UNITED STATES DEPARTMENT OF AGRICULTURE

$$
+++++
$$

## PUBLIC HEARING

$$
+++++
$$

## PROPOSED MARKETING ORDER AND AGREEMENT

 FOR PECANS GROWN INALABAMA, ARKANSAS, ARIZONA, CALIFORNIA, FLORIDA, GEORGIA, KANSAS, LOUISIANA, MISSOURI, MISSISSIPPI, NORTH CAROLINA, NEW MEXICO, OKLAHOMA, SOUTH CAROLINA, AND TEXAS
$+++++$

MONDAY, JULY 20, 2015

The hearing came to order at 8:00 a.m. in the Rio Hondo Room and Auditorium at the New Mexico Farm and Ranch Heritage Museum, 4100 Dripping Springs Road, Las Cruces, New Mexico, Clay G. Guthridge, Administrative Law Judge, presiding.

## BEFORE :

CLAY G. GUTHRIDGE
Chief Administrative Law Judge Federal Maritime Commission

## APPEARANCES:

On Behalf of the Department of Agriculture:
BRIAN T. HILL, ESQ.
U.S. Department of Agriculture

Office of the General Counsel
1400 Independence Avenue, SW
South Building, Room 2325
Washington, D.C. 20250
202-720-9237
202-690-4299 (fax)
brian.hill@usda.gov
RUPA CHILUKURI, ESQ.
U.S. Department of Agriculture

Office of the General Counsel
1400 Independence Avenue, SW
Room 2331-C
Washington, D.C. 20250
202-720-4982
202-690-4299 (fax)
rupa.chilukuri@ogc.usda.gov
On Behalf of the Proponents:
PAUL A. QUIROS, ESQ.
DWIGHT J. DAVIS, ESQ.
REGINA L. MYERS, ESQ.
of: King \& Spalding, LLP
1180 Peachtree Street, N.E.
Atlanta, Georgia 30309-3521
404-572-4604
404-572-5133 (fax)
pquiros@kslaw.com
Also Present:
KATY LOOFT, USDA
MELISSA SCHMAEDICK, USDA
JENNIE M. VARELA, USDA

Comparison to Almonds)16 List/Photos of Board of71/71
Directors
17 Testimony of Mike Adams ..... 76/77
18 Curriculum Vitae, Dr. Marco
A. Palma
19 Economic Analysis of the ..... 122/122Implementation of a FederalMarketing Order for Pecans
20
California Agriculture, Volume143/143
55, Number 1 - Almond
Advertising Yield Net Benefits
to Growers21 NICPRE Quarterly143/14322 Demand Enhancement ThroughFood-Safety Regulations23 Economic Analysis of the157/158Implementation of a FederalMarketing Order for Pecans
24
Testimony of Dr. Marco Palma ..... 157/158
25
Copies of Testimony ..... 232/243
26
Testimony ..... 280/281
27 Sworn Statement ..... 305/306
28 Testimony ..... 313/325
29
Written Statement ..... 338/--
P-R-O-C-E-E-D-I-N-G-S
(8:01 a.m.)

JUDGE GUTHRIDGE: Good morning. My
name is Clay Guthridge. I am a Chief
Administrative Law Judge in the Federal Maritime Commission and I've been detailed to the U.S. Department of Agriculture to preside over this rulemaking hearing. First thing, let me ask you, if you would please, if you have cellphones, other electronic devices such as that, either turn it off or at least put it on silent.

Can I have the appearances of the counsel, please?

MR. HILL: My name is Brian Hill from the United States Department of Agriculture's Office of General Counsel. I'm representing the Department of Agriculture in this matter.

JUDGE GUTHRIDGE: One is missing, so counsel for --

MR. DAVIS: Dwight Davis, counsel for the Proponent.

MR. QUIROS: Paul Quiros, counsel for

Proponent.
MS. MYERS: Regina Myers, counsel for Proponent.

JUDGE GUTHRIDGE: Thank you. We're here today on a proposal to promulgate a marketing agreement covering 15 states, a marketing agreement for pecans pursuant to the requirement of the Agricultural Marketing Agreement Act of 1937. The Act is codified as 7 United States Code Section 601-674, and the proposal is Docket No. 15-0139AO-FV, and the proposal itself was published in the Federal Register on July 2, 2015, 80 Federal Register, Page 38021 to 38032.

The proposal was submitted on behalf of the pecan industry by the American Pecan Board, the Proponent group which is comprised of pecan growers and handlers from across the production area. And the production area is defined as the Carolinas, south to Florida, and then across the Southern United States, all the way to California.

The proposed order would provide authority to collect industry data and to conduct research and promotion activities. In addition, the order would provide authority for the industry to recommend grade, quality, and size regulation as well as pack and container regulation, subject to approval by the Department of Agriculture.

The program would be financed by assessments on pecan handlers and would be locally administered under USDA oversight by a council of 17 growers and shellers, also known as handlers, nominated by the industry and appointed by the USDA.

Hearing sessions will be held here in Las Cruces today, July 20th and 21st, and with a Carryover, possibly, until Wednesday the 22nd, then the hearing will continue in Dallas, Texas on July 23 rd and 24, with a possible carryover to July 25th, and then Tifton, Georgia from July 27 th through the 29 th , with a possible carryover to July 30th.

The purpose of the hearing is to receive information relating to the proposal and it is my function and responsibility to conduct the hearing and to ensure that all persons who want to present relevant evidence or otherwise participate in the public hearing have an opportunity to do so.

The information presented at the hearing will be compiled into a written record and used by the Secretary of Agriculture to make a decision on the record. The decision will be based on the record made in the hearing consisting of the testimony and statements of the witnesses and any exhibits submitted and entered into the record.

Any interested person may testify. If you're here and not already on a witness list, if you'd let one of these U.S. Department of Agriculture personnel know that you want to testify, and they'll see to it that $I$ get notice of that.
as it's not immaterial, irrelevant, or repetitious. Interested persons may also submit a written statement instead of or in addition to testifying. A written statement should identify the person who is making the statement, including name, address, and other contact information, and occupation.

If you submit it, please send in five copies, either give it to the court reporter if you're here, or send it to the Department of Agriculture in Washington. The written statement will become an exhibit and given to the reporter to transmit to the Secretary's office.

Representatives of the Department of Agriculture are available to give you assistance on that.

Any interested person may ask
questions of witnesses who present testimony. If you want to ask questions of a witness, please respond when $I$ ask you at the conclusion of the witnesses prepared testimony.

Deborah Gonzalez, who's seated stage
left over there, is the court reporter and she'll
record everything said at the hearing and then prepare a written transcript of this testimony, which will become part of the record. I'm sure that she'll appreciate that if you are testifying or asking questions, you speak clearly into the microphone and make sure she can understand.

After you testify, I may ask you to consult with her to clarify any words that she might not have clearly understood. If you want a copy of the transcript, you would need to make your own arrangements. There'll be one via copy on file with the Department of Agriculture in Washington.

Now, Mr. Hill, there are four
foundational exhibits that I understand need to go into the record right at the beginning. Do you have those?

MR. HILL: That is correct. Rupa will be handling this one.

MS. CHILUKURI: Yes, Your Honor. So
we --

MS. CHILUKURI: Okay. Yes, Your
Honor, so we'd like to mark some exhibits for addition to the record, and as you said, these four exhibits are required by the regulation in this proceeding. So Exhibit 1 is a copy of the Federal Register Notice of this proceeding and it was published on Thursday, July 2, 2015. Exhibit 2 is a true copy of the Notice of Hearing to interested persons.

Exhibit Number 3 is a press release regarding this hearing, and it's also a certificate of the press release. And Exhibit Number 4 is a certificate of officials notified concerning this hearing. And here, there are 15 states in the proposed production area, so the Governors of those 15 states were notified.

And I would like those four exhibits to be admitted to the record, Your Honor, and I'll pass them off to the court reporter.
(Whereupon, the documents referred to were marked as Exhibits 1 through 4 for identification.)

JUDGE GUTHRIDGE: Is there any
objection to the admission of those four exhibits?

MR. QUIROS: Your Honor, we don't have any objection. I just want a clarification. As part of the Exhibit Number 1, the copy of the Federal Register Notice of this proceeding, it includes a copy -- does it include a copy of the proposed federal marketing order for pecans?

MS. CHILUKURI: Yes, the Notice of Hearing, what was published would be the, I guess, preamble, but it also is a proposed regulatory text.

MR. QUIROS: Thank you very much.
MS. CHILUKURI: I'm sorry, Your Honor,
I didn't have a chance to identify myself before.
I'm Rupa Chilukuri. So that's R-U-P-A, C-H-I-L-$U-K-U-R-I$, and I'm representing the Department here.

JUDGE GUTHRIDGE: Okay. Thank you.
So if there's no objection, then those four exhibits are admitted into the record. Ms.

Gonzalez, let me know when you're ready. You ready? Mr. Hill, would you call your first witness, please.
(Whereupon, the documents previously marked as Exhibits 1 through 4 for identification were received into evidence.)

MR. HILL: We'd like to call Don Hinman.

JUDGE GUTHRIDGE: Please raise your right hand.

WHEREUPON,

## DON HINMAN

was called as a witness by Counsel for the Department and, having been first duly sworn, assumed the witness stand, was examined and testified as follows:

JUDGE GUTHRIDGE: Please state your name, address, and occupation for the record.

THE WITNESS: My name is Donald

Hinman, spelled $\mathrm{D}-\mathrm{O}-\mathrm{N}-\mathrm{A}-\mathrm{L}-\mathrm{D}, \mathrm{H}-\mathrm{I}-\mathrm{N}-\mathrm{M}-\mathrm{A}-\mathrm{N}$, and my profession is economist, and my home address is

Alexandria,

Virginia
JUDGE GUTHRIDGE: Mr. Hill?

MR. HILL: Mr. Hinman, could you
please tell us a little bit about your educational background?

THE WITNESS: Yes, I have a Master's and Doctorate in Agricultural Economics from Michigan State University. I have worked for the Promotion and Economics Division and its predecessor divisions for 13 years, and prior to that, I was a teacher of economics in the University of Wisconsin system.

## DIRECT EXAMINATION

BY MR. HILL:

Q And how long have you been with the USDA, you said?

A Thirteen years.
Q And have you participated in hearings like this before? In rulemakings like this.

A Yes, I have.
Q And how many times would you estimate you've done so?

A In rulemaking, more than a dozen times, and this is the third promulgation I've been involved with.

Q So in this particular case, you have prepared two different documents, is that correct?

A That is correct.

Q And you have personally prepared those documents.

A Prepared them in collaboration with my colleague in motion economics division, Catherine Loft, spelled L-O-F-T.

Q And what was the purpose of preparing these documents?

A The purpose of these tables is that the data could serve as a reference document for the hearing record and could be used by any other witness during the hearing.

Q So this was not prepared in order to take a side in this hearing?

A That's correct. A neutral position.
It is meant to serve as a reference document
only.
Q Okay. Now, I see that one of the documents you prepared is a statement, is that correct?

A That's correct.

Q And do you intend to read this into the record?

A Yes.

Q Okay. And the second document is what?

A The second document, the documents are in two parts, there's the pecan data tables, consisting of 26 tables, and a second Part II document of three additional tables, plus the witness statement itself.

Q So the Part II document is part of that pecan data table's crop value, production, and price for 1994 through 2014, is that correct?

A That's correct.

MR. HILL: Your Honor, I would like to mark these for evidence, his statement as Exhibit Number 5, and the two remaining tables as Exhibit

Number 6.
(Whereupon, the documents referred to were marked as Exhibits 5 and 6 for identification.)

JUDGE GUTHRIDGE: All right.

MR. HILL: Okay, Mr. Hinman, it seems like you're ready. You can proceed with reading your statement.

THE WITNESS: My name is Donald Hinman, spelled $H-I-N-M-A-N$, the last name. I'm a senior economist in the Promotion and Economics Division, also known by its acronym PED, Fruit and Vegetable Program, Agricultural Marketing Service, U.S. Department of Agriculture.

And the purpose of my testimony is to present and submit into evidence a set of tables representing pecan market conditions, and the title of the document is "Pecan Data Tables: Crop Value, Production, and Price for 1994-2014." The source of this data is the National Agricultural Statistics Service of the USDA, also known by its acronym NASS, N-A-S-S.

In the main document, there are 26 tables covering 7 categories, and there's a Part II document with three additional tables. Crop values represented in units of $\$ 1000$ and production is represented in units of 1000 pounds, and all tables represent utilized inshell pecans.

I want to define the word utilized, it means that the crop is harvested and sold into commercial channels, and it's important to mention this terminology because there are many commodities for which NASS publishes data, for which all the crop may not be utilized; harvested, but not utilized.

And presenting the data in this way from utilized crop ensures that the crop, value, production, and price data are presented on a consistent basis. And now I'm going to refer you to tables and page numbers.

On Pages 1 and 2, Tables 1 through 3 represent the crop value for each state and for the U.S. Separate tables are presented for two
broad categories of pecan varieties. Table 2 covers improved varieties and Table 3 covers native and seedling varieties, and Table 1 combines them both to represent all pecans. The NASS definition of improved varieties is budded, grafted, or topworked. The production variety category of the table consists of three tables organized in the same way as crop value. On Page 3, Table 4 covers all pecan varieties. Tables 5 and 6 on Page 4 represent production of improved varieties and seedling varieties, respectively.

Table 4 shows that 2014 U.S. production was 265 million pounds. The last row in Tables 5 and 6 represent production of improved varieties and native and seedling varieties, respectively, and percentages of total U.S. production.

Now, Table 5 shows an improved variety production of 222 million pounds in 2014, representing 84 percent of U.S. production.

Table 6 shows that 2014 native and seedling
production of 44 million pounds represented 16 percent of U.S. production.

It should be noted that all production tables represent the states in declining order of magnitude by level of 2014 production. For tables categorized by region, that pattern is followed within each region. The final columns in those tables present percentages by state and then cumulative percentages by state. And the crop value tables are also presented in declining order of magnitude.

The cumulative percentage column of Table 4, on Page 3, shows that the top three producing states, Georgia, New Mexico, and Texas, representing 75 percent of 2014 U.S. production. On Page 4, Table 5 shows that the same three states represented 83 percent of the U.S. improved variety production. Table 6 on Page 5 shows that the top three states in terms of native and seedling production, Oklahoma, Texas, and Louisiana, represented 88 percent of U.S. native and seedling production.

The next section in the document is production by region. NASS publishes pecan data for three distinct regions. On Pages 6 and 7, Tables 7, 8, and 9 present production data for each state in the East, Central, and West regions, respectively. Table 11 presents data for the entire U.S., covering all three regions.

The second to the last row in each of those tables shows that 2014 production in the East, Central, and West regions was 75 million, 99 million, and 91 million pounds, respectively. When I'm referring to here, for particular numbers, I'm rounding the numbers rather than stating the decimals, which is in the document.

Out of total 2014 production of 265 million pounds, the respective regional percentages were 28,37 , and 34 .

Although data is published for each state, there are some years in which data from particular states is not published by NASS for confidentiality reasons to avoid disclosing data for individual operations. On Page 7, Table 10
combines into a category called Other States, data from several states, for which confidentiality was an issue in particular years. The years to which this applies are 1994, 1995, and 2013.

The production data in Tables 7 through 11, representing all varieties by state and region, is then broken out by the two variety categories. On Pages 8 and 9, Tables 12 through 15 present improved variety production by region. On Pages 10 and 11, Tables 16 through 19 present native and seedling production by region.

The last two categories of the tables present grower price data. On Page 12, Tables 20 through 22 present annual grower prices per pound of improve varieties for each state, categorized by three regions. On Page 13, Table 23 presents U.S. annual average grower prices for improved varieties, cover all states combined.

On Page 14, Tables 24 and 25 present
annual grower prices for native and seedling varieties for each state in the Eastern and

Central regions. Table 26 presents U.S. annual average grower prices for native and seedling varieties, covering all states combined.

Data for 2014 in Tables 1 through 26
was prepared using what NASS refers to as preliminary 2014 data, published in January of 2015. It should be noted that NASS issued its final 2014 production data this past Friday afternoon, July 17, too late to be included in the printing of these tables.

And therefore, in Part II of the "Pecan data tables", including this Table 27, a page of pecan data excerpted from the July 2015 report known as Non-Citrus Fruits and Nuts.

Table 28 in Part II compares the parity price for pecans published annually by NASS to the season average grower price for improved variety of pecans.

And Table 29, the final table, is a table of pecan supply and utilization prepared by the Economic Research Service of the USDA. And that concludes my statement.

MR. HILL: I would ask that Tables 5 and -- excuse me, Exhibits 5 and 6 be admitted into evidence, Your Honor.

JUDGE GUTHRIDGE: Is there any objection with admitting Exhibit 5, Mr. Hinman's statement, into the record?

MR. QUIROS: No objection by the Proponent.

JUDGE GUTHRIDGE: Hearing no objection, Exhibit 5 is admitted. Is there any objection to admitting Exhibit 6 into the record, the tables; pecan data tables?
(Whereupon, the document previously marked as Exhibit 5 for identification was received into evidence.)

MR. QUIROS: No objection, Your Honor.
JUDGE GUTHRIDGE: Hearing no
objection, Exhibit 6 is admitted into the record.
Anything further, Mr. Hill?
(Whereupon, the document previously
marked as Exhibit 6 for identification was received into evidence.)

MR. HILL: We have no questions, Your Honor.

JUDGE GUTHRIDGE: Mr. Quiros, any questions?

MR. QUIROS: No, sir. You covered parity pricing in your last statement, is that correct?

THE WITNESS: That's correct. That's the last table of Part II, the five-year comparison of the improved grower price compared to the published parity price.

MR. QUIROS: Thank you, Mr. Hinman. No further questions.

JUDGE GUTHRIDGE: Does anyone in the audience have any questions of Mr. Hinman? Then, Mr. Hinman, you're excused. Please see Ms. Gonzalez, see if there's any words that she needs some help with. Any other witnesses, Mr. Hill? MR. HILL: We have none, Your Honor. JUDGE GUTHRIDGE: All right. Mr. Quiros, Mr. Davis?

MR. QUIROS: Yes, Your Honor. The

Proponent group calls as its first witness, Mr. Mike Adams. Mr. Adams, would you take a seat? MR. DAVIS: Give me one second to turn it on again.

JUDGE GUTHRIDGE: Please raise your right hand.

WHEREUPON,

## MIKE ADAMS

was called as a witness by Counsel for the Proponent and, having been first duly sworn, assumed the witness stand, was examined and testified as follows:

JUDGE GUTHRIDGE: Please state your name, and address, and occupation for the record.

THE WITNESS: My name is Mike Adams, spelled M-I-K-E, A-D-A-M-S. My occupation is a pecan grower and farmer.

JUDGE GUTHRIDGE: Okay. Mr. Davis, you may proceed.

MR. DAVIS: Good morning, Mr. Adams.
Do you have a prepared statement you'd like to begin your testimony with?

THE WITNESS: I do. Yes.

MR. DAVIS: Please proceed.

MR. DAVIS: I'm going to part a little
bit and take a cue from my 4-year-old grandson, who's into colors, I'm color-coded. The farmer's the guy in the tan suit, so just to keep things straight. And Mr. Durando told me $I$ was a pecan man this morning because of my green tie. Your Honor, distinguished guests, and everyone present today who have worked so diligently, and I'll emphasize diligently, for so long to promulgate a federal marketing order for pecans, I'm honored to be here as President of the American Pecan Board, which is a proponent organization.

I'm also President of the Texas Pecan

Board and I'm a pecan farmer. I've been
authorized by my boards to testify both in my capacity as the President of the American Pecan Board and as President of the Texas Pecan Board. I also appear in my capacity as the owner of Royalty Pecan Farms in Caldwell.

In live in Henderson, Texas. I have
a Bachelor's Degree in Mathematics and Education from Texas Christian University and a Master's Degree in Anything Economics from Texas A \& M. By training, I'm an educator, mathematician, and economist. I've had a diverse professional career, which has included some happy years as a college football coach. I got into pecans to get at something less risky though.

I'm an executive in an oil and gas
company and I grew up in the cattle business, cattle and timber business, so for a while, I was a cattleman in my younger days. But by far, the most intellectually and physically fulfilling work I've done has been in the pecan business. And I'll tend my CV.

MR. DAVIS: Your Honor, we tender what
has marked, $I$ believe, as Exhibit 7, now?
(Whereupon, the document referred to
was marked as Exhibit 7 for identification.)
JUDGE GUTHRIDGE: Exhibit 7 is the
next number. Yes.
MR. DAVIS: Can we hold just one
second? Mr. Hill, in order to not interrupt the testimony, can we give you the copies after his testimony is concluded?

MR. HILL: We prefer to have them before than after.

MR. DAVIS: Okay. I think you can go ahead and proceed, Mr. Adams.

MS. CHILUKURI: One other question, is it possible to have all the exhibits that you intend to enter, including Mr. Adams testimony?

MR. DAVIS: We have those, but we just intended to do them as we introduce them. Would you like to take a moment and us get you copies of all of them?

MR. HILL: Well, I guess we're talking
about --

JUDGE GUTHRIDGE: Mr. Davis, I think that might be easier if you take all the documents, all the exhibits, for any one witness and then just pass them over at the beginning.

MR. DAVIS: Let's get a set of all of them.
(Whereupon, the documents referred to were marked as Exhibits 8 through 16 for identification.)

MR. HILL: Correct.
MR. DAVIS: All right. Your Honor, I believe we have all of our exhibits ready to go for Mr . Adams' testimony.

JUDGE GUTHRIDGE: Thank you. I think it might helpful if the other witnesses, if you have all the exhibits ready to just handout like that. I'm thinking it might be a little more conducive.

MR. DAVIS: We'll do that in the future. For some reason we had thought that the witness had to authenticate them in the fact as to what they were, but if we can get them in with -- I guess you shouldn't ask any objections to these. Can we proceed then?

JUDGE GUTHRIDGE: Well, I think after they've been authenticated and we can go to admission.

MR. DAVIS: And tender them. All
right. Mr. Adams, please.

THE WITNESS: Your Honor, I plan to
attend and participate in all three of the administrative law hearings on the pecan proposal, $I$ believe the one in Dallas, and two for the Georgia. We've got a full agenda today and tomorrow and have several witnesses scheduled to testify here in Las Cruces, and they've made extraordinary efforts to be here, but are only available for these two days.

In order that everyone with a more restricted schedule can be heard, with the Court's permission, this morning, I'd like to give an overview of the pecan industry and the reasons why the industry needs a federal marketing order.

I will address the specific structure of the proposed Pecan Council, nomination of its members, and other topics in the other hearings in Texas and Georgia. Other members of our American Pecan Board, the proponent organization, will testify about other parts of the proposed
order and will give advanced notice of that testimony.

