for their service. I especially want to thank the outgoing class including Dr. Jean Richardson, Zea Sonnabend, Tracy Favre, and Harold Austin for your phenomenal work ethic, for your willingness to teach. I'm sorry. Slightly embarrassing. Excuse me. For your willingness to teach, share your knowledge, plus model the way, and lastly for your friendship.

Lastly, I would like to thank the
organic community for your active participation in this highly interactive and complex process. This has been an incredible honor to serve the organic community, and has been a phenomenal learning opportunity for which I am very grateful.

My hope for this community is that we focus on being inclusive, collegial, and that we continue to encourage broader participation from the very diverse US demographic including younger generations and people of color. I thank you and I look forward to participating on the other side.

MR. MCEVOY: Okay. Next, Harold, a man from Washington, a place close to my heart that I don't spend enough time in anymore. Handler Chair extraordinaire. Very organized, handled very challenging issues with a very open mind, with grace, and with thoroughness.

Survived a very difficult time in San Diego and the recovery of that, so it seems like you should get some additional medal for that or something. So thank you, Harold. So you have the medal, yes you have the medal, okay.
PARTICIPANT: A titanium medal.

MR. MCEVOY: Yes, so thank you, Harold, for everything and look forward to continuing to work with you in Washington State.

MR. AUSTIN: Wow, where do you start? It's been an interesting five years. Didn't know what to expect when I came and accepted this position. Definitely didn't have any idea whatsoever the amount of time, energy, how many hours that was going to be needed to take and do this job to the level that I tried to do it.

I appreciate the support from all of the stakeholders. I've tried to be as fair and balanced and as non-combative as possible, listening to both sides of the debate. And I appreciate both sides of the debate in everything that's come before us because it helps us to grow, those of us up here that represent the stakeholders and I think the community when they hear us in these discussions, and for that I thank all of you.

For those that we've had the pleasure, I can't say enough about them. Kind of miss
listening to Calvin crunching and walking as we were on a subcommittee call. And you knew he was out walking somewhere because you could hear it. Crunch, crunch, step, step, the gravel and the distance.

For those that are going to be sunsetting with me, love you guys to death. Good group. For those of you that this is your first year, heaven help you and give you the strength and the fortitude. Be thankful that we've broken up the Sunset 2017 group.

Yes, it was something else, Skyping in, voting on L-methionine, that fall and trying to recover. For those of you that don't know it, I spent six weeks in a convalescent home recouping once I got back home before I actually was able to go home.

So it's been challenging. But through it all, I tried to stay as involved and as active in this process as I humanly could. And I hope that you all understand that I might not have been there all of the time, but I was there as soon as I could
get back up and running, I was back on the calls.

I just hope that those that take our place can understand that there's two sides to every discussion that comes before us. The decisions that you all will make when we are gone will have an impact on people's livelihoods, on the organic community, and more importantly on the future of what organics truly is.

We've come too hard to go back -- too far and worked too hard to go backwards. So I just hope that you, you know, you guys can embrace the examples that we've tried to lead with while we've served our five years on this Board.

We've worked hard to be as fair and as balanced as possible. We've tried to represent as many people in the organic community as we possibly could. I appreciate the honor to have served all of you. I look forward to staying engaged and involved in the future. Thank you all.

MR. MCEVOY: And last we have Zea, our crops chair, NOSB historian. It's going to be challenging not to have that history on the Board.
We do the best we can to remember things that happened a long time ago. But Zea, hopefully you'll continue to attend the meetings afterwards as you have before you served on the Board.

But just your incredible, thorough analysis, your knowledge of the history of the Board, your principles that you bring, and your amazing depth of knowledge of all things organic, really appreciate that, the passion that you bring and we'll miss you a lot. Thank you.

MS. SONNABEND: Well, this is my last chance to say as much as I want to for the past five years. And so I thought I would show 45 or 50 slides and talk thoroughly about every proposal.

But instead I decided to sort of give you a glimpse into my very convoluted mind. And I will say that singing this morning was so exhilarating that I'm going to end my presentation with a sing-along. So stay tuned.

Thank you all so much for the opportunity to serve on the Board for the last five years. And by all I mean the NOP staff, my fellow
Board members, most if not all of the audience, most if not all of the time. And everyone who ever communicates with us on issues from the greater community. It's been an honor to be able to serve.

My favorite thing being here has been being able to talk as much as I want. My least favorite thing has been the hate that members of the audience express towards us and each other around the topics we cover.

I'm going to talk about a few perspectives I have on the process and the world today, and then offer some wisdom and opinion for the new members.

First of all, I don't see how anyone could do this endeavor without passion and without a muse or two. My muses are pretty clear to the people who know me. I'm going to list them here in these remarks, Jerry Garcia and the rest of the Grateful Dead as well as the Nobel Laureate Bob Dylan.

So for those of you who it's totally over your head, most of the rest of this is quotes
from the muse. "Picture a bright blue ball just
spinning, spinning free dizzy with eternity.

"Paint it with the skin of sky, brush
in some clouds and sea, call it home for you and
me. A peaceful place, or so it looks from space,
a closer look reveals the human race. Full of
hope, full of grace is the human race, but afraid
we may lay our home to waste."

I undertook during my term to move the
organic community ahead a notch or two. Here are
some of my experiences in trying to do that. "Some
folks look for answers, others look for fights.
Some folks up in treetops just looking for their
kites."

Michelle, can you put up the slide?
Oh, I have the slide. Okay, thank you. I almost
brought my costume but it was too bulky so I decided
to just show a picture of my costume at the farmer's
market with my helper.

And another experience, "If this ain't
the real thing, than it's close enough to pretend.
I sure don't know what I'm going for but I'm going
to go for it for sure." And last but not least, "Once in a while you get shown light in strangest places if you look at it right."

So then when I sit down to prepare my presentations, usually just the night before the talk, I say to myself, "Inspiration, move me brightly, light the song with scents and color, hold away despair. More than this I will not ask faced with mysteries dark and vast, statements just seem vain at last. Some fought rise, some fall, some climb to get to terrapin."

And then, "Maybe you'll find direction around some corner where it's been waiting to meet you." So I feel like we have accomplished some things worthwhile in my term on the board, and now we're nearing the end.

"So there's nothing to tell now, let the words be yours. I'm done with mine." But here's what my muses have to say in closing, "History's page will thus be carved in stone. The future's here, we're it, we are on our own. If the game is lost then we are all the same, no one left to place
or take the blame. We can leave this place an empty stone or this shining ball of blue we call our home."

And now my message to the continuing and new members, and I am going to try and sing this, and will you please sing along. "May your hands always be busy, may your feet always be swift. May you have a strong foundation when the winds of changes shift.

"May your heart always be joyful, may your song always be sung. May you stay forever young." I can't sing. Thank you very much.

VICE CHAIR CHAPMAN: All right, thank you, outgoing members for your service. You will clearly all be very, very missed. With that, we'll move on to other business and other closing remarks.

(No audible response.)

VICE CHAIR CHAPMAN: Seeing none, I will hand it over to you.

MR. MCEVOY: Okay, thank you very much.

The, where are we now, St. Louis November 2016 NOSB
meeting is adjourned.

(Whereupon, the above-entitled matter went off the record at 5:34 p.m.)