> I'd like to begin by providing a brief history of the pecan industry. The pecan is the only commercially sold tree nut indigenous to America. Early recorded history chronicled the Spanish and French explorers to the New World encountering what they called the hard shell walnut, not being familiar with the pecan, and it was favored by the native inhabitants of the New World.

In the fall and winter months, the Native Americans followed the bounty of the trees bearing this so-called nut with a hard shell along rivers of the Southeast and Southwest. It was valued not only as a nutritious, staple food for the Native Americans, but it was also used as a barter commodity because of its value.

Some authorities even believe the fact the pecan trees tend to produce large crops only every other year, the so-called alternate year bearing phenomenon, heavily influenced the
migration patterns of the Native Americans for thousands of years. And that was noted in a book, The Pecan, by Dr. James McWilliams.

The scientific name for pecan trees,
Carya illinoensis, in honor of Illinois, where the scientific community found the first native trees. Pecan trees were hardy and long producing. There are many active pecan farms that have been producing trees that are over 90 years old. Some even older than that.

And when you tender Exhibit --
MR. DAVIS: 8.

THE WITNESS: 8, which is the
photograph of the native tree.
JUDGE GUTHRIDGE: Is the original,
it's going to be in the record, is it an actual color photo?

MR. DAVIS: Yes, color photo.
JUDGE GUTHRIDGE: The copies we have our photocopies?

MR. DAVIS: Yes, Your Honor.
JUDGE GUTHRIDGE: All right. Is there
any objection to admission of Exhibit 8?

MR. HILI: No, Your Honor.
JUDGE GUTHRIDGE: Hearing no
objection, Exhibit 8 is admitted. Was Exhibit 7 admitted, the CV?
(Whereupon, the document previously marked as Exhibit 8 for identification was received into evidence.)

MR. DAVIS: We had tendered it, but --

MR. HILL: I don't think it was
admitted, but I have no objection to it.
MR. DAVIS: It wasn't admitted. JUDGE GUTHRIDGE: All right. Any
objection to Exhibit 7, the CV? Hearing no objection, 7 is admitted.
(Whereupon, the document previously
marked as Exhibit 7 for identification was received into evidence.)

MR. DAVIS: Well, I guess I'll leave that out to the next one.

THE WITNESS: This native pecan tree in this photograph is several hundred years old.

It's over 48 feet in diameter and it still produces 985 pounds of nuts. That was its production in 2003. There's even a grand pecan tree planted by George Washington overlooking the Potomac on the grounds of Mount Vernon, which was removed recently in March of 2015 due to wind damage.

As an aside, I took my wife to Mount Vernon this past few months to show her this pecan tree that George Washington had planted. Little did I know that the wind had blown it down, so I had to show her pictures for her to believe me.

Pecans have a great story to tell. The pecan is healthful, nutritious, taste preferred, diverse as a food ingredient, and is American. Tremendous market potential exists in the United States. Pecan stakeholders recognize that their industry is rapidly changing from realities within and market forces without.

Pecan stakeholders want to play a proactive role in our future through strategic
marketing, accurate data collection, research and development, and uniform and greater organization within the industry. Through conversations and meetings with all stakeholders, many proposals were considered.

However, the industry has concluded that a federal marketing order is the most appropriate vehicle to assist the industry in effecting positive and measurable change.

The overreaching purpose of the Agricultural Marketing Agreement Act of 1937 is to stabilize the market. The Federal Marketing Order for pecans we are proposing will certainly further and effectuate that purpose and, thereby, assist the pecan industry to reach its full potential.

To give you an overview of the industry, let me talk a little bit about the geography. Currently, pecans are grown commercially in three regions of the United States. The East region, which consists of the states of North Carolina, South Carolina,

Georgia, Florida, and Alabama; the Central region, which is made up of Texas, Oklahoma,

Louisiana, Arkansas, Mississippi, Missouri, and Kansas; and the Western region, which is made up of New Mexico, Arizona, and California.

It comprises of 15 states, all the way
from the Carolinas to California, where pecans are produced commercially. And I think we've got an exhibit to indicate that. MR. DAVIS: Exhibit 10, Your Honor. JUDGE GUTHRIDGE: Are you moving that in now?

MR. DAVIS: Yes. We tender Exhibit 10.

JUDGE GUTHRIDGE: Any objection?
MR. HILL: No objections.
JUDGE GUTHRIDGE: Hearing no
objection, Exhibit 10 is admitted.
(Whereupon, the document previously
marked as Exhibit 10 for identification was received into evidence.)

MR. DAVIS: Go ahead, Mr. Adams.

THE WITNESS: Georgia, New Mexico, and
Texas --

MR. HILL: Excuse me a minute, Mr .
Adams. There's an Exhibit 9, is that going to be taken later? The article?

MR. DAVIS: It is coming later, Your
Honor. It'll be the next one.

THE WITNESS: Georgia, New Mexico, and
Texas are, and have historically been, the
largest producing states. The 15 states shown on the diagram here represent the proposed production area to which the Pecan Marketing Order will be applicable. The entire industry is interconnected and although a smaller production area was considered, the entire production area must be covered by the proposed order to make it truly effective.

> Pecans are really a, I said it was

American, and is a truly healthy and natural food commodity. The health benefits of pecans have been researched and proven scientifically. The widely publicized tree nut study released in

November of 2013 by the New England Journal of Medicine brought much needed publicity of the health benefits of all tree nuts, by including pecans. And that's Exhibit 9.

MR. DAVIS: Exhibit 9, Your Honor, tendered.

JUDGE GUTHRIDGE: Any objection?
MR. HILL: No objection.
JUDGE GUTHRIDGE: Hearing no objection, Exhibit 9 is admitted. (Whereupon, the document previously marked as Exhibit 9 for identification was received into evidence.)

MR. DAVIS: Continue, Mr. Adams.

THE WITNESS: Pecans are high in
antioxidants, healthy oils, minerals, and micronutrients. The literal translation for the Chinese word for pecans is American Health Nut. Unfortunately, the health benefits of pecans is better known in China than in the U.S. A coordinate marketing effort resulting from the proposed federal marketing order can help correct
this situation.

The general categories of pecans are important to understand. Pecans are described in two broad categories, native and seedling pecans is one, and improved variety of pecans is the second. Native and seedling pecans are pecan varieties that are harvested and sold from nongrafted or naturally propagated trees.

Native and seedling groves are
typically found along rivers and alluvial bottomlands. And Exhibit 10?

MR. DAVIS: No, sorry. That's 11.

THE WITNESS: And this photograph is really indicative of trees along the river, and the root systems, and it speaks to the longevity of the pecan tree.

MR. DAVIS: We tender Exhibit 11, Your Honor.

JUDGE GUTHRIDGE: Any objection?
MR. HILL: No objection.
JUDGE GUTHRIDGE: Hearing no objection, Exhibit 11 is admitted.
(Whereupon, the document previously marked as Exhibit 11 for identification was received into evidence.)

MR. DAVIS: Go ahead.
THE WITNESS: Improved pecans, the second broad category, are a pecan variety bread and selected for superior traits, nut size, easy shelling, production characteristics, and resistance of certain insects and diseases. And I think we have a photograph of native --

MR. DAVIS: Improved.
THE WITNESS: Improved.

MR. DAVIS: Exhibit 12, photograph of an improved orchard.

MR. HILL: No objections, Your Honor. JUDGE GUTHRIDGE: Any objection?

Hearing no objection, 12 is admitted.
(Whereupon, the document previously marked as Exhibit 12 for identification was received into evidence.)

THE WITNESS: Improved orchards are intentionally planting trees grafted to rootstock
in rows with uniform tree spacing. In our proposed order, we have provided a list of the most popular improved varieties. We did not, however, include an exhaustive list because there are currently, approximately, 400 known improved varieties and the list will continue to grow as new experimental varieties under development in nurseries, universities, and the USDA Pecan Breeding Station come on the market. Instead, we have chosen to define improve varieties as those that are grafted.

Both categories of pecans contribute to the overall U.S. crop. In the 1960s, the native and seedlings averaged over 50 percent of the crop. Today, improved pecans average approximately 82 percent of the crop. And I know, Mr. Hinman, you had 83 somewhere in there. We're close. Because of the new plantings of improved varieties, this ratio will only increase in favor of improved pecans.

Although the native seedling nut still occupies a significant and niche position in the
industry, the pecan market is much more driven today by improved variety orchards with improved varieties selling at a premium to the native and seedling nuts.

We've recognized this market price de in the proposed marketing order by providing a higher assessment for improved varieties and a lower assessment for natives and seedlings. A coordinate marketing strategy under a federal marketing order that addresses and targets demand for both categories of pecans is not only feasible, but advisable to move the crop in a balanced approach, benefitting the native and seedling growers, as well as the improved growers.

Most commercial orchards grow primarily improved varieties, and new plantings are virtually all improved varieties. All three regions produce improved varieties. Whereas, the native and seedling growers of pecans are mostly found in the Central region, which is the Texas, Oklahoma, Louisiana, Arkansas, Mississippi,

Missouri, and Kansas. The number of individual growers and the size of each operation vary widely.

The larger orchards can reach 5000 to 7000 acres and you seldom find that in a contiguous single tract. Most commercial farms range between 250 acres and 2000 acres. Native and seedling growers, they're a different story. They're found along the rivers and bottomlands and are randomly spaced depending upon soils and the topography.

An improved orchard can have as many as 70 trees per acre, although, the average is 20 to 50 trees an acre. Whereas, a native and seedling grower, they may only have one tree to the acre. A pecan acre is not representative description of the native and seedling grower.

In the proposed order, we have addressed this difference by setting grower participation thresholds in both acreage and in poundage. Horticultural practices, as they apply to improved orchards compared to native and
seedling growth, are quite different. The improved trees require a much higher level of management and input costs.

Management of the native and seedling grove varies widely, from none to regular fertilization and pest management. Irrigation is rarely found in the native and seedling grove, whereas, it's found most often in the improved orchards.

Addressing the pecan tree's natural propensity to alternate bear is an ongoing management consideration, particularly in improved orchards. Commercial pecan farmers struggle to mitigate the wide swings in production with site-specific practices, including crop thinning in the on years, taking some of the crop off, hedging and pruning programs, which keeps the tree size manageable and stimulates new growth, and sunlight management.

Also, selection of varieties which do no alternate bear, and precise water management
are just a few of the ways that the improved grower manages the alternate bear.

Since the available and timing of water is a critical input, virtually all improved orchards are irrigated. As compared to irrigated row crops, however, irrigated pecan farms are much more efficient in using water.

Despite the differences in geography, cost structure and agricultural practices in the production of native and improved variety, both improved and native/seedling pecan farmers need this proposed order. As Dr. Palma will explain in more detail in his testimony, the proposed order will help both the growers of native/seedling and the grower of improved pecans.
I want to speak now, somewhat to the
estimated annual crop size and price, and the
need for accurate data. Although there is
relatively little comprehensive data on industry
production and participation, and that's in
difference to Dr. Hinman. I mean, he pulled the
best out of that, but we're going to be talking about the lack of good data, and that's not reflection on what you pulled. You did a good job with what you had.

But a 2012 Census of Agriculture by the U.S. Department of Agriculture, the National Agricultural Statistics Service indicates that the total acres of all pecans in the U.S. are 543, 486 acres. Industry grower organizations estimate approximately 2500 commercial growers where commercial is defined by a minimum of 30 acres or an average of 50,000 pounds of product harvested over the past four years for a business to be considered commercially viable.

Therefore, the estimate of commercial growers does not include backyard production, if you got a yard tree, or part-time farmers. It's where their entire livelihood depends on marketing of pecans.

I'm going to go into some exhibits now, which I'll explain. This exhibit shows the crop size fluctuation of --

MR. DAVIS: This exhibit is Exhibit 13, yes.

MR. QUIROS: Exhibit 13. Yes.
THE WITNESS: Exhibit 13 indicates the crop size fluctuation over the past 50 years and we show here a two-year moving average. In a moving average, the intent of moving averages is to smooth things out, and you can see here, it doesn't smooth things out that much. We just have a wide swing in supply.

MR. DAVIS: Let me interrupt you. We tender Exhibit 13.

JUDGE GUTHRIDGE: Any objection.
MR. HILL: No objections.
JUDGE GUTHRIDGE: Any objection?
Hearing no objection, Exhibit 13 is admitted.
(Whereupon, the document previously
marked as Exhibit 13 for identification was received into evidence.)

MR. DAVIS: Proceed, Mr. Adams.
THE WITNESS: The other significant point on this exhibit, it indicates a relatively
stagnant growth. Anecdotally, the crop in 1963 was larger -- 1963, 50 years ago, was larger than any of the crop sizes of the last eight years. The 1963 crop, and again, it was somewhat of an anomaly, but 365 million pounds was produced, and that's 100 million pounds more than was produced in the U.S. last year.

The reality is not positive for pecan
handlers. Our handling and our shelling
community that we are attempting to maintain and/or add new customers and consistently supply a market with wide swings in supply does not facilitate our shellers being able to contract.

As I mentioned earlier, most, but not all, pecan trees are alternate bearing plants. Therefore, the size of the annual crop can vary greatly from year to year. Thus, the analysis of pecan production is best viewed as an annual average over a number of years rather than over any single year.
U.S. pecan production, when analyzed as a continuum, has been relatively flat since
the 1960s. Interestingly, as I've already mentioned, over 50 years ago the crop was 100 million pounds more than it was last year. The average annual crop size domestically is plus or minus 300 million pounds. And there was only one year, in 1999, where the U.S. crop exceeded 400 million pounds.

Pecan prices in the last few years have also seen little increase when adjusted for inflation. Nevertheless, production costs for growers have gone up. The one constant from year to year has been the wide swings in crop sizes and prices.

The prices for growers has fallen as much as 35 percent in a single year. Price instability is currently a given in the pecan industry, and the other witnesses will explain later this price instability has caused havoc within the industry. We'll tender the next exhibit.

MR. DAVIS: Exhibit 14, Your Honor.
Explain what it is, Mr. Adams.

JUDGE GUTHRIDGE: What is Exhibit 14?
THE WITNESS: Exhibit 14 is actually
a graph of the crop, crop size, in the last 50 years, on the top, and the bottom is a comparison to the crop size of almonds in the last 50 years. MR. DAVIS: There's a term used on this that perhaps you should explain. Farm value is what the --

THE WITNESS: Farm value is a simple calculation of crop size times price. And this particular exhibit will give you -- is kind of a precursor to the next exhibit. This is crop size and we're going to show farm value in the next exhibit. But again, what we're growing here is a comparison between almonds, which has had a marketing order in place for a number of years and pecans has not.

The farm value, as I've described it, is really just a simple calculation.

JUDGE GUTHRIDGE: Mr. Adams, let me ask you one thing, who prepared the graphs, Exhibit 13 and 14?

THE WITNESS: I did.
JUDGE GUTHRIDGE: You did.

THE WITNESS: Yes. Based on USDA's statistics.

JUDGE GUTHRIDGE: Okay.
THE WITNESS: The farm value of pecans peaked in 2010 and 2011 at just over \$600 million, but it's declined since then, in spite of shorter crops. The farm value in 2014 was \$506 million. The U.S. Farm Value of the Pecan Crop Chart indicates an up-trending value, however, the picture is much less favorable when adjusted for inflation. I want to tender the next exhibit.

MR. DAVIS: Explain what Exhibit 15 is.

THE WITNESS: This is, again, the other one's crop size, farm value, where you make the calculation of the price times supply. And the top chart is the Farm Value of Pecans, and this is not adjusted for inflation, it's just showing the -- that's an exponential trend line
on the top chart. Now, superimpose that top chart to the lower level of the bottom chart, bring this chart down to here, you understand? And then you can see a comparison of what almonds have done in the same period of time. And what's interesting -- this is actually an amazing fact that $I$ looked at in the data. In 1960, the pecan crop in the U.S. was larger than the almond crop. And under a well-organized, well-funded, comprehensive strategic marketing program, almonds has increased their crop size by 33 times, while at the same time, quadrupling their price, which is pretty dramatic when you look at -- I mean, the demand curve has shifted what's happened.

MR. DAVIS: Sir, let's tender Exhibit 15.

JUDGE GUTHRIDGE: I think 14 also.
MR. DAVIS: I thought I did 14. We'll
tender 14 and 15 then.
MR. HILL: No objections.
JUDGE GUTHRIDGE: All right. Mr.

Adams, let me just ask you one question about farm value again. Could you define that again for me?

THE WITNESS: Farm value is a calculation of crop size times average price.

JUDGE GUTHRIDGE: Is that a generally
accepted term in farming economics?
THE WITNESS: Yes, sir.
JUDGE GUTHRIDGE: All right. Hearing
no objection to 14 and 15, they're both admitted.
(Whereupon, the documents previously marked as Exhibits 14 and 15 for identification were received into evidence.)

THE WITNESS: As I mentioned earlier, almonds, through a well-funded marketing campaign, have increased supply and price within the same period of time when the pecan supply and price are relatively flat. The farm value of pecan and almond crops chart, which is here, superimposes the almond data with pecan data on the same schedule.

A federal marketing order for pecans
can enable the pecan industry to more strategically market its product domestically. The industry also is hobbled by incomplete and inaccurate data within the industry. The estimates I have provided have been collected in good faith, but they are just estimates.

There's simply no reliable data of
accurate information on annual crop size, number of growers and handlers to assist buyers and sellers to arrive a reasonable price for the market. A proposed federal marketing order will facilitate the gathering, compilation, and publication of reliable data that will be a muchneeded benefit to the industry.

And let me add here, most of our numbers are after-the-fact numbers rather than -we have very poor data on crop estimates going in. We've got better data once the crop is produce as to what size it is. But we don't have good data on this other tree nut, neither do other food commodities, for that matter.

Let me speak now to the recent
marketing development and increase planning. In the last decade, an interesting thing happened to pecans. It was heretofore, a regional, seasonal, rather laid-back commodity. The world discovered the good taste and healthfulness of the pecan, with China leading the way. The initial impact on prices was positive, indicated by the historically high prices for pecans in 2010 and 2011.

Pecan prices were not sustained at those levels, however, and they fluctuated widely since then, caused by, in large part, a dramatic drop in domestic consumption, which offset the increase in foreign sales. As $I$ will discuss later, one obvious, and potential disruptive long-term effect of these two years of high prices was a substantial increase in new tree plantings, right after those two years of high prices.

Let me move now to talk about competitive pricing. In addition to these internal challenges, the pecan faces competition
from sister tree nuts, namely almonds, walnuts, and pistachios, which enjoy a much more favorable marketing environment. For instance, the almond industry in the U.S. has grown its crop size from 162 million pounds in 1960 to over 2 billion pounds in recent years. Now, those are kernels. Keep that in mind.

Even more noteworthy is the fact that the almond farm price more than quadrupled during the same period of time. The simple economic conclusion is that supply and demand for almonds has increased. Pistachios and walnuts have had a similar story for both dramatic supply and increased -- dramatic increased supply and price.

Why the marked difference to the other tree nuts? One word, marketing, because walnuts, almonds, and pistachios do have marketing campaigns where they spend a good portion of their budget on generic promotion of their product.

The almond and walnut industry are each conducting well-know, well-funded,
comprehensive, sustainable marketing campaigns, assisted in part by federal marketing orders. And the Texas state check off for pecans has run a state marketing campaign similar to the one we now see, as is the case also in Georgia.

The geographic differences in pecan production practice is also noteworthy to mention. A general farm description of each -or a general description of the farm differences in each region, let me go into it, because that's important. The single unit that we're talking about across the 15 production states is an inshell pecan. However, the farms differ from region to region.

In the East, the East region, there
are large and small improved variety orchards.
The trees per acre range from 20 to 40 trees an acre. Native and seedling groves in the East are present, but not predominantly. There's a sizable number of non-commercial plantings, including yard trees, that can contribute 10 to 20 percent of the annual supply.

So in the East, you've got mostly improved farms, you've got a few native and seedling growers, and then you've got a significant part that are considered yard trees that are native trees, some improved trees, that individuals that may have one in their front yard collect and they don't eat them all because they can sell them.

In the Central region, large and small improved variety orchards are present. In the Eastern Central region, the average trees per acre are 20 to 40, and if you go to the Western Central region, and that's in El Paso Valley and Fort Stockton, Van Horn area, you'll find the 30 to 50 trees to the acre; more dense plantings.

In the Central region, which is where most of the native and seedling groves are found, and that's Texas, Oklahoma, Louisiana, Arkansas. That's where the primary natives are found in the Central region. There are yard trees that contribute, again, 10 to 20 percent of the supply on an annual basis, depending upon what those
trees make, but those pecans do come into the market when the yard trees produce.

The Western region is very different. California, Arizona, and New Mexico is almost all improved variety of trees. They range from 30 to 50 trees to the acre. There are some small improved varieties in the West region. There are no native and seedling groves and if there are any yard trees, I'm not aware of them.

Horticultural differences differ from East to West. Generally, in the East and the Eastern Central region, insect and fungicide management are factors and irrigation water is supplemental. In the West and the West Central region, pest management is a factor, but less of one, and fungicide management is not yet necessary.

> Irrigation water is essential to make a crop, but many orchards use flood irrigation by diverting rivers and streams. And you guys out there, you know your water situation. Again, despite these differences, Dr. Palma and Dr.

Wells estimates that all sections of the industry will benefit from the proposed order. And Dr. Palma will testify to that.

The entrance of pecans into the stream of commerce takes place in one of two ways, either as in-shell nuts or as pecan meats, or kernels. Domestic consumers purchase some inshell nuts, mostly during the winter holiday season, to be cracked and eaten as snacks. The vast majority of the domestic market, however, is out-of-the-shell pecan meats.

Handlers, which are buyers,
accumulators, shellers, and exporters, purchase the nuts from growers. There's estimated to be 250 handlers in the United States. Shellers, which are a subcategory of handlers, as the name infers, removes the meat from the shell.

And shellers sell the meat and handle the majority of the product sold in the domestic market. The meats and kernels enter the stream of commerce to retail meat or kernel
distributors, ingredient users, food outlets,
like restaurants and bakeries, and value-added users, such as ice cream makers and snack packagers.

Over the years, terms have been developed to describe particular types and quality of pecan meats. Descriptive names such as halves or pieces are self-evident. Graduation within these broad categories, however, does not have uniform meaning in all areas of the market.

One important goal of the proposed marketing order is to empower the pecan industry to set uniform standards which will better inform buyers, sellers, and consumers of the quality of the product that's being sold. There are estimated to be 50 commercially viable sellers with production of over 1 million pounds of inshell nuts currently operating. That's 1 million pounds within a year; production year.

Of these 50, 14 meet the Small

Business Administration's definition for a large business entity, that is equal to more than \$71/2 million in annual revenue from pecans. Thus,
the vast majority are small business entities using the same definition. We are not aware of any commercial sheller currently operating which shells less than 1 million pounds of in-shell pecans a year that's considered a commercially viable entity.

The majority of pecans sold in the expert market are in-shell. In recent years, the expert market for pecans has burgeoned to approximately $1 / 3$ of the annual crop, with the largest customer being China. Most of the export sales are made through brokers and by direct sales to customers in those markets.

The American Pecan Council, which
would be created by the proposed federal
marketing order, will focus little of this effort in promoting the export market for pecans. The lion's share will be directed to the domestic market. And let me clarify, the American Pecan Council in the order is the eventual administrative body of the order, as opposed to the American Pecan Board, which is the proponent.

As diverse as the uses of pecans are, much research is needed for product development and packaging in the domestic market. The presentation of pecans by retailers today is rather mundane, usually clear cellophane bags in sizes from 1 to 10 pounds. Pecans are rarely found in individual package sizes to compete with almonds, pistachios, walnuts, and pecan snacks on the retail shelf.

A federal marketing order that funds product development, presentation innovation, and upscale preservative packaging is direly needed for this.

I want to speak to another issue that is kind of coming down the pipe. Compared to other agricultural commodities, a pecan tree is an unusual plant in that it takes five to seven years to bear a crop after planting them. And it's up to 10 to 15 years to cover the capital cost and the variable costs to make a profit.

After pecan prices in 2010 and 2011 reached historically high levels, many pecan
farmers began planting more trees in anticipation of increasing demand and higher pecan prices. For example, in Georgia, where we have the most accurate data, from 2010 to 2014, over 360,00 new trees were planted.

This is a significant increase in the number of trees under management in Georgia, which is our largest producing state. Other states did not have as accurate estimates, however, anecdotal evidence indicate similar new planters. I mean, as growers, we know that for a fact. In the Western region there's 1000 new trees being planted.
trees are now in the ground and will be coming into production in the next few years. Some prognosticators have projected the U.S. crop will nearly double in the next ten years. Increased supply is a good thing to assure availability. If nothing is done to increase demand, however, competitive market fundamental will emerge and pecan prices will be affected. They
could collapse with this new supply. This can lead to a death spiral in the industry as farmers are unable to cover the cost of fixed expenses, convert fields to other crops, or, as occurred during the housing bubble, convert to residential real estate.

So there's a need for a marketing
order. I hope that I've begun to outline that. And, Your Honor, that's what I want to move to now, the need for the order. I mean, it's why we're here. We need the order to stabilize the market, to reduce volatility, and to address the pending disruption based on this increased supply that's coming down the pipe.

We also need an industry-wide commitment to domestic marketing, to domestic marketing, and we feel like that's essential. And we only have to take a lesson from the other tree nuts to see what it can do for your industry. A federal marketing order for pecans give the industry its best chance to accomplish this objective.

The desired results are consistently profitable prices for growers, attractive, sustainable markets for handlers, and an assured supply of quality, healthful pecans for consumers. So we think this is a win-win. We think growers will benefit, handlers will benefit, and we think consumers will benefit.

Dr. Palma is going to address, in economic terms, the public good which can flow from a unified marketing order. As a pecan farmer, however, I can also testify that there is little incentive for an individual grower or handler to increase demand for pecans since others, who do not contribute to the cost of efforts, will merely be free riders.

A funding mechanism that will apply fairly to everyone in the industry will eliminate this free rider issue and provide adequate funding or increased marketing and research. There has developed over the years, a number of organizations which represent various segments or geographic portions of the industry.

For example, there are national pecan growers associations, and the national pecan sheller organizations, there are three regional pecan organizations, and there are 14 singlestate organizations. There are two pecan commissions. Texas and Georgia have pecan commissions that oversee programs in their state. So we're fractured in terms of representation.

There's not, however, one organization
that can coordinate marketing and research efforts for the entire industry. In the coming days, you will hear testimony from representatives of many of the existing organizations in favor of the coordinated marketing and research efforts that's envisioned by a federal marketing order.

These organizations believe correctly that a federal marketing order will not duplicate or frustrate their efforts, but will instead, complement their efforts, and I think that's a key point. We have championed that that idea as we've been to the industry, that all of the
organizations that are in place now, can only be enhanced by a federal marketing order.

And their buy-in is evidence by the letters that they've written in favor. The industry, led by the American Pecan Board, has awakened to the fact that the status quo could lead to disaster for both pecan stakeholders and pecan consumers. A summary of the challenges currently facing the pecan industry outlined above includes a lack, of organized representation of industry-wide interest into a single organization.

A lack of accurate data to assist the industry in its analysis of production, demand, and prices; a lack of uniform size and quality standards; a lack of coordinate domestic promotion or research; and a dramatic increase in production in the near future as a result of these new planters.

So those are issues that are happening now and the marketing order is the way to deal with it in a measured way. These factors
combined have resulted in under performance of the pecan industry vis a vis its sibling domestic tree nut industry.

The American Pecan Board was formed to represent all segments of the industry, from producers to processors, large and small. The American Pecan Board has representatives from small and large growers and small and large shellers. And the Board has representatives from all three producing regions.

The pecan industry is also remarkably diverse demographically. There are Hispanic pecan growers, Native American pecan growers, African-American pecan growers, and of course, male and female pecan growers. The American Pecan Board is committing to representation to all segments of this wonderfully diverse industry.

The Board of Directors of the American Pecan Board consists of the following industry representatives, and we will tender the next exhibit.

MR. DAVIS: We tender Exhibit 16, which is just the identity of the Pecan Board. JUDGE GUTHRIDGE: Is there any objection?

MR. HILL: No, Your Honor.

JUDGE GUTHRIDGE: Any objection?
Hearing no objection, Exhibit 16 is admitted.
(Whereupon, the document previously
marked as Exhibit 16 for identification was received into evidence.)

THE WITNESS: I think you'll see that this is representative of what I'm describing, because we're dealing with a production area of 15 states, the horticultural practices change across the region, and so the American Pecan Board would be reflective of that representation. Dan York is a York Pecan Company out of Foreman, Arkansas. He's a small sheller.

Helen Watts, with Young Pecan Company out of Florence, South Carolina, and she is a sheller representative also. Boyd Bulger, who is one of our public members. He's a retired
executive from Tyson Farms. Boyd, for personal reasons, has taken a less active role on the board.

## Bruce Caris from Green Valley Pecan

Company out Sahuarita, Arizona. Bruce represents Green Valley, who is a large grower and a large sheller. Homer Henson, Louisville Pecan Company in Louisville, Alabama is a small sheller. Dr.

Randy Hudson with the Hudson Pecan Company out of Oscilla, Georgia. He's primarily a grower.

Scott Landgraf out of Landgraf Farms in Madill, Oklahoma is a small grower. Louis Salopek, with Tom Salopek Farms here in Las Cruces, New Mexico is a large grower. And Larry Willson, Sunnyland Farms out of Albany, Georgia. Larry is a grower and a sheller.

You'll hear testimony from most, if not all, of these board members in the coming days in support of the federal marketing order. What I want to try to do next is really a key issue when we began this whole effort. At the outset, the American Pecan Board was convinced
that a federal marketing order for pecans had to be designed by input from pecan people, from stakeholders, who had a vested interest in what was going on within the industry.

Therefore, the American Pecan Board has spent the past 26 months reaching out to pecan stakeholders to listen and to hear the ideas of how to customize a federal marketing order for our industry. Since May of 2013, the American Pecan Board members have made, my written, it says 40 presentations, it's up to 44 presentations now, that I've made, to pecan grower and sheller conferences, pecan boards, which is growers and shellers, state conventions, pecan field days, and local pecan meetings.

And you add to that, other board members have made similar presentations across the country over the last two years. We have reached out to the industry to hear what they've had to say. Hundreds of individual conversations have taken place at these meetings, and outside of these meetings, has the American Pecan Board
listened to all segments of the pecan industry. The most recent meeting for small groups of growers in Alexandria, Louisiana; San Saba, Texas; New Roads, Louisiana; Ardmore, Oklahoma; and Natchez, Mississippi. Three regional information sessions were held in 2014 with pecan stakeholders and with USDA personnel in attendance.

The USDA/AMS staff have attended and spoken at pecan industry programs at Southeastern Pecan Growers Association and conference, the National Pecan Shellers Association and conference, Western Pecan Growers Association and conference, Georgia Pecan Growers Association and conference, and the Texas Pecan -- so the USDA/AMS staff have been well-represented in front of pecan growers.

> The purpose of these efforts was to compose a marketing order designed by pecan people for the benefit of pecan people.

Moreover, the ten-member board and board council
have volunteered their time and contributed their
out-of-pocket expenses, amounting to over $\$ 600,000$.

A show of financial support from grower associations, sheller associations, accumulated vendors, and individuals have amounted to cash contributions of almost, actually, it's over this now, \$170,000 that they've contributed in donations to fund the expenses of this effort over the last two years.

These monies were to be spent for the necessary expenses that are obviously incurred. The most significant contributions, though, by members of the American Pecan Board, including its attorneys, I'll say that again, including its attorneys, has been the unselfish commitment of time. I mean, I have been gratified by volunteers and the way our board and council has contributed their time.

$$
\text { For some members of the board, the } 40
$$

presentations since May of 2013 involved over 90 work days of travel, meeting, and speaking, and over 120 hours of preparation time in addition.

Multiply those numbers by the ten board members and two board attorneys, working pro bono, and the time and equivalent, and all our contributions, are well into the thousands of hours and hundreds of thousands of dollars.

We've got a number of board members in the audience and this going in the record, so I want to say thank you, guys. You know who you are. This will conclude my remarks today, Judge. I plan to address more specific elements of the proposed order, particularly the nomination, selection, and functioning of the American Pecan Council in my presentation in Dallas, and I will conclude with remarks in Tifton. And now I'll be glad to answer any questions. JUDGE GUTHRIDGE: Mr. Davis. MR. DAVIS: Your Honor, before we tender the witness for questions, we would like to tender Exhibit 17, which is just written remarks that Mr . Adams has just delivered. (Whereupon, the document referred to was marked as Exhibit 17 for identification.)

MR. HILL: Would this be the remarks that he was just speaking?

MR. DAVIS: Just given. Yes.

JUDGE GUTHRIDGE: Is there any
objection?
MR. HILL: No objections, Your Honor. JUDGE GUTHRIDGE: Any objection?

Hearing no objection, Exhibit 17 is admitted.
(Whereupon, the document previously
marked as Exhibit 17 for identification was received into evidence.)

MR. DAVIS: Your Honor, would you prefer that we tender the witness for questions now or take our morning break?

JUDGE GUTHRIDGE: Well, let's find out -- I mean, do you have more questions? MR. DAVIS: We will have no questions for the witness at this time.

JUDGE GUTHRIDGE: Mr. Hill, do you
have questions of the witness?
MR. HILL: Yes, we'd like to move
forward with questioning now.

JUDGE GUTHRIDGE: I think, given the constraints on your other witness that we were talking about --

MR. DAVIS: Thank you. We appreciate it.

JUDGE GUTHRIDGE: -- I think, let's go
forward with Mr. Adams at this time.

MR. DAVIS: Let's do that. We tender the witness for questions.

JUDGE GUTHRIDGE: All right.

CROSS EXAMINATION

BY MS. SCHMAEDICK:

Q Good morning. My name is Melissa Schmaedick. I work for the U.S. Department of Agriculture. Good morning, Mr. Adams. Thank you for your testimony. So I'd like to ask some questions about the history of the industry and try to get some clarification on the work that's been done up to this point.

A Can you speak up, ma'am?
Q Sure. Can you explain to us why a program such as the marketing order has not been
attempted prior to this point?
A Well, there have been attempts at programs, not a rule, that I'm aware of, federal marketing order. There have been attempts at a check off and it has to do with the history of the industry, quite honestly, and there are processors in this audiences that I hope agree with me, but there has not been as cordial a relationship between growers and shellers that lent itself to cooperation.

And so I think I mentioned that there are forces within the industry and market forces without have brought a consciousness to all segments of the industry that we need to do something. And so I think the timing is right and I think other efforts that have failed prior to this one had to do with a somewhat adversarial relationship within the industry.

And so I think bringing the industry together with a single purpose has been significant.

Q Thank you. You also mentioned that
there are 15 states in the proposed production area. And I think, briefly, you might have stated that you thought about smaller production areas, but you decided that this larger production area was important. Can you speak to that issue a little bit further?

A Why are there 15 states?

Q Yes, sir.
A Well, as diverse as we are as an industry, and I spoke to that, East and West, horticultural practices, varieties, native, et cetera, to have an inclusion of all 15 states that grow the pecan, that single pecan goes into a single market, essentially, and so to prevent this free rider issue where some participate and some don't, is the reason we felt like we needed to include the 15 states that commercially grow. And one of the issues as we spoke to various pecan groups in all them conferences to individuals, was the issue of compliance. And I heard a number of times, I'm for this, and I'll do it, if everybody else will do it. And so I
think the compliance issue and inclusion to make the program work is the reason.

Q Thank you. Are you aware of any production outside of these 15 states that you've mentioned?

A I'm not.

MR. DAVIS: Well, clarify that. You mean within the United States, correct?

MS. SCHMAEDICK: Correct, within the United States.

MR. DAVIS: Within the United States.
THE WITNESS: I'm not aware of any commercial production outside the 15 states of the production area in the United States.

BY MS. SCHMAEDICK:
Q When you were describing the profile of production in the different regions, you mentioned yard trees in the Central and Eastern region. You mentioned that yard trees represent 10 to 20 percent of the production, is that correct?

A That's a close guess. That was on my
testimony. And again, that's a hard number to come up with, but that's our best guess.

Q How are those pecans entered into the market?

A In tow sacks. It's any number of ways where someone will go up -- literally, there are grocery bags of pecans. They're taken to the local feed store, who is a buyer, and they go into the market that way. And then that local buying point will collect small quantities of pecans and aggregate them together, and then they'll go to an accumulator or a buyer.

So that's why you got hundreds, thousands, of small quantities that are collected by individuals, and literally, can be in the backyard or front yard, and they take them to a buyer, up to a buying station, and then that's the way they're entered into the stream of commerce. I mean, it just goes up the chain. And those pecans, at some point, will go to a cleaning plant, which processes them to eliminate the inferior nuts.

And then, eventually, they'll go to a sheller, primarily, where that sheller will turn the in-shell nuts into kernels.

Q Thank you. And the individuals that present yard tree production, are they considered growers?

A The yard trees?
Q Under the proposed marketing order, would they be considered growers?

A No.
$Q \quad$ Why?
A Well, one of the first things I did was to read the Agriculture Marketing Agreement Act from 1937, and my take-away from that was that this was intended, by Congress, when they passed the act, for the commercial grower; for the someone that was making a living with that commodity. And so I think that that yard tree person is not -- they don't make their living taking the grocery bag of pecans to the feed store.

So this order was written for the
commercial grower.

Q Thank you. And are the yard trees, I
can't remember if you included this in your testimony, are they predominantly native or improved pecans?

A I think they can be both. Again, in Texas, they're mostly native. I think in Georgia, you will see more improved yard trees, but again, that's -- they would be both.

Q Thank you. You briefly mentioned marketing campaigns in Texas and Georgia, can you speak to those just a little bit more?

A The marketing campaign?
Q I believe that's what you said, yes.

A Texas and Georgia have a state check off. And in Georgia, the Georgia Pecan Commission is the administrative body over the Georgia check off. In Texas, which has a pecan check off, it's administered by the Texas Pecan Board. And again, those are state organizations that oversee check offs in those two states, and they do conduct promotion and research with those
funds.
Q Are those marketing campaigns statespecific, or generic promotion?

A Say that again, and I'm having difficulty hearing you.

Q Yes, I apologize. I think the speakers are pointing to the audience and not to us. So in terms of the marketing that is conducted by the Texas and Georgia Commissions, what are their marketing campaigns focused on? Is it the state product or generic? Can you explain that?

A I can speak more to Texas than I can in Georgia, but in Texas, and again, understand that these are limited funds. I mean, they're not record numbers, but in Texas, we sponsor a pecan recipe contest in a pullout magazine. And again, it's less generic Texas pecan. I mean, we've got a Texas pecan label, but we also sponsor some research from proposals that are sent to us.

And really, and I'm from Texas, we've
done a good job with extending those funds and Dr. Palma actually did a study ten years ago on the Texas pecan check off and I recall we were getting about 11:1 return on the few dollars we were actually spending. And some of the research that we have supported is really -- it is significant.

We had a proposal presented at the latest conference. When it's done, it'll mean a lot to the health of the U.S., so those monies are spent primarily on research and some promotion in Texas. Georgia --

MR. DAVIS: Let me -- Thomas Mason, who's the Chairman of the Georgia Pecan Commission will be testifying in Tifton, so perhaps we could reserve those questions for him and he can address that if it's all right.

MS. SCHMAEDICK: Thank you, but it is important to hear from multiple witnesses on these questions.

MR. DAVIS: All right. Well, I just
wanted you to know that we are going to address
that when we get to Tifton.
THE WITNESS: Now, to the extent that I know what Georgia did, I think it's similar.

MS. SCHMAEDICK: Thank you.
JUDGE GUTHRIDGE: If I could ask a question, Mr. Adams. You've used the term check off a number of times. I'm not sure that that was defined. What do you mean by a check off programs?

THE WITNESS: Well, from my education in this process, $I$ use it -- and the industry, too, still uses those check off and marketing are interchangeable, and they're very different. They're under two different orders and I think, Michelle, when we were there in November of 2013, that's where we really learned about the difference, but the check off is under the Promotion of Information and Research Act, is that right?

And it has very different provisions within the law. And the marketing order is under -_

JUDGE GUTHRIDGE: Is that a federal
statute?

THE WITNESS: Yes. And just to elaborate a bit on that, when the American Pecan Board chose the federal marketing order after the meeting with the USDA staff in November of 2013, the Board left with a consensus that because you can customize the marketing order to the commodity, it would fit our diverse industry much better than the check off, which is, more or less, one-size-fits-all in a short description.

So those are two different programs. Now, understanding too, in each state, we use the term check off, but it's under, for instance, Texas is under the Texas Commodity Law, which is very different from the federal law and very different from the Georgia law, so those are terms that have wide-ranging meanings that someone has to understand the usage of them.

JUDGE GUTHRIDGE: So earlier, a couple minutes ago, when you were talking about the program in Texas, that was under the Texas
statute and not the federal statute --
THE WITNESS: That's correct.

JUDGE GUTHRIDGE: -- of check off.
THE WITNESS: Yes, sir.
JUDGE GUTHRIDGE: Thank you.
MS. SCHMAEDICK: Thank you. You
mentioned that there's been extensive outreach that's taken place, can you give any examples where an individual was able to raise a concern about the proposal and that concern was fully vetted and address by the board?

THE WITNESS: I can give more examples that we've got time for, but let me mention two or three. I think at one $I$ was on, and I see a gentleman out, he was involved in that conversation, we met with a large grower and sheller, and they expressed concerns. And again, this was, literally, a listening tour by the board and by members of the board, and they expressed concerns about pecans that were inferior in quality.

When you process pecans through a
cleaning plant, you will blowout lighter weight pecans that don't have as fully developed a kernel, a wafer, blowout a light one, a crack, a nut that's already cracked, a stick type, where the hull is still -- so those nuts have commercial value, but they're not the premium ones.

And so this particular grower expressed a concern, how are you going to handle that? Well, we had not considered a category beyond native, seedling, and improved, but because of that single conversation, we go back to the board and we introduce and write into the order, a substandard category that is assessed for a pecan that has commercial value but it doesn't have it as the number one.

So that particular provision came about from a conversation. I can tell you of another conversation that took place in Georgia where a sheller indicated he was concerned about compliance and just how everyone complied, how it would be handled at the handler level, and so we
went back and we wrote into the order, comments, suggestions, that that one sheller had, okay?

I can go on, but literally, some of the terms in the order were discussed for hours and based on what feedback and input we got from the industry.

MS. SCHMAEDICK: So would it be correct to say that, in your opinion, the process has been inclusive of all 15 states and individuals that have wanted to participate?

THE WITNESS: Yes, it has been
inclusive. The fact that we spent two years and all these meetings that we've been to, and every invitation, and I've still got a couple of them that I'm attending from invitations of grower groups and sheller groups that want to hear about the marketing order, we've accepted all those invitations.

My personal cell number is on the Web site, and so we've tried -- I think the thing that the board felt would be most damaging is, if in the process, someone said, well, I didn't know
anything about it. And we've tried to address that with the constraints of no full-time staff and no paid-for bodies. All us guys still got an orchard to take care of or shelling plant to run, and that's why we've committed to spend the time and the effort to go out to the industry and hear what the industry says.

So yes, we have attempted in every way we knew to be inclusive.

MS. SCHMAEDICK: Thank you. And my last question is, are you aware of any either producer or handler cooperatives that operate in any of the states?

THE WITNESS: In Texas, in the Central
region, pecan producers, I think, is a cooperative and has been in place for a while.

But again, $I$ don't know the specific workings of that, but that's the only one I'm aware of.

MS. SCHMAEDICK: Thank you. No
further questions.
JUDGE GUTHRIDGE: Does anyone in the audience have any questions of Mr . Adams?

MS. CHILUKURI: Your Honor, I have a few questions.

JUDGE GUTHRIDGE: Oh, I'm sorry. I apologize.

MS. CHILUKURI: No problem. Mr. Adams, thank you for your testimony. You mentioned processors, $I$ don't know that that's a defined term in the proposed order. Can you describe what that is?

THE WITNESS: What a processor is?
Let me begin by giving you some of the specific nomenclature that goes with the industry. Here's one, in the Central region, we call them native growers. Primarily they're called seedling growers in the East, but it's the same thing, okay?

> Within the industry processors are what we call shellers. So $I$ know in the act, it refers to processors, and so we have tried to be careful to call our shellers, processors, but those terms are synonymous. And then in the grower, what the act calls producer, we call
growers.
BY MS. CHILUKURI:

Q Thank you. You also talked about the free rider issue. Could you talk a little bit more about how you anticipate the proposed marketing order will address that?

A Again, ask the question. I'm --
Q Sorry. You mentioned the free rider issue. Can you talk a little bit more about how the proposed marketing order will address that issue?

A The?

JUDGE GUTHRIDGE: Free rider.
THE WITNESS: Free rider. Just
compliance. Having someone who is meets the provision in the order would be addressed in the compliance area, and I will assume that the eventual American Pecan Council, the governing body, will have compliance staff.

BY MS. CHILUKURI:
Q Thank you. Building on a question
that Melissa had asked that relates to yard
supply. I think you had mentioned that 10 to 20 percent of the East and Central annual supply is from yard trees. So 20 to 40 percent would be --

A I think 10 to 20 is where I testified to.

Q Oh, just the East or Central?
A Yes.

Q So combined, would it be 20 to 40 percent?

A I don't think that's -- no, I don't think that's right.

Q Okay.
A Depending upon the supply from that region, you couldn't just combine those percentages. You'd have to do it on an individual regional basis.

JUDGE GUTHRIDGE: I understood his testimony that 10 to 20 percent in the East, 10 to 20 percent in the middle, and if you add it all together, it's still going to be 10 to 20 percent.

MS. CHILUKURI: Okay. And would those
pecans be assessed anywhere in the chain as they enter?

THE WITNESS: Yes.

MS. CHILUKURI: Okay. Thank you very much. Those were my questions.

JUDGE GUTHRIDGE: More questions from USDA? How many are going to be asking from the USDA?

MR. DAVIS: Well, Your Honor, before they move on, we wanted to do a follow-up question about a question that was just posed. Could we do that before the next questioner comes up?

JUDGE GUTHRIDGE: I think that's --
MR. DAVIS: Is that all right with
you, Mr. Hill? Because I think it would help. To go back to that processor question. I don't know if you misspoke or I misheard, but although the term processor is used in our proposed FMO, we use the word, handler, correct, to be a broader term of everybody that would process the nut, is that correct, Mr. Adams?

THE WITNESS: That's correct. That's one thing I think the chain kind of labeled. And again, that's one of those situations where we understand what we're talking about, but if we're communicating it, we change it to handler, because a handler is a term that's well understood within the whole industry.

MR. DAVIS: Thank you. We have nothing further.

JUDGE GUTHRIDGE: Next?

MS. VARELA: Jen Varela, USDA. I just have one other quick follow-up question for you, Mr. Adams, on the yard trees. What are some of the factors that might lead to that variation in the percentage? You talked about alternate bearing trees. Is it mostly weather, the cycle, or are prices involved?

THE WITNESS: The variation of the crop.

JUDGE GUTHRIDGE: I'm sorry, were you talking about the variation in the crop or that -

MS. VARELA: Specifically in that range for yard supply, are there any factors in particular that contribute to the fact that it varies a lot more than the rest of the supply?

THE WITNESS: I'm not sure I understand the question.

JUDGE GUTHRIDGE: Ms. Varela, are you asking why it varies from 10 to 20 percent?

MS. VARELA: Correct. What are some of the major factors that create that wide range of variation?

THE WITNESS: It's just whether or not their trees -- I mean, there are nuts on the tree that year, and so that can be anything from whether or not the crop was set in those trees. Understand, these are trees that are not managed. They make a crop, and it may be every other year, or every third year, or every fourth year, and if they make it through the crop, the make it in -well, where the yard trees are particularly prevalent is the East.

Okay. And so if they make it to

October and fall off the tree, they're picked up, but it depends upon the crop set, whether it was set initially, whether or not disease or bugs got them, whether a hurricane blew them away, and so there's any number of things.

And so come October, the resident of that home where the tree's in the front yard, and walks out there, and sees nuts on the ground, they'll pick them up, but beyond that -- and so the years that there are big yard crops, you'll see that come in. And years, they're just not there, and they vary.

And for instance, in Texas this year, we don't have a yard crop. I know in Georgia, they say they've got a yard crop this year.

JUDGE GUTHRIDGE: Mr. Adams, in your original testimony about that, $I$ understood also that part of the problems of having a range, 10 to 20 percent, is just one of the reasons you want the marketing order to begin with is collecting industry data. There's just not much data or the data on it is anecdotal, and so it's,
to a certain extent, an educated guess on how much --

THE WITNESS: That is exactly true. And I think, you know, we've talked about the urgencies, the reasons, being marketing and promotion, but I'm telling you, a close second is accurate data. When we in the industry make dollars and cents decisions every day with that.

MR. DAVIS: Ms. Varela, with your permission, could I ask one follow-up question?

MS . VARELA: Sure.
MR. DAVIS: You used a term, you say they're not managed, by that, are you referring to the lack of trimming, fertilizer, insecticide --

THE WITNESS: They're not trimmed, they're not fertilized, they're certainly not pruned --

MR. DAVIS: Not irrigated.

THE WITNESS: -- they're not
irrigated. It's just what nuts show up in October.

MR. HINMAN: Yes. Good morning, Mr. Adams. Don Hinman, USDA. Just want to ask you a few follow-up questions. In your statement you said that irrigated pecan crops are more efficient than the row crops in using water. Can you just briefly explain that?

THE WITNESS: Tell me again.
MR. HINMAN: In referring to irrigated pecan crops, you said that they are more efficient than row crops. Could you just briefly explain the irrigation process that makes that more efficient?

THE WITNESS: The more efficient use of the water? Yes. Understand that -- and let me draw a comparison between a pecan tree and a row crop, okay? A pecan tree, once you establish the factory, and a pecan tree is a factory, and once you establish that and building an incentive production producing state, then you water it just to give it energy and produce nuts, okay? But that factory is going to be there.

A corn crop, cotton crop, or whatever,
you plant that every year, so you tear down the factory and you build it back, annually, tear the factory down and build it back. In the pecan industry, we build the factory and then we just water it, because it'll contain it easily, and so that's where the more efficient use of water; we don't have to build a factory every year.

MR. HINMAN: Thank you. In reference to your comments about the new plantings, you say that Georgia has the most accurate data. Could you explain why that is?

THE WITNESS: The data on new plantings?

MR. HINMAN: Yes, you say that Georgia has the most accurate data.

THE WITNESS: Now again, we don't have good data. All we've got is to go outside and drive around the rows and see all those little trees out there, and you know how many trees the nurseries are selling, okay? And so we've taken, kind of, third-party data, and our observation, and realized that there are thousands of trees
that are in the ground now.
And quite honestly, our numbers, what do they say, two years makes a trend? We had two years of high prices in '10 and '11, so we thought it was a trend, and we started planting. And what we found out is that we didn't see the continuing high prices. And so once you plant a pecan tree, I mean, it's generational and seasonal.

And so that's what speaks to the new plantings. It's just observation, farmers reacting naturally to the high prices, and then what the nursery companies are selling in terms of trees.

MR. HINMAN: Thank you. Could they put up Exhibit 14? I have a question related to Exhibit 14? And, Mr. Adams, I'm going to bring you the USDA table because I want to ask you a question about those types, those two sources of data.

What you have before you there is the first table of the USDA tables put into evidence
there. The bottom row is the U.S. crop size, and to the best of your knowledge --

JUDGE GUTHRIDGE: Excuse me, Mr.

Hinman, are you talking about Exhibit 6?
MR. HINMAN: The --

MR. DAVIS: What is your exhibit?

MR. HINMAN: Yes.

JUDGE GUTHRIDGE: Your pecan data --
MR. HINMAN: Pecan data tables. Table

1 on Exhibit 6, yes.

JUDGE GUTHRIDGE: Table 1.
MR. HINMAN: Right. And on the bottom row of that is the U.S. production for all pecan varieties; all states. Is that the same data -we refer to that as crop value, is that the same data that you used in preparing your table here on the farm value?

JUDGE GUTHRIDGE: Let's make sure we're talking about the -- we're you're saying --

MR. HINMAN: Maybe I have the wrong number, the 50-year history of farm value. JUDGE GUTHRIDGE: Is this crop value,

Tables 1 to 3? Is that the one --
MR. HINMAN: Yes, the first one. Yes.
JUDGE GUTHRIDGE: Okay.

MR. HINMAN: Yes, Table 1 on Page 1, and then comparing that to the 50-year crop history, and I just want to make sure that, you know, ours is a shorter timeframe, that is the same data that you used in preparing your farm --

THE WITNESS: Are you talking about the 2015 --

MR. HINMAN: I'm sorry. I'm wrong.
JUDGE GUTHRIDGE: Mr. Hinman --

MR. HINMAN: 15 is the crop value.
Could you put up Exhibit 15? Yes, I was mistaken in the numbers of the exhibits. So now talking about Exhibit 15 is your table on the farm value and I'm comparing that to our Table 1 on crop value, a shorter timeframe.

MR. DAVIS: And, Mr. Adams, you have a copy of Exhibit 15 there in front of you too. You might be able to see it better than the screen.

THE WITNESS: Okay.
MR. HINMAN: So make sure we're using the same here, we have a shorter timeframe that has appeared in the same data source of farm value and crop value, that is the same NASS data that we were both using, is that correct?

THE WITNESS: That's correct.

Understand that this chart and this exhibit is just an example.

JUDGE GUTHRIDGE: This exhibit, being Exhibit 15.

THE WITNESS: Exhibit 15, is just for 2012. 2013 and '14 are not on this particular chart.

MR. HINMAN: Correct. Yes, thank you.
I'm just trying to draw the connection between our use of crop value and your use of farm value. That was the purpose of the question.

JUDGE GUTHRIDGE: Yes, Mr. Adams, the reason I keep doing that, interrupting, when somebody is reading this transcript and you say, this exhibit, they're not going to know what
exhibit you're talking about, so I want to make sure that Exhibit 15 was in the record for somebody who's reading this later on. And same with you, Mr. Hinman, you know, making sure I knew the right page that you were talking about, of your exhibit you were talking about.

THE WITNESS: You've been to this rodeo before, Judge.

MR. HINMAN: Thank you, Your Honor. JUDGE GUTHRIDGE: Not this one, but I've been to other similar ones.

MR. HINMAN: You used the term small and large growers, small and large sheller, are there particular industry standards that you use commonly to identify, say, small, medium, and large, are there certain cutoff points in small versus medium versus large, as a typical industry standard.

THE WITNESS: As far as?

MR. HINMAN: Growers and for shellers.
THE WITNESS: How we determine what's a small sheller and a small grower, is that what
you're asking?
MR. HINMAN: Yes.
THE WITNESS: understand first, we came up with what we considered a commercial grower, and that was average of 50,000 pounds over the last four years, or 30 acres, again, that's inclusive of the various regional differences.

And then to be inclusive of the small grower on the eventual American Pecan Council, board, we defined a small grower as 175 acres or less. And that's not an arbitrary number. We had to pick a number, though, that we thought -and that was really a compilation of a discussion among experienced growers and shellers as who was small and who was large.

And so that accommodation was made to be inclusive of the small grower on the administrative body. So that was where we decided the 175 acres. On the sheller category, to be inclusive of a small sheller, vis-a-vis, the large sheller, we came up with a million
pounds. And that was more of an economic calculation, realizing that if sheller shells a million pounds of pecans, he's going to get about a half million pounds of kernels and let's say the margin, or his return, for his added value process was 50 to 60 cents, then he's going to gross about $\$ 300,000$ annually.

And we felt like anyone below that would have trouble having a viable business, even though that was below the Small Business guidelines. That's how we came up with that number, more an economic calculation. Same thing with the grower side, but the inclusion of a small sheller and a small grower was very important in the administrative body.

MR. HINMAN: Thank you. And then my final question is, we asked every witness to self-identify themselves in terms of small and large. And the Small Business Administration definition grower, $\$ 750,000$ per year in typical annual sales, and you categorized yourself as a large grower in that definition.

THE WITNESS: I apologize. I'm having trouble hearing.

MR. HINMAN: Small Business

Administration definition, I'm just asking you, as we'll be asking every witness to self-identify themselves in terms of, for example, a small versus large grower, and the threshold is $\$ 750,000$ per year in annual sales of pecans from your growing operation, and would you identify yourself as being a small or large grower in that SBA definition as distinct from your industry definitions?

THE WITNESS: Again, can you --
JUDGE GUTHRIDGE: Yes, he's asking, using -- if 1 understand correctly --

THE WITNESS: This is not you, Don. I mean --

JUDGE GUTHRIDGE: I'm having trouble hearing.

THE WITNESS: -- I wear hearing aids and I'm having difficulty hearing you.

JUDGE GUTHRIDGE: Let me see if I got
it. He is using the definition used by the Small Business Administration for whether something is small or large, and it sounds like the cutoff is $\$ 750,000$ a year in sales, is that what you said?

MR. HINMAN: Yes. $\$ 750,000$ in annual sales, you know, in a recent typical year, and do you, you know, how would you classify your farming operation in that definition?

JUDGE GUTHRIDGE: And are you above or
below that?

THE WITNESS: Am I?
JUDGE GUTHRIDGE: Yes.

MR. HINMAN: Yes.
THE WITNESS: Oh, I'm above that.

MR. HINMAN: Okay.
THE WITNESS: Yes, I fall into the
large grower category. Yes.

MR. HINMAN: Just asking that because the last time we were here --

THE WITNESS: That was an easy question, easy answer, just having trouble getting to it.

MR. HINMAN: Thank you very much. Those are all of my questions.

THE WITNESS: All right. Thank you.
MR. DAVIS: We have no follow-up
questions.
MR. HILI: I have a couple of questions I'll ask.

JUDGE GUTHRIDGE: All right.
MR. HILL: You did mention, you have a couple of charts in which you discuss pecan production and compared it to almond production, and if I'm correct, you mentioned that pecan production has remained "flat" in your opinion over the last 50 years. Can you tell me what your opinion is on why it's remained flat and how this order would specifically address that?

THE WITNESS: I think it's remained flat because of a number -- well, let's address the economic reasons first. It takes $\$ 1500$ an acre to establish -- let's say you already owned the land, it takes $\$ 1500$ an acre to establish. It takes probably $\$ 1200$ an acre for the first
seven years before you ever get anything back. And so then it takes another 15, or up to 15, years to get your capital costs back.

> So the ease of entry was difficult,
okay, and particularly where you have an unstable
-- in other words, it was hard to write a
business plan that would project steady prices, or even predictable prices, and so with that kind of vision of going into the business, being risky at best, $I$ think there were fewer and fewer persons that were willing to take that risk.

And so they couldn't see a profit, you know? Now, where the marketing order will help us, if we can predict stable prices, stable supply, and give some stability to the business, you'll have more people that will choose to take that risk. And so I think that's one of the reasons that you see that flat supply.

And the other thing, I think it has to do just with the horticultural nature of the crop. You see more and more improved pecans coming in and more and more native growers going
out. Sometimes native groves have been out because a housing development poured concrete over good river soil. And so you just didn't have any kind of economic incentive to go into the pecan business.

And I think now, we've seen not only the development of the export market with the development of a possible stable industry situation that we can bring more people, or bring more farmers into the business.

MR. HILL: Okay. You also said that there was some new planting recently. Is there a reason for that that you are aware of?

THE WITNESS: Well, I spoke to that earlier. In 2010/2011 time period, we had historically high prices. I mean, you got some New Mexico growers out there that in 2010/2011, they were grinning all day long, okay? And I was too. But those high prices were not sustained. We saw 2012 go down. But anyway, again, two years makes a trend. We had a bunch of optimistic growers that said, gosh, this things
looking good. I'm going to plant more.
And so that's why we've seen the new planters. And so not only has the export market made a difference, but I think just -- you know, there's a real effort now in the health market for natural protein, and pecans are natural protein. And I think people see an opportunity that this is the way not only to make a profit in farming, but it's also a way to make a difference in our production of health food.

So I think all those factors lent themselves and will be enhanced by a federal marketing order.

MR. HILL: I have no other questions. JUDGE GUTHRIDGE: Any follow-up?

MR. DAVIS: No follow-up. Thank you. JUDGE GUTHRIDGE: Anymore USDA
questions? None. All right. Now, is there anyone from the audience who has any questions for Mr. Adams? I see no response, so Mr. Adams, I believe you can be excused, and I'll see you in Dallas, it sounds like. Would you check with Ms.

Gonzalez and see if there's anything that she needs to clarify?

It's now 10:18. Let's take a -- how many bathroom stalls do we have here?

MR. HILL: I haven't seen them. Mr. Davis, he'd know about that.

MR. DAVIS: I'll recon that for you, Your Honor. It's small restrooms. How about a 12-minute break.

JUDGE GUTHRIDGE: Twelve minutes.

Okay. Well, it's 10:18, let's make it 13 minutes, 10:31, we'll come back.

MR. DAVIS: 10:31.
(Whereupon, the foregoing matter went off the record at 10:18 a.m. and went back on the record at 10:33 a.m.)

JUDGE GUTHRIDGE: The hearing will
come to order. It's 10:33, so I didn't make my mark. I've been advised that seated in the back corner there is Ms. Ray from the Department of Agriculture. She's the person to see if you want to testify. The next witness has already been
identified as Marco Palma. He's already up here, so we'll just proceed with him. Mr. Palma, raise your right hand.

MS. CHILUKURI: Your Honor, if I could interject just very quickly. I apologize. One thing that we want to make clear is that ex parte communications are prohibited. So the notice of hearing made clear that all the USDA employees involved in the decision-making process are prohibited from ex parte communications regarding the merits of the proposal with any interested party.

So we cannot discuss the substance or the merits of the proposal, but if anybody has procedural questions, feel free to ask us, and as you stated, there's a sign-up sheet with Ms. Ray, so if anybody would like to testify, feel free to sign-up and you can do that.

JUDGE GUTHRIDGE: Okay. So what she's saying is that if you want to talk about
substantive matters with these USDA
representatives, it's prohibited by the
regulation, so I ask you not to try. Mr. Palma, you ready? Please raise your right hand. WHEREUPON,

## MARCO PALMA

was called as a witness by Counsel for the Proponent and, having been first duly sworn, assumed the witness stand, was examined and testified as follows:

JUDGE GUTHRIDGE: Proceed.

MR. QUIROS: Thank you. Dr. Palma, I understand you have testimony for us. Would you please begin, sir?

THE WITNESS: Yes. Good morning. My name is Marco Palma. It's spelled M-A-R-C-O, P-A-L-M-A. My current address is

College Station, Texas $\quad$ I have a
PhD in Agricultural Economics from the University of Florida and I'm an Associate Professor and Extension Economist in the Department of Agricultural Economics at Texas A\&M University.

I am the horticulture marketing specialist with responsibility for leadership and
coordination for extension educational programs and applied research in horticultural marketing by providing technical expertise and educational program development for industry audiences in the horticulture industry, such as producers, packers, and shippers, wholesale and retail trade.

My major areas of research expertise are experimental and behavioral economics, discrete choice methods, and consumer preferences. I have worked in many different areas of consumer research, including promotion programs, as evidenced in the attached CV, which will be introduced as Exhibit 18.

MR. QUIROS: Your Honor, we tender Exhibit 18.
(Whereupon, the document referred to was marked as Exhibit 18 for identification.)

JUDGE GUTHRIDGE: Exhibit 18 is the curricula vitae of Dr. Palma. Is there any objection?

MR. HILL: No objections, Your Honor.

JUDGE GUTHRIDGE: Any objection from the audience.

MR. QUIROS: I thought you --

MR. HILL: I don't have an objection.
MR. QUIROS: I didn't think you had a copy.

MR. HILL: I just had a question. I don't object. I just have a question. Does he have a statement that he's --

MR. QUIROS: He is, and he's going to tender it at the end of his comments, after we support the evidentiary documents.

MR. HILL: Would it be a problem if we had it so we could read along at the time that he's reading it?

MR. QUIROS: No. We'll be glad to tender it at this point. It would be, I believe --

JUDGE GUTHRIDGE: His CV is 18.

MR. QUIROS: This would be 24.
MR. HILL: It just makes it a little bit easier for us to follow along.

MR. QUIROS: Okay.
JUDGE GUTHRIDGE: And then Mr. Palma's CV, for members of the audience, is 50 pages long, so we will not ask him to read that. And with no objection, Exhibit 18 is admitted.
(Whereupon, the document previously marked as Exhibit 18 for identification was received into evidence.)

MR. QUIROS: Proceed ahead, Dr. Palma.
THE WITNESS: As you can see, the attached CV, I have made numerous presentations related to the pecan marketing and economics, as well as publications related to consumer economics and promotion programs for many agricultural products, including pecans. Most recently, and for the benefit of this public hearing, and in support of the proponent group, I have prepared a report that is relevant to this hearing today.

The report is entitled, "Economic Analysis of the Implementation of a Federal Marketing Order for Pecans", referred to as the
report, a copy of which has been delivered for inclusion in the record of this hearing, and it will be marked as Exhibit 19.

MR. QUIROS: Your Honor, we are
tendering Exhibit 19 at this time.
(Whereupon, the document referred to was marked as Exhibit 19 for identification.) JUDGE GUTHRIDGE: And this report was prepared by you in anticipation --

THE WITNESS: Yes, sir. JUDGE GUTHRIDGE: Any objection? MR. HILL: No objections, Your Honor. JUDGE GUTHRIDGE: Any objection from the audience? No objection to Exhibit 19, it's admitted into evidence.
(Whereupon, the document previously marked as Exhibit 19 for identification was received into evidence.)

THE WITNESS: My education and experience give me the necessary tools to make an expert assessment of the economics of establishing a federal marketing order for
pecans. I will provide you with a summary of the report and then open it up for questions. When I refer to a Table or a Figure, $I$ am referring to them as shown in the report, Exhibit 19.

This report has been compiled to provide an economic assessment of the proposed federal marketing order for pecans. For clarity purposes the narrative is arranged into two main sections. Section I describes the current economic and marketing state of the pecan industry using available secondary data sources mainly from USDA and the proponent group, and Section II describes the costs and benefits of the proposed federal marketing order based on the data presented in Section $I$ and additional input from the key industry stakeholders.

I am skipping the Executive Summary, since it's a summary of Section II, which I'm going to be covering later on.

Section I, Economic Framework of the Pecan Supply and Demand, beginning on Page 10 of the report. The pecan, Carya illinoensis, is a
perennial tree native to North American and produced extensively in the southern region of the United States and the northern portion of Mexico.

There are hundreds of pecan varieties around the world which can be classified as either native and seedling or improved varieties. The majority of the improved varieties have been developed by grafting, with the first grafted trees being sold in the 1880s, and a large growth in the commercial planting in the early 1900s.

The pecan tree can produce for over 300 years once it passes the first six to seven years to initiate production in the case of grafted trees, or 10 to 12 years for native/seedling varieties. Native and seedling varieties are those that occur in natural propagated or seed-planted orchards on trees that have not been grafted.

Improved varieties are grafted trees.
Pecan trees exhibit a peculiar production behavior know in horticulture as masting. This
condition entails that the plant will produce a very high yield one year, usually referred to as an on year, followed by a low yield the next year, commonly referred to as an off year.

This alternate bearing nature in pecan production has naturally produced a cyclical behavior as well in the pecan trees and pricing, with an inverse relationship, high prices with low supply in off years and low prices in on years.

The entire production of pecans in the world is not exactly known. In the past, it has been estimated that the U.S. production comprise over 80 percent of the world's supply. However, based on current trade and consumption of pecans in the world from the International Nut and Dried Fruit Council, the U.S. production is roughly about 59 percent of the entire world production. The second largest producer of pecans is Mexico, with over 30 percent of the world production. Minor pecan production takes place in Australia, South Africa, and South America,
including, but not limited to Argentina and Peru, as shown in the Figure 2 of the report.

International trade of pecans is done in-shell and in the kernel, or shell. The U.S. is the world leader of in-shell pecan exports, exporting mainly to China, with an average of 23.7 million pounds a year from 2009 until 2013. The other leading importers of U.S. pecans in the shell are Vietnam and Mexico, with 5.87 million pounds, and 7.47 million pounds over the same period of time, from 2009 until 2013. China, Vietnam, and Mexico together, comprise roughly 95 percent of the total pecan exports in the shell from the U.S. In the shell pecan market, the main importers of U.S. pecans are Canada, the Netherlands, the United Kingdom, Israel, and Mexico, who have importer an aggregate 57.7 million pounds in average over 2009 to 2013.

Pecan imports into the U.S. are coming almost exclusively from Mexico, with over 99 percent of total imports, with an average of 50
million pounds per year in the period between 2010 and 2014. The U.S. remains a net exporter of pecans with the rest of the world, although the breakdowns in pecans is negative with Mexico.

The production of pecans in the U.S. can be evaluated separately for native varieties, or seedling varieties, and improve varieties.

Over the past eight years, there has been a trend to increase the production of improved varieties, while the production of native varieties has remained stagnant.

Production for the improved varieties was 235 million pounds per year in the period of 2009 to 2013. The native/seedling production of pecans in the same period was 51.5 million pounds, which represents less than 20 percent of total production.

The cyclical patter and the trends in pecan production are shown in Figure 6. Agricultural practices have been implemented in recent years by some growers to try to reduce the variation in yields, which has attenuated the
effect of on and off years in production.
The commercial pecan production in the U.S. takes place in 15 states, which can be grouped into three different regions, described in Figure 7. These three regions are the Western region, consisting of New Mexico, Arizona, and California. The Central region consisting of Texas, Oklahoma, Louisiana, Mississippi, Arkansas, Missouri, and Kansas.

And the Eastern region, consisting of Georgia, Florida, Alabama, North Carolina, and South Carolina. The production of pecans is distributed across all three regions, with most of the harvest in the period between 2002 and 2014 coming from three states, one in each region, Georgia, New Mexico, and Texas, with 32, 22, and 18 percent of the total production of pecans, respectively.

All three regions have production of improved varieties. The native production, however, is heavily concentrated in the region of origin of the pecan tree, the Central region. In
native and seedling production, Oklahoma, Texas, and Louisiana have the lead with 70 percent of the entire country's native and seedling production.

In terms of number of acres in production, around 40 percent of the total acreage of pecans are native varieties, but this varies by region of production. According to the 2012 Agricultural Census data, in the Central region, acreage for native varieties is 60 percent of the total acres under production. In the East, only 16 percent in seedlings, and almost no native acreage exists in the West. The variety being grown is highly
relevant to any type of analysis, since production practices, farm sizes, costs, and prices are very different for improved or native varieties. Most of the horticulture advances have taken place in commercial orchards producing mostly improved varieties.

According to the American Pecan Board

Group, commercial farms in production using
improved varieties range between 20 to 50 trees per acre. The native production, on the other hand, may have as little as only one tree per acre in some cases.

Farm sizes also differ by region. Across all regions, more than 70 percent of the reported farms have 50 or more acres under production. In the Central and West regions, almost half of the farms between 50 and 499 acres under production, but less than 30 percent of the farms are these size in the East.

The very large farms of 500 acres or more represent 23,28 , and 44 percent of the acreage in the Central, Western, and Eastern regions, respectively, showing a higher concentration in large producers in the Eastern region.

As was previously mentioned and described in Figure 6, there has been a positive trend in pecan production in the past decade, however, the production of pecans is still only between 1 and 2 percent of the total tree-nut
production in the U.S., while other nuts have had a stronger growth, as seen in Figure 8.

Wood, Payne, and Grauke point out that the lack of appropriate marketing in pecans may be one of the reasons for the industry not to continue the development rate that it had in the 20th century. The new plantings are almost entirely improved varieties and the cyclical nature of production and prices has generated a response in supply, especially in high years. Changing land use in pecan farms under production to a different use is highly impractical, thus, exit from the market is not very common. On the other hand, a particular reaction that can have consequences is the planting in low yield or high price years.

Improve variety trees planted begin production six to seven years later. As a reaction to high prices of pecans behaving, as shown in Figure 9, considerable planting activity took place in 2010 and 2011, which will come into production around 2016 through 2018. This added
production could put some pressure in prices, bringing them down, and being a challenge for the pecan industry in the coming years if no new market development and promotion takes place.

The U.S. also leads the world consumption with an average 288.5 million pounds per year in the period between 2008 and 2012, yielding the highest per capita consumption with about 0.45 pounds per individual per year, on average. As shown in Figure 10, the consumption has remained relatively stable, or flat, throughout the years, until recently, when it has a decreasing trend.

This decrease in domestic consumption does not match the increasing production described in Figure 6. The increased production has been recently fueled by on the export number that has been growing at a faster rate than the domestic market.

Another component of the explanation of the gap between production and utilization figures is the held inventories by handlers.

Given the cyclical nature of pecan trees, production handlers of pecans, which include buyers and also shellers, hold on to stocks of production in some years, a process usually referred to as accumulation.

Figures 12 and 13 describe the behavior of beginning and ending stocks, and their interaction with the domestic use and international trade. Pecans, like any other fruit and vegetable in the U.S., are not exempted from the trends amongst U.S. consumers. The most pertinent of these trends is the decline in consumption of fruits and vegetables in the diet, in spite of the revisions to the U.S. dietary guidelines.

A clear illustration of this is given
by Figure 14, that describes the per capita consumption decline of fruits and nuts in the U.S. over the last decade. Another challenge is the competition of pecans in the fruits sector, in general, with less expensive imports.

Furthermore, the biggest challenge in this regard
is competition within the other nuts sector, where some of these industries have invested more in marketing efforts than pecans for stimulating demand.

As you can see in Figure 15, tree-nut prices have an increasing trend. A simple time series regression analysis of prices reveals that the slopes of the present ratios for each tree nut, which indicate, basically, the speed at which the prices are increasing, is higher for all the nuts depicted in the graph, which includes almonds, walnuts, and pistachios, compared to pecans.

When reducing the span in years of the regression analysis to more recent years, the difference in the rate of increase of the prices are stronger in the last five years, from 2009 to 2014.

Not all is gloom and doom in the pecan marketing trends. Palma, Ribera, and Bessler 2013, show that as income level increases, so does the consumption of fruits and vegetables,
including nuts. This information can be used to target market segments that will react to promotion activities. Onozaka and McFadden showed the production claims, such as, for example, fair trade, local, organic, et cetera, have an effect in the price consumers are willing to pay for fruits and vegetables.

Furthermore, Palma, Ness, and Anderson suggest that some consumers react to key attributes of fruit products that even provide consumers with status. These consumers have a tendency to pay higher prices for food with attributes that they find satisfying for their needs when those are status or other functions of the food products, including local, organic, or healthy.

For pecans in particular, Palma, Collart, and Chammoun found in a discrete choice experiment that if no additional information, other than the type of varieties provided by other products, individuals were willing to pay a price premium of 13 cents, on average, at the
retail level for the native variety of pecans compared to no information at all.

The price premium can be linked to the connection of the native attribute with the perception of natives being a natural product. This could be used to plan targeted marketing strategies in the native and seedling pecans, increasing the potential benefits of the federal marketing order for this particular group.

However, this type of analysis is not considered in the price differential shown later on in the report, as this is a route the proponent group may or may not take, it is merely to show an example of the capability the marketing promotion may have in increasing the net prices for pecans.

The increasing trends in production of tree nuts and in the prices, especially in almonds, have increased the value of the tree-nut production in the U.S. Figure 16 shows how the non-production value has increased since the year 2000. In this figure, it can also be seen that
the growth in crop value in nuts has come mostly from almonds, pistachios, and walnuts.

In the graph, a line showing the share
of pecans in the value of total nut production is plotted on the right axis. It is clear to see that in this period, the market share of pecan sectors, relative to all the nut industry, has experienced a precipitous decline, from over 20 percent of the total nut market in the year 2000, to around 5 percent of the entire crop value of tree nuts in the year 2014.
If anything at all, this relationship
shift can serve as an illustration of how other tree nuts have exploited their growth potential and the pecan industry has lagged behind other nuts. Interestingly, the three nuts driving the increase in crop value are almonds, walnuts, and pistachios, all of which have marketing programs, federal regulated marketing programs, in place. The first two have marketing programs as part of their federal marketing orders, and the latter has benefitted from increased quality
standards. Both of these aspects are properties of the proposed federal marketing order for pecans.

Of course, this correlation structure does not imply causation, two events being related does not mean that one causes the other. However, the data seems to point in that direction, but it should be recognized that there are other factors at play in the market.

Nevertheless, several studies have shown there's a positive effect of promotion on demand of agricultural products in general, and specifically in the tree nut. The methods across the studies in the literature for analyzing it, variety, they differ, but the unequivocal effect has been that having a marketing program funded by the federal marketing order in the case of the literature cited above, increases the demand for the products.

A list of this studies can be found as Appendix $A$ of the report. With that in mind, and for more illustrative purposes, the plots in

Figure 17 draw attention. In the graph, one of the series drawn is the share of the total crop value of tree nuts in the U.S. for pecans. The other series in Figure 17 is the share of that same total for walnut production.

A vertical line indicates the year in which the marketing program for walnuts under the marketing order that regulates grown in

California was implemented. It can be seen that though the walnut value share from all tree nut market was coming from a decreasing trend, the positive momentum is enhanced by the implementation of the marketing program.

The story in Figure 18 is quite similar. Again, one of the plotted series if the pecan share of the total value of tree nuts and the other one is the market value share of pistachios. A federal marketing order for pistachios was implemented in 2005, which called for quality assurance and testing. The trend in the share of the value is positive from that point onward.

In Section II of the report, I'm going to look at the costs and benefits of the proposed federal marketing order and other relevant economic considerations. Generic promotion increases the demand in prices. We have reviewed the literature of a number of agricultural studies to determine the effect of generic promotion campaigns on agricultural produce demand and prices.

Generic promotion over a wide variety of agricultural stimulates product demand that translates into higher prices for growers than would have been the case without promotion, as shown in the table taken from Williams and Welch, as Appendix A in the report.

Examples of agricultural products include almonds, cotton, dairy, dried prunes, eggs, Hass avocados, blueberries, honey, beef, pork, lamb, mushrooms, orange juice, potatoes, raisins, rice, sorghum, soybeans, strawberries, table grapes, walnuts, watermelons, and wheat.

Effectiveness of the tree nut
promotions costs and benefits to growers. The estimates of the effectiveness of marketing programs used for this report are based on analysis of post-implementation data of marketing orders in tree nuts, almonds and walnuts, and on ex-post-implementation data from Texas pecan promotion programs.

These studies find that demand for the products increases generic promotion programs. These studies would be marked Exhibit 20 through 22.

MR. QUIROS: Your Honor, we're tendering Exhibit 20, almond advertising yields, nets benefits to growers, as 21 , the domestic impacts of the walnut marketing board's marketing program.

> JUDGE GUTHRIDGE: Wait, 21? I'm
sorry, 21 or 20?
MR. QUIROS: 21. Yes, 20 is almonds, 21 is walnuts, and 22 is pistachios, entitled, demand enhancement through food safety regulation, a case study of the marketing order
for California pistachios. Dr. Palma, did you use and review these materials in preparation of the report?

THE WITNESS: Yes, I did.
MR. QUIROS: Your Honor, we're tendering these at this time.

JUDGE GUTHRIDGE: Let me just make sure $I$ understand it. Number 20 is an article, almond advertising yields net benefits to growers?

MR. QUIROS: Yes, sir.
JUDGE GUTHRIDGE: 21 is economic analysis of the implementation of the federal marketing order for pecans?

MR. QUIROS: No, sir, 21 is the domestic impacts of the walnut marketing board's marketing programs.

JUDGE GUTHRIDGE: Maybe I didn't get that one. I have economic analysis --

MR. QUIROS: That's the last one.
JUDGE GUTHRIDGE: Okay. All right.
MR. QUIROS: And finally, Your Honor,
and 22 is for pistachios, and article entitled, demand enhancement through food safety
regulation, a case study of the marketing order for California pistachios.
(Whereupon, the documents referred to were marked as Exhibits 20, 21, and 22 for identification.)

JUDGE GUTHRIDGE: I'm sorry. I did have that other one. It was stuck to the back of it. Okay. So I have all three of them. Any objection?

MR. HILL: No objection, Your Honor. JUDGE GUTHRIDGE: Any objection from the audience? Hearing no objection, Exhibit 20, 21, and 22 are admitted.
(Whereupon, the documents previously
marked as Exhibits 20, 21, and 22 for
identification were received into evidence.)

MR. QUIROS: Dr. Palma, are there any
other articles that you relied on as part of the preparation that were not reported in the report?

THE WITNESS: I relied on another
article, but it is reported in the report, and that's the evaluation of the Texas promotion program for pecans, which kind of co-authorized. MR. QUIROS: Thank you. THE WITNESS: The increased demand results in increase in prices that could not be achieved without the promotion programs. Demand increases in those studies have been as high as 6 percent. Our analysis allow for the mean point of these studies, between 0 and 3 percent in the tree nut studies, to be the representative scenarios and we have used the average potential demand, or approximately 1.5 percent in our evaluation for benefits of the federal marketing order promotion authority.

These marketing programs reviewed are well-established programs, so our report assumes that the proposed federal marketing order for pecans would be less effective, at least at first. The cost of the assessment as a percentage is calculated by the mean point assessment value for improved and native
varieties and dividing it by the average price for an in-shell pound of pecans for each year described in the tables.

With season average prices of $\$ 1.73$, $\$ 1.90$, and $\$ 2.12$ per in-shell pound in 2012, 2013, and 2014, respectively, assessment as a percentage of U.S. season average prices are in the range of 1.2 to 1.4 percent for improved varieties. Similarly, with average in-shell per pound prices of $\$ 0.88, \$ 0.92$, and $\$ 0.88$ in 2012, 2013, and 2014, the assessment as percentage of grower price was between 1.6 and 1.7 percent.

Although handlers pay the assessments in federal marketing orders, such as this federal marketing order, for analytical purposes and take the most conservative case, we're assuming that 100 percent of the assessments will be reflected in the prices paid to growers. In other words, the growers would bear the cost, at least initially.

As you note from Table ES3, the assessment and costs are a small percentage of
the grower prices, even if the grower bears all the assessment costs. Using historical data and information provided by farmers in the different production regions, and NASS, National Agriculture Statistics Services from the U.S. Department of Agriculture, and using price per pound data from 1997 to 2014, a mathematical simulation model was created.

We used Monte Carlo simulation methods for the distributions of key output variables crucial for analyzing feasibility of future business decisions under risk. The simulation model is programmed in SIMETAR, a simulation and risk analysis software embedded as an add-in in Excel, but you can see a description by Richardson, Schumann, and Feldman.

The framework of creating a representative farm to analyze risk is a widely used framework in policy analysis, including potential impacts of the Farm Bill. This avoids using averages, which can be misleading, and instead, use data from the entire distribution of
historical data or other possible data.
We then apply the 1.5 percent average generic promotion demand increase to the calculations related to pecans and obtain the following results. The procedure that we used involves taking the historical prices per year from 1997 to 2014, and using the full
distribution over those prices to obtain Monte Carlo simulation for 500 possible prices to obtain expected average price without the federal marketing order intervention.

We then adjusted the prices with a demand increase of 1.4 percent to simulate the possible prices with the marketing promotion effort due to the federal marketing order to get an expected price increase of 6.3 cents with the federal marketing order for improved pecans, as shown in Table ES4.

In a similar fashion, for native and seedling, the valuation is done using the historical price from Monte Carlo simulation before or without the intervention and after the

marketing program, or with the simulated federal marketing order. The result is a 3.6 cent increase in prices for native and seedling varieties.

The low and high bound were calculated using a simulation with a low, or 0.5 percent, and a high of 3 percent price increase scenarios. The potential benefits due to promotion through the federal marketing order are between 4 and 9.6 cents, with an average of 6.3 cents per pound for improved varieties, and between 2.7 to 4.2 , with an average of 3.6 cents per pound for native and seedling varieties.

Comparing Table ES1 and Table ES3 to Table ES4, it is apparent that the benefits of generic promotion outweigh the cost to growers. Effectiveness of stimulating demand through increased quality standards. One of the authorities of the Council in the federal marketing order, 986.69, is the authority to make improvements in production handling.

Specifically increasing the quality of
pecans in terms of freshness, safety, grade, size, packaging, et cetera, delivered to the market that can stimulate demand increase prices. If the Council is able to establish minimum quality standards for handling the future for pecans, this can lead to a relatively more inelastic demand and more consumer confidence in the product, which will lead to higher prices to growers.

The cost of implementing product handling improvements has always been low compared to the benefit to growers. This would be illustrated by the case of pistachios where Alston et al show that improving quality assurance in the pistachio market resulted in a benefit to cost ratio of at least 5:1.

The costs and benefit across various
farm sizes. With the costs and benefits per pound described in Tables ES3 and ES4, we have estimated the costs and benefits of the federal marketing order promotion authority by farm size as shown in Table ES5. Table ES5 is shown for 30
acres, 175 acres, and 500 acres at 1666.67 pounds of in-shell pecans per acre of yield, the average yield per acre over all three regions, as representative for small, medium, and large farms in the production area.

Production assumes 78 percent production improved varieties and 22 percent of native and seedling split in that acreage. In all cases, benefits of the federal marketing order outweigh the costs across a range of farm sizes. The cost of the federal marketing order is calculated at the average as total pounds times the cost.

For example, in the medium size farms, of the total 291,667 pounds, 227,500 pounds are in improved variety, or 78 percent of that share, at an average cost of 2.5 cents, we obtain a total cost of $\$ 5688$ in improved varieties. The production of native and seedling is 64,167 pounds, or 22 percent of the production share, at an average cost of 1.5 cents, we obtain a cost of $\$ 963$.

The total costs are then the sum of the costs for improved varieties, or $\$ 5688$, and native and seedling varieties of $\$ 963$, for a total of $\$ 6650$. The benefit is calculated using the total number of pounds times the estimated average increase in price.

For improved varieties, 227,500 pounds times the average price increase of 6.3 cents, we obtain $\$ 14,333$, and for the native variety, we obtain benefits of $\mathbf{\$ 2 3 1 0 .}$ Total benefits are the sum of the improved varieties with the native varieties, or $\$ 16,643$.

The benefit cost ratio is then the additional benefits generated by the program per dollar of cost. Dividing the estimated benefits by the cost, we obtain 2.5 of a benefit cost ratio, which implies that a $\$ 1$ cost will result in $\$ 2.5$ of benefits.

These are in the low range of the benefit cost ratios reported in the Williams and Welch study. The range of benefits for a medium size farm using the low scenario, is $\$ 10,833$ to a
high scenario of $\$ 24,535$. The associated range of the cost for the medium size farm is $\$ 5192$ and \$8108, respectively.

For a small farm, the costs are in the range of $\$ 890$ for the low scenario to $\$ 1190$ for the high scenario, with benefits of $\$ 1857$ to \$4206 for the low and high scenarios respectively. For a large farm, the costs are in the range of $\$ 14,833$ to $\$ 23,167$ for the low and high scenarios, and the benefits in the range of $\$ 30,950$ to $\$ 70,100$ for the low and high scenarios.

In all the cases, the benefits outweigh the costs and the benefit/cost ratio ranges from 2.08 in the low scenario to 3.02 in the high scenario, which are on the low side of the studies reviewed by Williams and Welch. In reality, the model for estimating the stochastic prices is much more complicated, but this is a simple representation of the costs and benefits by farm size.

```
Minimum size of farm/crop for
```

commercial growers as used in the FMO. The full input costs for an acre of pecans across the production area requires a certain minimum land size for minimum annual production to be maintained in order for the farm to become economically viable over a period of four years or more.

Failure to have a farm of a certain size or with yields above a certain size will result in either an economically unprofitable farm operation or will require the grower to reduce the necessary inputs on the farm to grow quality pecans over a period of time. For example, reducing watering, mowing, spreading, fertilizing, hedging, pruning, or other inputs that are normally required by commercial pecan producers.

We believe that it is highly unlikely, perhaps even remote, that a pecan grower can be financially viable over a period of four years if the grower is averaging less than 50,000 pounds of pecans per year over that period, and is
applying all inputs associated with a commercial pecan grower. Said another way, pecan farmers growing less than 50,000 pounds of pecans on average per year are hobby farmers, experimental farmers, farmers not intending to make a profit, or farmers not intending to maintain a farm with the normal inputs required for a commercial pecan farmer.

We use the yield of 1667 in-shell
pounds per acre over 30 acres for the small acreage, which is the average yield across the production area, as calculated by the proponent group, with input from Dr. Lenny Wells, the University of Georgia Pecan Research Scientist.

Handler considerations, costs and benefits. The benefits to handlers outweigh the costs of implementing the federal marketing order. It is evidence at the handler level, there is the same magnitude of positive price change as there is with grower analysis, Table ES4, but a smaller proportion of cost due to the greater prices paid to handlers, Table ES8 as
compared to Table ES3.
With a typical handler margin of 57.5 cents, the cost estimate of average handler price received was about \$2.31 in 2012, \$2.48 in 2013, and \$2.70 in 2014 for improved varieties. The cost estimate for average handler prices received for native varieties was $\$ 1.46, \$ 1.50$, and $\$ 1.46$ in 2012, 2013, and 2014, respectively.

The cost as a percentage of U.S. pecan
handler prices is low and in the range of 0.93 percent to 1.08 percent over the last three years for native varieties, and between 1 percent to 1.03 percent for native varieties.

The anticipated increase in pecan prices from promotion and handling authorities in the federal marketing order should cause pecan prices to move towards parity pricing, as stated by the USDA, the parity price should be $\$ 5.11$ per in-shell pound in 2014, but the implemented FMO should not cause pecan prices to be anywhere near equal to or exceed pecan parity prices.

Better information will benefit
growers, handlers, and consumers. The pecan market today is inefficient in part because of the lack of reliable, timely data on the domestic pecan crop. Most of the data in the industry at this time is gathered voluntarily. The FMO proposes handler reports to the Council and requires the Council to make crop reports to the USDA at least yearly.

These reports should provide all
parties with more reliable and timely production data. Increased confidence in the data on pecans should benefit all participants, including growers, handlers, and of course, consumers, and lead to more accurate product pricing and better information regarding product supply and demand. Thank you. This ends my formal review of the economic analysis of the implementation of the federal marketing order, and then $I$ will open it up for any questions.

MR. QUIROS: Your Honor, before questions, we would like to tender two documents. The first is the Executive Summary of the

Economic Analysis of the Implementation of the Federal Marketing Order for Pecans, Exhibit 23. Dr. Palma, did you prepare this exhibit? (Whereupon, the document referred to was marked as Exhibit 23 for identification.) THE WITNESS: Yes, sir. MR. QUIROS: And was this prepared as a summary of Section II of your report for review by growers and handlers? THE WITNESS: That is correct. MR. QUIROS: Thank you. The second document we'd like to tender is the complete written testimony of Dr. Marco Palma, which has been marked as Exhibit 24, and we tender those at this time, and that was prepared by you as well, is that correct?
(Whereupon, the document referred to was marked as Exhibit 24 for identification.) THE WITNESS: That is correct. MR. QUIROS: Thank you. JUDGE GUTHRIDGE: Start with Exhibit 23, any objection?

MR. HILL: No objection.

JUDGE GUTHRIDGE: Any objection from the audience? Hearing no objection, Exhibit 23 is admitted. Exhibit 24, any objection from the Agriculture Department?
(Whereupon, the document previously marked as Exhibit 23 for identification was received into evidence.)

MR. HILL: No objection.
JUDGE GUTHRIDGE: Any objection from the audience? Hearing no objection, 24 is admitted. I believe, Mr. Quiros, do you have any questions of your witness?
(Whereupon, the document previously marked as Exhibit 24 for identification was received into evidence.)

MR. QUIROS: No, Your Honor.

JUDGE GUTHRIDGE: All right.
MR. HILL: Can we have the actual 23?

Is this the summary?
MR. QUIROS: You have it as Exhibit
23. It was handed out in the large group. It's
in your materials.

MS. CHILUKURI: I think we might be missing 23, but we will check again. Can you put it on the screen just so we can figure out whether or not we have it?

MR. QUIROS: Sure. This is it on the screen. It was not used as part of his testimony, but he prepared it. It was sent to growers and handlers for their review, and is technically part of the first section of the report.

MS. CHILUKURI: Exhibit 19?

MR. QUIROS: Yes, I'm sorry. Before Part I, there is an Executive Summary of the report which summarizes Section II, but we prepared it separately so that we could deliver it to growers and handlers, and I wanted Dr. Palma to authenticate it, so after he leaves, and we use it with subsequent witnesses, it would be well identified. We'll take a look and find -MS. CHILUKURI: Okay. So we have it embedded in 19?

MR. QUIROS: You have it embedded in 19, but that's also at Exhibit 23.

THE WITNESS: Page 4 through 9 of

Exhibit 19.

MR. QUIROS: Do the rest of you all -are you all missing it at USDA or do you all have it?

MS. CHILUKURI: We're missing it.
MR. QUIROS: Still missing.
MR. HILL: I got it, but --

MR. QUIROS: Yes, here's some extra copies.

MS. CHILUKURI: We're missing it as a standalone, so we have it as part of 19, but -MR. QUIROS: It's coming to you right now as Exhibit 23.

MS. CHILUKURI: Thank you.

JUDGE GUTHRIDGE: I'm sorry, Mr.
Quiros, you said you have no questions?

MR. QUIROS: Not at this time. I'd
reserve them for clarification after any
questions for Dr. Palma.

JUDGE GUTHRIDGE: Sure. All right.
Department of Agriculture, who's going to start?
MR. HILL: One I do have, if you look at Page Number 4, well, I'm not sure where it is on yours, if it's the same --

THE WITNESS: Which exhibit?
MR. HILL: It's on Exhibit 24 of your testimony. Right before B, it's under A, under World Pecan Supply, you read a sentence that said the second largest producer of pecans is Mexico, and on the testimony it says with over 35 percent, I believe you said over 30 percent, which one is the correct one? It's under Section I, Economic Framework of Pecan Supply and Demand, $A$, at the very end of $A$.

JUDGE GUTHRIDGE: Are you talking about Exhibit 24?

MR. HILL: Yes.
JUDGE GUTHRIDGE: His testimony.
MR. HILL: His testimony, correct.
THE WITNESS: So it should be 35 percent.

MR. HILL: 35. Okay. I just wanted to make sure. Okay. That's fine. Just clarifying that, because I thought I heard 30. THE WITNESS: Okay. MR. HILL: Go ahead.

## CROSS EXAMINATION

 BY MS. SCHMAEDICK:Q Thank you, Dr. Palma. This is Melissa Schmaedick with the USDA. So I'll just apologize in advance, $I$ do have a lot of questions, let's start with some of your comments about production in Mexico. Is the Mexican production increasing as well?

A I believe so.

Q Is that something that you looked at in your analysis?

A We have some data from the world production markets that is included as part of the review in terms of the world production, so it should be in one of the figures.

Q Okay. Also referring to your analysis, do we have --

A That is Figure 3, by the way.
Q Okay. Do we have an idea of what percent of U.S. exports are re-imported, U.S. exports to Mexico, are re-imported? Do we have that data?

A You mean exported to Mexico and then imported back as a processed product?

Q Correct.
A I don't think hear, we're just looking at the column over --

Q I'm trying to get a sense of what percentage of Mexican production comes into the United States, is that something that you looked at?

A Well, when the Mexican production comes to the U.S., it comes with the Mexican delineation of origin in the fresh market.

Q Okay. Is that included in your study?
A Everything that we have included here is just the fresh market as defined with packer definition, so no additional processing.

Q Okay. So no trans-shipments.

A No, what we have here is mainly inshell pecans.

Q Okay. Thank you. One of the concepts that you've touched on several times throughout your study is this threshold of a farm at 50 acres. And if I understood you correctly, that 50 acres establishes the commercially viable demarcation, is that correct?

A Yes, that is correct.
Q So in your testimony, you indicated that 70 percent of all farms have 50 acres or more, is that correct?

A If you say so, yes.
Q It's on Page 7.
A Okay. Yes.
Q So by default, does that mean that 30 percent of all farms are not commercially viable?

A So on the one hand, we have a number of farms, and on the other hand, we have production, right? So if we have -- the figure that we have including the benefit and cost analysis, includes only those, the percentage of
those would be over 30 acres, so yes.

Q I'm sorry. Did you mean to say 50 acres?

A 30 acres.

Q 30 acres?

A Yes.

MR. QUIROS: I might point out that
that was his testimony in the executive summary on Page 8 of the minimum size was 30 acres. I think he just may have misspoke with regard to the 50, Ms. Schmaedick, and again, in his testimony, he, on Page 19, it was 30 acres and 50,000 pounds of production per year.

THE WITNESS: It's 50,000 pounds, 30 acres, yes.

BY MS. SCHMAEDICK:

Q Okay. Thank you. So the 30 percent of farms, are you then indicating that within that 30 percent, that captures yard production? Is yard production considered a farm in that 30 percent?

A So we've done an analysis where we
have the profit relating to the farms overall in the U.S., and we included everybody in that profitability analysis, and essentially, that's where the breakdown comes from. And if you look at the full report, which is Exhibit 19, there are two figures that pretty much summarizes the likelihood of profitability in this case of a representative farm that uses data from everybody in the U.S., not just the ones presented.

And what you can see here is, on the different scenarios of different assessment grades, with the likelihood of profitability doesn't really change that much with or without the order. Furthermore, when you look at differences across the type of assessments within the range, that profitability doesn't change.

What you see there is what we
typically refer to in policy analysis as a
stoplight chart, and this is a type of chart that are used in Congress to make decisions by farm -JUDGE GUTHRIDGE: Which chart is that you're talking about right now?

THE WITNESS: This is Chart 19 on Page 30 of Exhibit 19. It's a very easy
representation of the probability of a farm generating profits. And the reason we use it is because it's a simply concept. Unfortunately, the copies are not in color, but in a similar fashion to a stoplight, green is good, yellow, not so good, and red is bad.

So what we have represented here is the probability that a farm would generate some profits in case of the red categories, unfavorable category, the second one, which would be the cautionary, or the mid-level category, that's around 50,000, and then a healthy profit level, which includes returns to all of the inputs associated in production, including capital, so in that breakdown that we've done here, we include everybody in the country, not just the commercially produce growers, because we're interested in seeing how the order will affect potential profitability of farms across the U.S.

So in this analysis, like I said, I'm going to repeat again, we used every farm size consideration, in fact, the yield that we used there were smaller, reflect a smaller yield potential, because it includes all of those farms that were excluded from the ones that would be assessed in the federal marketing order.

So as you can see there, even when we included everybody, those farms that were not included because they will not being collecting assessments from those farms, the likelihood of making profits was about the same as reflected in those charts with or without the FMO, that is, that the remaining other factors that influence production, in terms of the inputs the farmers use, managerial practices, and other factors that are very important in this case, the amount of the assessments they were assessed, that wouldn't change the likelihood of them being profitable.

So that's based on the category section, when we do conduct it, the analysis, which is reflected in the report, for including
every farm.
JUDGE GUTHRIDGE: Let me clarify
something for the record for someone who may be reading this transcript and looking at a black and white, not a color, copy of Figure 19 in Exhibit 19 on Page 30, you called that a stoplight chart?

THE WITNESS: Correct.

JUDGE GUTHRIDGE: Because it was red, yellow, and green, on this chart, which one is red, when you're looking at it in black and white, which is yellow, which is green?

THE WITNESS: Sure. Black is -- the intensity of the color changes.

JUDGE GUTHRIDGE: Let me ask it this way, is the line that's unfavorable, is that red? THE WITNESS: Yes. JUDGE GUTHRIDGE: Okay.

THE WITNESS: And the one in the middle, cautionary, would be yellow.

JUDGE GUTHRIDGE: Cautionary is
yellow. Okay.

THE WITNESS: And then favorable would be green.

JUDGE GUTHRIDGE: That's green. And then on the bar charts below that, is the red the bottom section, the yellow the middle section, and the green the top section?

THE WITNESS: Correct.

JUDGE GUTHRIDGE: Okay. Somebody, again, reading a transcript and looking at this stuff is going to be having to guess at that.

THE WITNESS: Right. And then on Figure 20, we have the similar farm. When we change the assessment levels and we look at the, essentially, we do Monte Carlo simulation looking at all the economic data, and because of the wide range in variation in regions, we actually use distribution of all the possible economic values, and then we simulate 500 farms so we get a flavor of all the risky variables in the model and how they change the final net present value of the farm model.

And so we can see in Figure 20 is that
we looked at likelihood of profitability is virtually unchanged regardless of the assessment rate as reflected in the baseline scenario, and that's scenario 1 through 6.

BY MS. SCHMAEDICK:

Q Okay. Thank you. Unfortunately, that still didn't quite get to the question I'm trying to ask. So is it your understanding that assessments are collected -- are they collected at the grower level or the handler level?

A The assessments are done at the handler level.

Q Are all pecans produced in the production area, are they assessed?

A Yes.

Q So is it a logical conclusion to say that production from those 30 percent of farms that are below that threshold, is that production being assessed?

A It is.
Q So when you look at your impact analysis, are those small farms benefitting?

JUDGE GUTHRIDGE: Ms. Schmaedick, let me clarify something in my mind, I think you referred at one point to Page 7 of his testimony? MS. SCHMAEDICK: Correct. Yes. But we've sort of moved on.

JUDGE GUTHRIDGE: Exhibit 24, and there's a 30 percent on there, but the 30 percent I see on there talks about -- is almost half the farms in the Central and West had between 50 and 499 acres under production, but less than 30 percent of the farms of this size are in the East, is that the percentage you're questioning?

MS. SCHMAEDICK: No. I'm referring to the statement that 70 percent of all farms have more than 50 acres.

JUDGE GUTHRIDGE: Okay. Which is across all regions. 70 percent have 50 or more acres.

MS. SCHMAEDICK: Correct.

JUDGE GUTHRIDGE: So 30 percent have -- okay. Got it.

MS. SCHMAEDICK: Yes.

MR. QUIROS: Your Honor, for the record, maybe we should indicate that that's Page 15 of Exhibit 19 and Page 7 of Exhibit 24, the reference that is just being discussed with regard to the percentage of farms that are above and below 50 acres.

THE WITNESS: Yes. So to answer your question, I think that they would benefit. We have cut-down analysis here for commercial
farmers only, but if you look at the information in the graph, the amount that they would benefit will depend more on the practices that they do related to production, so if you got just a hobby farmer, doesn't do anything about it, he's more likely that he would be economically affected by not fertilizing and not coming up with any type of production compared to the marketing order.

In other words, they will benefit, but the marketing order will not save them from not going with the necessary inputs of production to have yields.

BY MS. SCHMAEDICK:

Q So referring to your statement that farmers below that threshold, their profitability doesn't necessarily change with or without a marketing order, is that your statement? Is that correct?

A Well, if you look across all the inputs of production, the other factors, the other inputs, have more influence than just the cost. So that's reflected in those graph is saying, if we collected the cost and we actually put in nothing, no promotion, nothing changed, just the cost structure, that wouldn't change the likelihood of them making profits, which is slightly different.

So what that is saying is, that the likelihood of making profit depends a lot on what they do, and even with the cost included in there, they would need maybe other things to stay that have a higher impact of them making profits than the assessments from everyone. Does that clear your question?

Q Yes. So would it be fair to say that
farms below that threshold, even though the marketing order may not make them profitable, they still benefit.

A Correct.

Q Okay. Thank you. Couple of fairly minor questions, on Page 8 of your testimony, you indicate that the per person consumption of pecans is 0.45 pounds. Do you have consumption data for the other nuts in your study?

A It's more FDA data from the per capita consumption system, so $I$ don't recall if we do the actual per capita consumption of all the other nuts, but that would be very easy to get from the per capita consumption data, when you go to the system, put together with the economic research service.

Q Thank you, I understand that.

A And essentially, what you'll find is that the other nuts are increasing in terms of consumption and pecans remain relatively flat.

Q Okay. I'm wondering if those numbers are included in the data that you have submitted.

A I don't think that I included the actual per capita consumption or even just included for pecans. Let me --

MR. QUIROS: Judge, just for identification, that's Exhibit 24 that we are referring to now, Page 8.

MS. SCHMAEDICK: We don't need to take a lot of time. I just wanted to know if that data was there.

THE WITNESS: Figure 14 shows just the fruit and nut in general, but it's not broken down by specific nuts, and I don't think that I -- I don't think that we included the rest of the nuts in terms of per capita consumption.

BY MS. SCHMAEDICK:
Q Okay. Thank you. Quick point of clarification, on Page 12 of your testimony, you refer to Figure 17 of Exhibit 19, I think. So Figure 17 refers to percent market share of pecans and walnuts, it's on Page 24 of Exhibit 19, and if I understood your testimony correctly, there's a line, a vertical line, that points to
the year 2007. Is it your interpretation that the walnut marketing order program started in 2007? Is that what you're saying?

A What I'm saying there is the marketing order for, in that case, walnuts, starts to have a proving trend starting in 2007.

Q Do you know when the program was implemented? In your analysis, did you look at what might have created the bump in 2002 and the drop in 2003 in that crop? Were there any outstanding economic events there?

A In that same graph?
Q Yes.
A No, but if you look at the previous figure, which is 16, you can actually see the more precipitous growth, and in that particular figure, you can see the series going back to 2000, the bars represent the market value share for different nuts in these states, so include almonds, walnuts, pistachios, hazelnut, macadamias, so it's pretty much the whole nut market, and then on the vertical side, I put the
percentage of pecans of the overall market, which you can see in this line is a very precipitous decline in the percentage of the market value for pecans going from over 20 percent in the year 2000, and falling to very close to 5 percent in 2014.

So as you can see, there are many factors that are driving that, perhaps mainly we can see the growth of all the others. So when you start to put the picture together in that particular graph, and if you look at not only walnuts, but you can look at the other nuts and how have they been growing in terms of the market value, the pecan has remained relatively flat.

So what you're seeing there is that production has remained stagnant, on the one hand, for pecans, but clearly, something is driving the increase in the supply of the other nuts. And I believe this states what's driving there, which is the point I'm trying to make in Figure 17 and 18 , is the market demand.

The market demand for the other tree
nuts is growing at a rate that allows production to satisfy that market demand.

MR. HILL: Mr. Palma, $I$ just want to interject for one second. You were asked a minute ago about the implementation of the walnut order, there was no answer, so $I$ want to make sure you answered. You're not sure when the walnut --

THE WITNESS: Well, the record reflect that I believe that the marketing efforts starting making expenditures in that year, 2007.

MR. HILL: Okay. Just wanted to clarify that because you shook your head and kind of wasn't on the record.

THE WITNESS: Sure.
BY MS. SCHMAEDICK:

Q Okay. Thank you. On Page 15 of your testimony, you refer to a Figure ES3, which I believe is in Exhibit 19 and Exhibit 23? Could you spend some time explaining the calculations that are captured in that table? The table was titled, Assessments as a Percentage of U.S.

Season Average Pecan Grower Prices, Midpoint of Proposed Initial Assessment Range. How did you make those calculations?

A So if you go back to my testimony, you will see that, with the season average prices of \$1.73, \$1.90, and \$2.12, which are the average prices in Table ES2, I used those average prices and look at the different assessments as a percentage of those prices, and so the assessments, which are in Table ES1, are divided by the total price, and that gives you what's the percentage of the price that the assessment will be.

And so when you look at those, the result, depending on which assessment that you use relative to the average price, that will be in the range of 1.2 to 1.4 percent, depending on whether you use the low, the mean point, or the high end of assessments, which, for improved pecans, would be between 2 and 3 cents, with a midpoint of 2.5 cents, and for the native variety, it would be between 1 and 2 cents, with
a midpoint of 1.5 cents.
That's what's the percentage of those assessments relative to the average prices.

Q So I'd like to take that analysis, but I want to apply it to the cost of production, are there differences in the cost of production across the production area?

A Yes.
Q So in your analysis, and in your
calculations of the impact on growers, did you take the cost of production into consideration?

A When we do the profitability, we did, and we didn't take the average cost production, we actually used the simulated costs so that we include all the range of the possible values. So perhaps the best way to describe this is, if you did a sensitivity analysis and you looked at what's the price of, let's say, labor in Texas compared to somewhere else, you can say, well, the average price for labor is about $\$ 10$ an hour. And then it goes from \$8 or \$9 to \$19, I'm just taking an example, so in a sensitivity
analysis, you will say, well, the cost of labor per hour is the average, with a low of $X$ and a high of $Y$. So what I've done, instead of using three points, if we use the full distribution of all reported available costs of all the inputs across the different regions, and we did sort of like a sensitivity analysis, but rather than taking three points, we took the density function of all of those possible values, which means, essentially, any possible value within that distribution is used to then simulate the change in that particular cost.

And then you use that for all the possible input costs for everything else in estimating the cost of production. So labor costs change the price of everything else in terms of the inputs also change, so normally, that's what $I$ refer to in the report as the risky variables.

By that, what $I$ mean is that there are things that, even within the same region, if you look at it today, there's wide variation. And
just using the average can be misleading because the costs might be very different in the Eastern region compared to the Central and Western.

So by using the full density, or all the probable values of all of these variables, then essentially what we're doing is we're capturing all of the risk that exists within the cost of production inputs. And then we're simulating that 500 times to give us a wide range of the possible influence that all of those inputs provided will have on the bottom-line net present value of the farm.

So yes, we accounted for all of that, we took all of the inputs, we took all of the levels, and used those densities to estimate differences across all the regions. An alternative approach would have been to do an analysis on a per region basis, but that would probably be a little bit more misleading in terms of differences across regions.

So what we did is, we took these representative farms and we took the risk
behavior of all the cost production and everything else across the regions, which is very standard to what we do in terms of analyzing different policies in policy analysis, even for the Farm Bill and other risky type of scenarios.

Q Thank you for that explanation. I want to see if $I$ can capture that in layman's terms. So basically what you're saying is that, across the three regions, the cost reduction can vary depending on what types of inputs are needed for that farm context.

A Not just the types, even with the inputs.

Q Right.
A I mean, the price the diesel is not
the same. It doesn't cost the same in Texas than what it does in Florida, or Georgia, or any of the other regions. So even within the same input, the cost of that input changes.

Q Correct. Another example might be water, is that correct? It might cost different in --

A All the inputs in production, yes.
Q Okay. So again, in layman's terms, I'm trying to restate what I think I just heard you say. You did an analysis across the regions with all these different input variables and looking at the range of how high and low those costs might vary, correct?

A Not a range. You got a full
distribution assigned to each one of those, so we didn't just say, this is high, this is medium, and this is low, we assigned a distribution, which means, if you look at the density function, essentially, what's the probability that these costs, the diesel, would be between $\$ 2$ and $\$ 5$, and you assign a probability to each one of those, but not a specific value because it's a distribution.

So I mean if you look at Bromethio, his particular value, 1.03 , that's zero. So it's over all the possible values of distribution of each one of those.

Q Okay. Thank you. So based on that
analysis, how would you characterize the cost impact across the production area? Does it differ per region on a bottom-line analysis, the impact, does it different across the region?

A It certainly does. It's not reflected in here because we actually took all of the risks, which essentially means, how does that distribution look like in each region? So is it flat? Is it relatively more lead curtain, which means that there's more risk associated with that.

And so what we did is, we took all of that potential risk and put it into this simulation farm analysis. So with that, it's capturing every single possible change in that. And then of course, the beauty of doing that is that you can simulate what happens to net present value over all the different risk variables all across the region, so it is represented and embedded within the model.

Q In your final analysis then, do you say that one region would generally be impacted
more than another region would generally be?
A No, what I mean to say here, and you can look at those two graphs begin to show you results of all the 500 simulations on the bottomline net present value. What that is telling is the impact on the costs or the likelihood of the farms to make a profit would be more dependent upon the actual management practices that they do because the assessments are low enough that they will not make a big impact in the likelihood of those farms to make profits or the cost is small enough that you won't change the structure.

It's more dependent upon the other management practices.

Q Okay. So again, in layman's terms, would you say that an assessment that is applied on a per-pound basis at the handler level, would that be a fair impact across the production area? Is that impact applied fairly? Is anyone disproportionately disadvantaged?

A I don't think so. I think it's proportionately assessed in all different
regions. In fact, you brought the point that it's assessed on the handler level, and yet, we assume that most, 100 percent, would be bear by the producers in these regions, and so to clarify your question, yes. The reason for us to assume that is because if you look at an increasing price today, that increasing price today will be reflected in the market, but if all the growers decided to respond to that price increase today, the actual supply's response from taking an action would not be seen for six years, because if they planted the trees today, that response would not be seen for six or seven years, which essentially just mean, in economic layman's terms, that the supply would be fixed.

Even if I wanted put more pecans in market, I wouldn't be able to do so today because it's the yield that we have, and even if we planted additional trees, those trees would not come into production for six or seven years. So with that fixed supply and response, that's why we assume, at least initially, that thus, the
costs of those assessments would be mainly impacted more by the producers.

And I think, just to clarify your original question, that yes, it will be fairly impacted across all three regions.

Q Thank you. So I just want to, you touched on my next question, which is, on Page, let's see, 20 of your testimony, which is Exhibit 24, you have a statement here, and I'll read it into the record. You say, "It is" --

A I'm sorry. You said Page 20? Just give me a sec. I have a different version of my testimony than what you have.

Q Okay. Paragraph $F$, the title is, "Handler Considerations: Costs and Benefits".

A Okay.
Q And I want to point your attention to this statement, it says, "It is evident at the handler level, there's the same magnitude of positive price change as there is with the grower analysis, but a smaller proportion of the cost due to the greater prices paid to handlers." My
question there is, in that statement, are you taking into consideration costs such as the cost of planting and putting the input expenses into trees, into an orchard, for seven years before it's bearing? Is that cost capture in this statement?

A No. So all that statement is reflecting is that both at the producer and the handler level, we can see that there is an effect in demand of increasing prices that can be seen in both segments, both of the handler and at a grower level. The cost of the handler in that case means, well, what would be the cost of that associated increase in demand by having a few -an increased production of anything.

So on the handler level, yes, it does.
It includes the cost of the transactions in terms of accounting and making sure that they collect all of those assessments, and so on and so forth, that can be attributed to the FMO. On the producer side, no.

Q Can this statement be interpreted as
saying that handlers will benefit more than growers?

A No.

Q Can you explain that? Maybe I'm not getting it. Why does that not mean that? If there's a same positive price change for growers and handlers, but a smaller cost, the difference --

A The extra cost of handling, the extra cost for the handler, would be expected to be very low, is what I mean to say in that statement, compared to the extra cost of all the activities that will be borne back to the producer as assumed in the model. So even though the handlers are paying it, we're assuming that that price paid to growers would be reflected in the way back to the growers themselves.

So if there's an increase of 6.3 cents, even though that's going to be paid by the handlers, that would be reflected back in the price that is being paid to the growers, but that increase in the actual stated cost for the
handlers would not be expected to be, in terms of handling that extra loading, is not expected to be very large.

MS. SCHMAEDICK: Okay. I think that concludes my questions. Thank you.

THE WITNESS: Thank you.
JUDGE GUTHRIDGE: Any follow-up?

MR. QUIROS: Yes, Your Honor. Couple of things. Dr. Palma, when you say a producer under Exhibit 1, that is meant to include grower when you use it, is that correct?

THE WITNESS: That's correct.

REDIRECT EXAMINATION

BY MR. QUIROS:

Q And in your testimony, when you say the term native, do you also mean native and seedling?

A Native and seedling. Yes.
Q Thank you very much. You have described the proposed federal marketing order for pecans as a domestic program. The information that you produced with regard to

Mexico and reported on the other countries was just background information and not part of your study, is that correct?

A I believe it was important to show the overall economic and marketing trends in the industry and they were just meant to be used for illustrative purposes.

MR. QUIROS: Thank you very much. No further questions, Your Honor.

JUDGE GUTHRIDGE: Next from the USDA.

MR. HINMAN: Well, I guess we now say good afternoon at this point. We've been here for a while.

THE WITNESS: Good afternoon. CROSS EXAMINATION

BY MR. HINMAN:

Q Actually, I first want to follow-up on Ms. Schmaedick's question on Page 20 of that same statement you read. This is on Page 20, "Handler Consideration: Costs and Benefits", since the computation you made is entirely based on -- you have an average grower price and you add 57.5
cents and you get the handler price, right?
So in fact, it's a smaller proportion of handler price received, is that an alternative way to say that? Smaller proportion of handler price received.

A Yes.
Q So is it 57 cents and therefore, for growers, you have, you know, ranges of like 1.7 percent, and because you've added 57 cents, 58 cents, the handler now has a smaller percentage because it's now down to about 1 percent. So instead of saying cost, is it more accurate to say it's a smaller proportion of handler price received?

A You're absolutely right. Yes.
Q Okay. Thank you.
A Thank you.

Q I have a series of questions from
Exhibit 19. First of all, it is on Page 20 of Exhibit 19. On Figure 11 and 12 you have -well, look at Figure 11 on Page 20, you have in there, production, which had to be obtained from

NASS data, but you also have imports and exports, which would not be NASS data, is the source of this, perhaps, the foreign actuals or is it the Economic Research Service which tends to compile these things together?

Could this source, in fact, be the ERS rather than NASS for Figure 11?

A Yes. It's Foreign Agricultural Service data for the import side, so you're right, it's not NASS data, and I mean, the ERS also puts out a report based on that.

Q Okay.
A So it would be included within either one of those two.

Q Okay. Thank you. I'll refer you back to Page 28 of the same exhibit. And on the very bottom of Page 28, you use the phrase, "They will be collected on the ratio of the in-shell pecans managed by the handler and the in-shell pecans on Page 29 managed by all regulated handlers." I'm not sure, I'm trying to understand, what is this ratio? What's the purpose of the ratio in your
analysis?
A So the ratio of in-shell pecans
managed by one particular handler, you can think about it as a market share of the product that floats through one particular handler. And so depending on the amount of product that one handler uses, the percentage of the total market would be the ratio for that particular individual unit or business.

Q Does that number fit into your analysis, and if so, how? Is this mainly just an observation rather than an element of your analysis?

A It's an observation rather than anything in NASS, yes.

Q Okay. Thank you.
A Thank you.

Q Same exhibit, Page 31. And just before you begin Section E, you use the word, cascading to the grower, that word cascading, you mean, basically, a grower/handler market, correct? Is that correct?

A Yes, it would be passed on.
Q Which you then characterize as 30 to 40 percent.

A I'm sorry?
Q So basically, you just refer to the fact that dynamic marketing and at this point, you're estimating that at 30 to 40 percent.

A So that's the estimated margin for the grower. Yes. So if you look at a retail price, the actual margin that goes back to the grower from selling -- well, what you see in that grocery store, for example, and if you see a price of $\$ 10$, the margin of that that correspond to the actual grower will be in that range. That's what that means.

Q Okay. I want to point out on this Page 31, you said a margin of 30 to 40 percent from the grower to the handler, price received by grower to price received by handler. Then on Page 33, second paragraph, "The handler margins from 30 to 60 percent of the price." This is the second full paragraph on Page 33. Should those
be aligned? Are both meant to be 30 to 60 or both meant to be 30 to 40 percent, or is there a different piece of analysis going on here?

A That's a good question. So the first one refers to the actual -- the margin to the grower from retail, the margin to the grower from the handlers, and then the other one refers to the margin to the handler as a price paid to growers, so how much of that price paid to the growers is a typical margin to the handler. So in a way, they should be aligned because one reflects, what is the margin going from the handler reflected back to the producer, and this is the other way around.

It's the margin of the price paid to the producer that is a typical margin to the handler.

Q If we were to individually reference this particular number, which range would you think would be most accurate to use; 30 to 40 or 30 to 60 percent?

A I think that 30 to 40 is probably a
range that is accurate, but if you explored that further, I mean, that range could be up to 60 percent.

Q Okay. Thank you. The 58 cents, that's generally about 40 percent in your example, so you're using, in an example, the lower end of that estimate, is that correct?

A That's correct.

Q Okay. Thank you. I'll refer you to Page 38 of that exhibit. And you have, on that Page 38, a long list of studies which have informed your analysis here about the range of likely impacts from generic promotion, is that correct?

A That's correct.

Q And I want to make sure from this page I'm understanding, basically, the footnotes, and if a number in the benefit/cost ratio column of that has a $B$, and there's a margin of benefit/cost ratio and does that make all of the others that don't have $B$ an average benefit/cost ratio in that benefit/cost ratio column? A few
of them have B's.
A Well, so they're different types of benefit/cost ratio statistics that people report in the literature, and so the comparison across them, we need to make sure that we are actually referring in a comparison basis to the appropriate benefit/cost ratio. So in my case, what you have that I have estimated is, additional benefits divided by costs, which, I believe for the midpoints there were at about 2.5.

There's also the net/benefit cost ratio, which means, if you take out the one number you already invested, what's the additional increase? So in this case, for this particular example, if you look at the net/benefit cost ratio, it would be 1.5 .

The marginal benefit/cost ratio, what that means is that if $I$ were to spend an extra unit of promotion, in this case, an extra unit of promotion is one extra dollar, how much of that expenditure in that extra dollar would really
return.
Q Given that, would you characterize your computation, which resulted in 2.5 as a -you use the word here, marginal, and average, and net, where does your analysis fit in that range of ways to characterize benefit/cost ratios?

A I think that's an excellent question.
Mine would be on the low side of this statement. If you compare the typical BCR as the way that I would calculate it, which is like what, essentially, Williams and Welch do this, the reason $I$ use this size because it's very recent and it includes a variety of agricultural products from different promotion programs over a wide range of agricultural products, and essentially what they do is, they look at the average of all those and apply that average, in this case, to that particular commodity that we're looking at.

And I believe that that average, depending on the type of commodity, if we compare across that, it would be around 4 for a
benefit/cost ratio. So the reason for us to use the numbers that we used were twofold. Number one, we wanted to have a conservative estimate of the potential benefits for a couple of reasons.

The first reason is that the other programs in the nut market have programs that have been very active for many years, and so that we believe that the potential impacts, at least initially, it would take some time for them to start to see larger returns and so for that reason, we wanted these estimates to be somewhat conservative in the way that it will generate benefits.

We could have used different
commodities. Again, if you look at the list of notes there, you have things like eggs, avocados, blueberries, that might be very different than the tree nut market. So rather than using all of those as Williams and Welch did, what we did was try to look at the studies with nuts only and using sort of like the mean point for those studies will be largely the largest, or the high,
benefit scenario in our analysis.

So the typical scenario that we're reporting, again, is a conservative measure of the potential benefits, but $I$ just wanted to be cautious in not overestimating any potential benefits, and so a quick review of that
literature tells us that the typical range is as high as, you can see some of those numbers go as high as, 9:1.

In fact, the promotion program in
Texas that we analyzed a few years back generated a 35:1 benefit/cost ratio for Texas pecans. Now, when you look at such a large benefit/cost ratio, what that means in terms of the question you just asked of the marginal $B C R$, what that means is that if you start to promote a product, even with very small promotion dollars, like they are limited in the case of Texas, what you see is very large benefits of doing those promotions because it's bringing a lot of awareness.

But every additional unit referred to, typically in economics, marginal unit has
diminishing returns to investment. So what that means is that every extra dollar I invest in promoting pecans, and this is what we found in that study, would be expected to generate less, and less, and less returns, up to the optimum point where you invest $\$ 1$ and then you get a return of $\$ 1$.

So when you experience such a large BCR like the one we found for Texas pecans in that study, that is a sign the program is significantly underfunded, which means, the amount in return is so large because the program has invested so little in promotion that every dollar counts very much.

So I wanted to -- I know that's a little bit of an extension of the question you asked, but I think that's a good explanation as to the different types of BCRs, and I thought it was a good moment to bring some of the results of that particular study, which I think the assessment rate is about half a cent per pound in the case of Texas, so that's really telling you
the very small amount that they have available is having a very large impact, in that case, 35:1.

We didn't want to use something that is that big, especially because, in this case, we don't really know what the amount of the actual amount in dollars would be used to different activities. If we knew that, we could use a regression-type of analysis to attribute the different types of investments and look at the potential return based on the literature, but we at this point, do not know how those dollars in the assessments are going to be invested.

Q Thank you. Yes, you did anticipate with that some upcoming questions, so thank you for that.

JUDGE GUTHRIDGE: Follow-up?
MR. QUIROS: I'll let you finish.

MR. HINMAN: Oh, I have additional
questions. Please go ahead ask.
JUDGE GUTHRIDGE: I thought you said you had no more questions, Mr. Hinman.

MR. HINMAN: No, I do have additional
questions.
JUDGE GUTHRIDGE: Oh, you do. I'm sorry. I thought you said you had no more questions.

MR. QUIROS: I'll reserve until after he finishes his questions, Your Honor.

MR. HINMAN: Okay. Thank you. On
Page 7 and 8 of Exhibit 19, you are providing there a series of calculations to be, sort of, representative averages, correct?

THE WITNESS: Correct.
BY MR. HINMAN:

Q And a key result of those series of computations for both, I believe, native, and improved, and overall, all of that is approximately 2.5 benefit/cost ratio, so is that correct?

A That is correct. In fact, I think that I know when we do the different types of analysis, depending on the size farm and the assessments, that goes from 2.08 to 3.12 , with the overall for that particular scenario of 2.5,
which is the mean point. Yes.
Q You do then argue then that, well, I think this is helpful for the average reader to understand the results, that you said averages can be misleading, which is the reason you engaged in the simulation analysis think test. Would you explain, you know, that more, how the analysis becomes more robust with the simulations and Monte Carlo analysis than it would have been in using just averages, such as these?

A Sure. That's an excellent question because especially in the particular case of pecans where you have an alternative bearing acreage production, using averages to estimate with and without implementation of the program, and then trying to put that on a particular year might be even more misleading than just the regular way of calculating the averages.

So essentially what we did in these cases that we took all the historical data and used that risk behavior, the historical data, to run a very similar type of analysis where we
simulated 500 different prices from empirical distribution of the data, with and without the FMO, and then we estimated the potential impacts on the price for the following four, five years, and then took the average of those to be what you see in the tables.

So in this regard, we're not just taking the particular average of what would be a potential, for example, if you were seated here in 2010 or 2011, and looking at the high/low prices, and doing the analysis relative to those prices, the answers would be very different than sitting here and doing it with the price levels of 2014.

So in this regard, what we tried to implement in the analysis is, we tried to implement all of the potential risk associated with the price series and use that risk to generate -- using the actual data to simulate the potential impact on prices.

Q Again, referring to Page 7, I want to make sure I understand this, because you use
these sort of averages just for different levels of farm production, you would consider your 2.5 propagation to be, it's not an incremental, it's an average, so it's average benefit/cost ratio, not a marginal benefit/cost ratio, is that correct?

A That's correct.

Q Thank you. If you could turn to Page 29 of Exhibit 19. And actually, so 29 and 30, and you have stated that the 6.3 is your midpoint between a high and a low result, is that correct?

A That's correct.

Q And your basis for that is, the starting point for that is, a 1.5 percent increase in price.

A Correct.

Q Using your distributional methods and your stochastic analysis, right?

A Correct.

MR. QUIROS: Excuse me. I understood it to be 1.5 percent increase in demand, not in price.

THE WITNESS: It is price, and in this case, we're assuming that the increase in demand that we're observing is observed in a 1.5 percent increase in prices --

MR. QUIROS: Okay. Thank you.
THE WITNESS: -- for the average
scenario. And then the low is 0.5 percent increase and then the high is 3 percent.

BY MR. HINMAN:

Q Just a follow-up, I want to make sure I understand that, you're equating a 1.5 increase in demand, but you're representing it by 1.5 percent increase in price, is that correct or not?

A We did have the information about the price exceeds their demand, so what we are assuming here is, yes, it is a unit lasting so that when we observe an increase in demand, we can reflect it in the increasing prices, but again, we are using those studies to look at the overall final effect of the potential increase in demand and what would that be reflected in the
increase in prices.
Q In the paragraph just above Table 7 on
Page 29, you refer to your simulations and all that, so I want to make sure I understand, this analysis here is basically using a distribution of prices and you're estimating it -- you know, you start with 1.5 and you get percent and you end up with your analysis with 6.3 cents net increase in price using your simulation analysis; 6.3 cents for improved pecans.

A Correct. Within the whole 500 simulated prices, that's the average of the following five years of all the simulated prices, assuming a 1.5 percent increase.

Q And so this analysis, you go on then to discuss the model farm, but this particular result, the 6.3 cents computations you made, and 2.5, does not -- this type of analysis does not involve the model farm. This is partially because you're starting your price analysis and you're ending up with higher prices through these simulations. Am I correct that this analysis
does not involve the model farm?
A That's correct.

Q The model farm is a separate analysis to make a separate point.

A Correct.

Q Thank you. I'm going to point you to Page 30 where you mentioned the -- at the very end of that first paragraph there --

A I'm sorry. You said Page 3?
Q Excuse me. Page 30 of Exhibit 19.

And the first paragraph there has a footnote and I want to draw your attention to that footnote, and you talk about a 2.8 percent rise, and then you have a footnote describing the fact that you're using an empirical distribution. And I want to explore this because -- let me ask you, basically, you start with 1.5 and with the use of your particular distribution, which I believe -do you call that a standard distribution?

A No. So there are different types of distribution that you can assume any particular variable. Normal distributions, extreme value,
depending on what you're talking about. In this case, because we have reliable price data that we're using from a historical series that is collected, then we're using what we call the empirical data, if you want to call it, which is an empirical distribution because the distribution is coming directly from those prices.

In this case, I think we used 1987 to 2013, so we allowed the distribution to change, or to vary, according to the way it's changed with historical data. So rather than assuming a particular distribution that might not fit the data, we used the empirical distribution, which fits the data. Of course, an empirical
distribution tends to have some weights to the tail, so it's not like your typical normal distribution that can go from minus infinity to infinity, but it assumes the actual risk within the variable associated with the changes with the actual data.

So whenever possible, if you have data
available for distribution, I think that for this type of analysis, it's always better to use the available data and let the data tell you how risky it is rather than trying to assume another distribution, so that's the reason why we used that empirical distribution for prices.
$Q$ So is that lack of using a standard distribution, you refer to that as empirical, in other words, it was your empirical work with much data that allowed you to provide that distribution, correct?

A Correct.

Q The impact of this -- let me ask you, the impact of this is if you started with 1.5, you used your empirical distribution, and then used the phrase higher weigh on the tails, and your net increase seems to be your 1.5 percent rose to 2.8 percent, an increase of 1.3 percentage points, is that correct?

A Yes, it is.
Q Therefore, the results that we see in 6.3, and all that, is, in a sense, starts at 1.5,
but through your distributional analysis, we're really talking about a 2.8 percent increase, which gets you improved rising by 6.3 cents and native and seedling rising by 3.6 cents, is that correct?

A That is correct. And the assignment of the way, what that means is the probability of different price data to occur as obtained from the risk behavior of the actual data.

Q Thank you. And could you define the word stochastic?

A Sure. So stochastic means something that is risky. So I think I use an example, which I might elaborate on, if you look at the cost of fuel and if somebody asks you, what's the cost of fuel? And I reply to them, it's about \$2.5 per gallon of gasoline in Texas, that's a fixed variable, because it's changes, it's always 2.5, but if I told them, well, the distribution of prices has a mean and a standard deviation of such, I'm defining the whole distribution, which means that the value of that particular variable
has a range with different probabilities.
So that's what the word stochastic means, it means that it has some risk that is not fixed, it's not always the same, that there is some variation intrinsic to that particular variable that is defined, in this case, at the site of the first and second months, the mean and the standard deviation, but we can derive those with three and four months, typically most distribution of stochastic variables are usually defined within the mean standard deviation.

But essentially what that means, it's not just 2.8, 2.8 is the largest probability of that event happening, which in layman's terms we refer to as, that's the average. That's most like the scenario, but here, the average, if we think about it, is the calculation of the density function over a range of values, so what you do in an average, you assign each value and you have the same probability, so that you take one over P, multiple by the integral of all the possible values, and you end up with adding up all the
values and dividing by $P$, which is, in the sense, just taking the average would be adding up the numbers, dividing by the number of different things that you're adding up to.

In the case of a stochastic, it doesn't necessarily mean that every particular value will have the same probability, as in the case of the average, but you may assign different probabilities to different values, essentially.

Q Thank you. I'm going to give a follow-up, make sure $I$ understand, that same footnote we just referred to on Page 30, about the 2.8 , and $I$ want to explore again the phrase, higher weight on the tails. If you could walk us through how that term, higher weight on the tails, gets us the extra 1.3 percent, which is a critical portion of your analysis; phrase, higher weight on the tails.

A Sure. So what that means, if you look at the potential distribution, what that means in this framework that you just explained, is that this type of distribution assigns a higher
probability on the low and the high possible scenarios.

So high probability compared to a normal distribution. So you still have the highest possible probability, you're still at the center, or the average value, but then that has some weights distributed to the tails where you have a little bit more probability compared to the normal distribution, having those weights in the tail, what that means is that it makes some of those particular scenarios change, it might be at the bottom or it might be at the top, and in this case, the end result is that we look at the average increase in prices and we see a little bit higher increase in price because of that empirical distribution.

Again, $I$ think the point is that rather than me trying to assume just the normal distribution, since we have the data, we let the data tell us what would be assigned to either the risky or the stochastic behavior for that particular series, in this case, the prices.

Q Thank you. Stay on Page 30. Now I want to go to the model farm in Figure 19. First question, just based on understanding, you have made a point that it's hard to see red, yellow, green because it's black and white, but am I correct that the graph and then the three lines above it, the order is reversed, is that correct?

A I'm sorry?
Q You have the graph there, you know, with a base and scenarios 1 through 6 going from 0 to 100, and it looks like the way in Figure 19 those graphs are stacked is the reverse of the stacking in the three lines above it. Are they, in fact, reversed?

A Yes, you're correct. So the probability of unfavorable at the top would typically be the red, if we had it in color, and that would be the bottom category in the graphs. So for example, in the baseline scenario, that would be at 27 percent. If you go to the middle one, which would be the cautionary, that would be in the middle, of course, and then the other one
is favorable, so you're right. Yes, 21.8 percent is at the top in the bar, and it's in the bottom of the legend.

Q Is that the typical way to present material like this, to have them reversed, or are they more often aligned in the same order?

A You know, the typical order of presenting them is the one used in the actual graph. Normally, we have the actual color graphs. In fact, when the farmer is presented and Congress votes, they typically get a onepager with the probabilities of impacts with different policies to different stakeholders so they can make an informed decision, but they're actually looking at the colors.

But I think the typical way is the one described in the bars.

Q Thank you. Looking at Table 8, which gives you the different levels of the scenarios, Scenario 3 is improved 1.5 percent. This is Table 8 on Page 30 of Exhibit 19.

A Yes.

Q So that 1.5 percent, that is your midpoint of the range that you've been mentioning all along, and it is also the midpoint of the -it's the mid scenario here, is that correct?

A Yes, so the correspondence there would be, the low scenario would be Scenario 1, which is 0.5 percent, the mean point would be Scenario 3, which is 1.5 percent, and then the high scenario is the 3 percent for improved, and then the corresponding or associated levels for the native categories.

Q Thank you. One more question on that model then, the 1.5 percent in your Scenario 3, is it worked through the model farm as actually 2.8 percent instead of the 1.5 percent?

A Yes, so if you were simulating within the farm model, so it's embedded within the farm model there, but that would be the same scenario as related to your previous question, which means that there's an associated increase of 2.8 percent. Yes.

Q You know, step back from all the
specifics, and again, your view of the main value, you're analysis has -- could you explain again in terms, if the promotion program went into effect, you believe that your model is a good representation of what would be the impact on the industry from the implementation of promotion through a federal marketing order, is that correct?

A Using the best available data that we have, yes.

MR. HINMAN: That concludes my questions.

JUDGE GUTHRIDGE: This time it was finished. Okay. I understood you to say that earlier. Do you have any follow-up, Mr. Quiros?

MR. QUIROS: I think I'll reserve to the end.

JUDGE GUTHRIDGE: All right. Let me just sort of explain what's going on to everyone here. Usually, a hearing like this, we would have stopped for lunch, but Mr. Palma is going to Australia tomorrow and he can't get to Australia
from here, has to go somewhere else first, and so he can get out to that somewhere else, I'm just going to keep going until people start falling out or he finishes, one or the other.

THE WITNESS: Appreciate that. JUDGE GUTHRIDGE: Okay. MR. HILL: As long as he's not the one falling out.

MS. VARELA: Jen Varela, USDA. I just have one question for you.

THE WITNESS: Sure.
MS. VARELA: I just want to make a quick clarification. Looking at, it's Page 15 in your testimony in my copy, under Section B, the effectiveness of tree nut promotion. When you described the average prices from 2012 through 2014, \$1.73, \$1.90, and \$2.12 per in-shell pounds?

THE WITNESS: I'm sorry, can you repeat that?

MS. VARELA: Sure. I'm just trying to get you to the right part there. Do you have it
there?
THE WITNESS: So you are --
JUDGE GUTHRIDGE: Exhibit 24, Page 15?
THE WITNESS: Page 15, I think?
MS. VARELA: Yes. On the top of Page 15 of my copy, the last sentence there, "Similarly with average in-shell per pound prices of 88 cents, 92 cents, 88 cents, am I correct that that refers to native and seedling?

THE WITNESS: Correct. Yes.
MS. VARELA: Just wanted to clarify.
Thank you.
THE WITNESS: Thank you. Oh, yes.
MS. LOOFT: Hi, Dr. Palma. I'm Katy
Looft. I have a couple of questions for you. On Page 6 of Exhibit 19, on the second paragraph, would you say that the low scenario is 0.5 percent and the high scenario is 3 percent? Where do those come from?

THE WITNESS: Page 6 of what? I'm sorry.
second paragraph. Do you see the low and the high value --

THE WITNESS: So what we did is, we reviewed all of the literature related to promotion progress, and based on those, a copy of which is included in Appendix A of Exhibit 19, we decided not to use all of those studies as representative of the potential impacts on pecans because some of those have very different structures and are coming from very different agricultural products or commodities.

So what we did, essentially, was taking the available literature that we have in the nut markets and use those to estimate the potential impacts. Now, one of the challenges in the literature is that they have actual expenditures, they have information about elasticities and many other things that we at this point do not have.

So what we did, we used those studies,
which I think would be marked as Exhibit 20
through 22, is that right? It's 20, 21 --

MR. QUIROS: 20, 21, and 22.

THE WITNESS: And we used those
studies to base a potential effect that we could see in the actual price market, and then we use a conservative for those studies to reflect the likelihood of the impact for pecans. And in doing so, we selected a very low potential increase in price of 0.5 percent to a mean point of 1.5 , then a high level of 3 percent, as observed increase in prices due to the shift in demand.

And then we used those scenarios to base our analysis on.

BY MS. LOOFT:

Q Okay. Thank you. Second question, on Page 7, Table ES5?

A Yes.

Q You have that you're assuming that 78 percent is improved variety acreage and the 22 percent is native/seedling acreage, but then on Page 27, Table 3, you have 60 percent improved acreage, 40 percent native/seedling acreage, and

I'm just wondering how --
A Which? 27?

Q Page 27. It's Table 3 on Page 27. Do
you see you have the percentage of total for improved and native, you have 60 percent and 40 percent?

A So I think that this information is coming from the 2012 Census data and it has all the different acreage across all regions. What we did with the other table was, essentially, take the -- that might be over a particular year, maybe the average, so what we did is, we used the typical breakdown, and it's for illustration purposes, the idea is that somebody with a different structure would actually use this type of information to generate their own costs and their own benefits.

Based on the information provided here, we believe that this was as close of a representation as it is on the actual breakdown of native and improved, but again, we need that flexibility for somebody. If somebody grows no
natives at all, then we will use that native share to be 0 percent.

So depending on the breakdown and where they are, they can use these numbers, and more than anything, these are for illustration purposes based on the results.

MR. QUIROS: Your Honor, if I could ask a clarifying question. I think was is in terms of pounds the other is in terms of acreage, and the difference really is because the native yield so --

THE WITNESS: LOw. That's right.

MR. QUIROS: They yield so low in terms of the acreage per pound. I hope that helps. The one that you're referring to on Page 27.

> JUDGE GUTHRIDGE: Which one is which?

Which one is pounds, which one is --
THE WITNESS: So Table ES5, when we breakdown in pounds, okay, so for example, if you take the small case scenario there, you have 30 acres at 66.67 pounds, and then you take the
total number of pounds, which is 291,667, and you take the share of improved to be 78 percent, and then 22 percent for natives, that's the actual per pound basis.

And then on Page 23 I think it's what's referred to as acreage, where the other --

MR. QUIROS: Page 27.

THE WITNESS: Page 27 is on an acreage basis.

MS. LOOFT: Thank you.

JUDGE GUTHRIDGE: Okay. You finished?

MS . LOOF'T: Yes.

JUDGE GUTHRIDGE: Who's next? Mr.

Hill?

MR. HILI: I have no further questions.

JUDGE GUTHRIDGE: Anymore questions from the USDA? No. Okay.

MR. QUIROS: Your Honor, I have a few questions as a follow-up.

JUDGE GUTHRIDGE: You have follow-up questions. Yes.

## REDIRECT EXAMINATION

BY MR. QUIROS:

Q Dr. Palma, in preparation of your Exhibits 19, 23, and 24, did you consider the factors between regions as well as within each region?

A Yes.

Q And do you believe that the costs are fair across all regions for growers?

A Yes, I do.

Q And how about for handlers?
A Yes, I do.

Q Do you believe that the benefits outweigh the burdens across all regions?

A I think that the results clearly point out that that's the case for all the different types of scenarios we used, different size of farms, so yes.

Q And in your review, and analysis, and modeling, is any region treated unfairly with regard to either cost or benefits?

A No, it's not. I mean, except for
change reflected on the data as it pertains to particular effects of weather conditions for a particular year in one region, but not in the economic analysis.

MR. QUIROS: Thank you very much. JUDGE GUTHRIDGE: USDA, anymore questions? Are there any questions from the audience? Hearing none, Mr. Palma, you're excused. Go to Australia. Check with Ms. Gonzalez to see if she has any questions. It's now 1 o'clock. Do you think an hour?

MR. QUIROS: Yes, sir. I think an hour is going to be helpful.

JUDGE GUTHRIDGE: An hour is enough time to get out to eat, so we'll resume at 2 o'clock. Recess until then. MR. QUIROS: Thank you, Your Honor. (Whereupon, the above-entitled matter went off the record at 12:59 p.m. and resumed at 2:11 p.m.)

$$
\text { A-F-T-E-R-N-O-O-N } \quad \mathbf{S - E - S - S - I - O - N ~}
$$

(2:11 p.m.)

JUDGE GUTHRIDGE: Mr. Davis, call your next witness.

MR. DAVIS: We're ready to move forward, Your Honor. We call as our next witness Mr. Bruce Caris. And I have, for the record, I have distributed copies of his testimony along with his CV. We will mark that as Exhibit 25, but I will tender it at the end of his testimony if that's all right with you as well.
(Whereupon, the document referred to was marked as Exhibit 25 for identification.)

JUDGE GUTHRIDGE: All right. Swear the witness. Mr. Caris, that's how that's pronounced?

MR. CARIS: Yes, it is.

WHEREUPON,

## BRUCE CARIS

was called as a witness by Counsel for the Proponent and, having been first duly sworn, assumed the witness stand, was examined and
testified as follows:

JUDGE GUTHRIDGE: Proceed.

DIRECT EXAMINATION

BY MR. DAVIS:

Q Mr. Caris, state your full name and spell it please.

A My name is Bruce Caris, B-R-U-C-E, C-A-R-I-S.

Q Have you prepared some testimony to give here today sir?

A Yes I have a written statement and I'd like to read.

Q Why don't you go ahead and do that.
A Okay. My name is Bruce Caris. I live in Tucson, Arizona. I'm the Chief Operating Officer for the Green Valley Pecan Company. A copy of my resume is attached to the handout you've all received. The Green Valley Pecan Company has roots that go back to 1948 when Keith Walton bought his farm in Southern Arizona.

In 1965, 7,000 acres were transitioned
from cotton to the production of pecans and
became the largest irrigated pecan farm in the world. Green Valley Pecan Company currently has two farms in Sahuarita, Arizona and San Simon, Arizona, and one pecan farm in Albany, Georgia.

We have over 6,800 acres currently in production. Last year we produced over 10-1/2 million pounds of in the shell pecans. We have also planted 2,000 acres of new pecan trees that will not be in full production for another five years.

On our farms, we grow two varies of pecans and we are the largest producer of organic pecans in the world. In 1975, we established our processing facility to shell pecans. We would be considered a large grower and a large sheller under the Small Business Administration guidelines.

I think the proposed Federal Marketing Order, Exhibit 1, is critical in the pecan industry and it's the best hope this generation of growers and handlers be given by the industry.

I so believe this that I joined the

Board of the American Pecan Board that participated in numerous meetings with the workers of the American Pecan Board, with growers, with shellers and an in industry meetings. I have spoken on panels to grower and sheller groups and have talked to well over 100 industrial shellers and growers about different aspects of the proposed Federal Marketing Order. I've read and studied the language of the proposed Federal Marketing Order and especially focused on sheller issues in the Council structure. I think the concepts of regional representation and a board composed of growers and shellers from each region and one accumulator and one non-pecan person are very important. There are approximation 2,500 growers and 250 shellers that would participate in the voting of Council Members and Alternates.

I think that even though growers have more representation, representatives on the Council, the supermajority voting, two-thirds or 12 members of the Council on major issues,
section 986.55 (c) (1) "Procedures" and section 986.65 "Marketing Policy", provides an adequate and important protection and balance for the shellers.

Stated plainly, no vote of the Council on bylaws, the Council's Manager or CEO, budget, assessments, compliance and audits, redistricting of regions, modifying certain definitions, research and promotion, handling authorities and marketing policy, especially crop and price projections can be made without grower and handler approvals.

We need consensus between the regions and the grower/handler committees to move the pecan industry forward. I think we have achieved this balance in the proposed Federal Marketing Order for Pecans.

I have reviewed the economic analysis objectives summary, here in Exhibit 23, prepared by Dr. Marco Palma, specifically the projected average price increase from promotion of 6.3 cents per pound, in shell pound, versus the
average 2.5 cents per in-shell cost.
Overall, I am aware of the costs that the Federal Marketing Order may impose on our growing operation and I do not believe these costs are unduly burdensome. Further, I believe that the benefits of the Federal Marketing Order to our growing operation greatly outweigh any cost associated with it.

A portion of our pecans are certified as organic. We are aware that the law differentiates the amount of assessments paid by handlers on organic crops and non-organic pecans. We understand that the portion of the assessment related to promotion is not collected on the organic crop. Specifically, as an organic pecan grower, we think the benefits of the proposed Federal Marketing Order outweigh the burdens.

In recent years, we have seen long variation in the prices we have received from our pecan crop. Such wide variation in pricing makes it extremely difficult to plan for the future
operation of our farm.
While prices for pecans go up and down dramatically from year to year, our costs of production has, our costs of production have steadily increased. Costs of fertilizer, labor, equipment and other input costs have all increased in recent years regardless of price we receive for our crop.

The lack of accurate market
information on the anticipated size of the pecan crop in any given year also makes it difficult for us to negotiate prices for pecans we buy and to make reasonable business decisions about inventory levels for our shelling operation.

Increased price stability and more accurate market information would greatly benefit our business.

I think our business and the industry would also benefit in the future from the grade, size, quality, packaging, shipping protocols and other handler requirements as we're competing with other tree nuts for shelf space and consumer
attention. And the entire industry, through the Council, has proposed means to carefully think through these issues.

I understand that under the proposed order, only growers with more than 30 acres of pecans or more than 50,000 pounds of average production per year over the last four years will be allowed to vote on the proposed order.

In my opinion, this threshold is reasonable because a grower that does not meet this threshold is not a commercial grower.

Any grower that is smaller than the proposed threshold could not justify the costs inherent in such a small production and is most probably merely a seller of pecans from older trees that happen to be on his or her property, a hobby farmer or one that does not plan to put in all the commercial inputs fertilizer, water, et cetera on his or her farm.

I also understand that only shellers that handle more than 1 million pounds of inshell pecans per year will be eligible to
nominate and to be elected to the sheller seats on the Council.

It may seem arbitrary, but we need to draw a line somewhere. There are really lots of small shellers that put pecans for sale at convenience stores or in Christmas holidays that are not going to move this industry forward.

Taking all of this into consideration, I believe this is a fair threshold.

First, I am not aware of any sheller in my area which handles less than 1 million pounds, in shell pounds per year, that is in the commercial shelling business.

Further, if there is such a sheller, I do not believe it to be commercially viable because such a smaller operation could not invest in the required equipment and turn profit on such a small production.

I also want to discuss the two sheller seats, Sheller Seat 1 and Sheller Seat 2 for each region. Why did we pick the 12.5 million pounds of in shell nuts as a threshold? First off, why
have this at all?
Well, the American Pecan Board and especially our shell representatives on the Board felt that it was very important to have a large and a small sheller from each region.

Without a specific guideline, we could potentially only have huge shellers on the Council. We did not want this, we wanted all voices.

Next, we needed to make sure that we had enough large and small shellers in each region to make the elections for the nominees meaningful. Specifically, we needed to make the shellers seat one seat small enough to make sure we have enough shellers in the region be part of the nomination process.

Finally, at some point, we had to make a decision after, believe me, many hours of discussions and phone calls. We settled on 12.5 million in-shell pounds as the right number to divide a large and small sheller representation from each region.

If this proves in the future that there should be a better number to define who is nominated for Seat 1 and/or Seat 2, we could vote as a Council to change that number under section 986.55(c)(vi).

The proposed Federal Marketing Order has some flexibility to let informed, pecan industry representatives on the Council to make any adjustments so that the industry is properly represented. But for now, I think, the sheller seat proposals are exactly where they should be. In conclusion, my company and I fully support the full proposed Federal Marketing Order for Pecans and encourage the Secretary to implement the order as proposed by the American Pecan Board.

I'd be glad to answer any questions that anyone may have.

MR. DAVIS: Your Honor, before we make Mr. Caris available for questions, we would tender Exhibit 25, which is his written statement and his curriculum vitae.

JUDGE GUTHRIDGE: Any objection from
the USDA?

MR. HILL: No objection.

JUDGE GUTHRIDGE: Any objection from anyone else? Then, Exhibit 25 is admitted. And you have no questions at this time Mr. Davis?
(Whereupon, the document previously marked for identification as Exhibit 25 for identification was received into evidence.)

MR. DAVIS: I'll reserve questions, Your Honor.

JUDGE GUTHRIDGE: All right.

Department of Agriculture, any questions?
CROSS-EXAMINATION

MS. SCHMAEDICK: Melissa Schmaedick, USDA. Good afternoon Mr. Caris.

MR. CARIS: Good afternoon.

BY MS. SCHMAEDICK:
Q Thank you for your testimony. So, based on your testimony, I have to say you are what we would be, what we would consider a perfectly integrated company?

A Yes we are.
Q With a grower and handler?
A We are. And that's fairly unique our industry in that we typically have growers and then the handlers, shellers handlers. And we are one of two large companies in the industry that are vertically integrated.

Q Do you anticipate that there might be a future trend towards vertical integration?

A I anticipate that yes, I do. We're already starting to see some consolidation within the industry.

As one of the earlier witnesses, I think it was Mike Adams mentioned this, the past five or six years have been fairly good time to be in pecans. So there is a lot of interest from the outside. So I do think that, as we move forward there is potential for companies, either grower a large grower to decide that they're going to produce a shelling plant or for shellers to try and purchase existing acreage of plant pecans.

I also think that we will see interest from outside of the industry, money from outside. There's one large group right now, National Pecan Company, that over the past 18 months has bought about 3,000 acres and they're actively trying to buy shelling facility. So, that were the three large companies.

Q What are some of the factors that an individual would consider when thinking about becoming a sheller or adding a shelling operation?

A Well, we as a company always have felt that it gives us more options, different ways to market our pecans. If we're reliant purely on selling it in-shell, there are years that we maybe won't have them better as vertically integrated company.

> So, for us, one of the main factors
was being able to control how we brought that product to market. So I think that's one thing to consider. That's our main consideration.

Q Are there substantial costs associated
with setting up a shelling operation?
A There are. There definitely are.
You know, from a building standpoint, just for example, we're looking at building a new processing area without any frozen storage or cold storage. And we anticipate it's going to be about $\$ 15$ million investment. Well, take that back. We are going to add some frozen storage to that as well. But just in building, we anticipate it's about to do 25 to 30 million pounds of in shell pecans a year and that it's going to be about a $\$ 15$ million investment. And then with your equipment, you easily looking at another $\$ 5$ to $\$ 8$ million for a plant that size with your pasteurization from food safety standpoint, your crackers, shellers, aspirators and equipment like that.

Q And you mentioned that you were part of the American Pecan Board, which is also the proponent for this proposal.

A I'm sorry.
Q I said, you mentioned that you were or
are a member of the American Pecan Board, which is also a proponent for this proposal. Is that correct?

A Yes. I am.
Q So you were involved in the
discussions of identifying the thresholds for shellers and growers?

A Yes. I was very involved in that discussion.
$Q$
So in identifying the threshold for the sheller, was the cost of establishing an operation taken into consideration? The fairer to end rate, was that taken into consideration?

A We did talk about that. You're talking about the 1 million--

Q Correct.
A --pound entry level to that? We did talk about that, you know, with the crackers and shellers and aspirators for a small operation, you're probably looking, just at that equipment, a half million dollars off the top of my head.

We also took into consideration, FSMA,
the Food Safety Modernization Act. And we feel very strongly, and I say we our company, but also the pecan industry, that a mandated kill step is in the future.

The FDA is doing a risk assessment on tree nuts right now and looking at it's a high risk group. And with that, the pasteurization equipment is anywhere from a quarter million dollars to a million dollars. And we considered that as well, anticipating that was going to be a need in the very near future.
$Q$ So your comments about this pasteurization and some, it's peeked my interest. Do you see a potential role for this Marketing Order to work in tandem with those concerns in the industry?

A Very much so. We talked about that a lot as we review, and the American Pecan Board came together, I think Mike Adams may have made a reference to this, we wanted to try and turn them away to come up with a mechanism to fund marketing. But we also looked at a lot of the
other needs in the industry that as an industry wide, with shellers, handlers and growers that we could address some of these issues. And after marketing, I'd say FSMA was the number two target.

Q Thank you. In your role as a Board member, did you participate in sheller discussions about membership on the Council?

A Yes I did.

Q Can you, from a shellers perspective, share some of the concerns about representation, and how those were addressed?

A Yes. When we, you're talking about the Council, in the event that the proposed Marketing Order goes through?

Q Correct.
A Yes we did. That was actually in our Dallas meeting. And, it was in January of this year where we had the whole Board together along with somebody from the USDA to start to put language and definitions and based on everything we collected from the industry over the past two
years. And, we talked about having equal voices or fair voices across the industry.

The rationale to come up, would you like me to talk about the rationale, how I felt that we came up with it from a sheller perspective?

Q Yes please.
A Okay. What we looked at were a couple things. First, we looked at there's a lot more growers, significantly much larger amount of growers than there are shellers. But, the shellers probably handle, since so much is being exported now, probably 55 to 65 percent of the U.S. crop on an average year. And so, we looked at the number of growers versus the number of shellers.

And then we looked at the handle of the shellers relative to the crop. And then we looked at the split on the Board. And we came up with nine growers and six shellers. The six shellers we felt it was very important to have large and small sheller voices on there because a lot of the small shellers sell only domestically.

They don't get involved in any really type of advertisement or anything.

So they have a very different business model than the large seller who, a company like ours, half of our business is exported. You know, we do, we just have very different views. So we thought it was important to do that.

And then we felt across the regions, there's different challenges for different shellers based on the in-shell. You know, a 50 percent yield nut out of, per yield out of the East is different than cracking 60 percent Western Slyer Wichita of the West.

So we thought we needed to have people from all those different regions as well as people who handle any procedure. That's a whole other story. But my company doesn't handle those pecans because you need different equipment. It's a different process.

But then, one thing that was very important to all six of the shellers who were on that Board, we actually had three shellers and
three grower shellers on the American Pecan Board, was that we have a strong voice in any major decision that was being made. And, that's where we really came up with the supermajority.

We applied that supermajority to
almost every major decision that we could make or the Council could make so that it didn't sway one way or each other saying, hey, we don't have a voice. And that's how we came up with that. That's the way.

Q Thank you. Would you say, in your opinion, that the sheller community has their concerns have been heard and addressed?

A Yes they definitely have been heard.
And, because I've heard them. And they have been addressed. There are a couple of guys that still hold concern that it's not equal representation.

But what we did is we had at our, we have two meetings a year the National Pecan Shellers Association. I sit on the Board. And, we discussed it as a Board prior to our meeting and then in the shellers forum, which is just the
shellers. No one else from industry there. We had long discussion about it. And it was good discussion. Points were brought up. What we decided at that sheller's forum was that the Executive Board was going to have a meeting after and discuss it again. And we did that about ten weeks ago.

And from that we came up with a list of questions and we went out to the, all the members of the shelling industry, as well Shellers Association, as well as guys, big shellers who are not in that and we asked questions, gathered data and came back together. And it's my understanding, then we had a follow up meeting about two weeks ago. And out of the nine people on that Board, eight were in support along those lines.

Q Thank you. I have two other themes I would want to follow up on. First is, you mentioned that you're an organic grower and sheller obviously.

A Yes.

Q And that you are the largest in the world or largest in the country?

A Actually, for our organic blend is largest in the world.

Q Oh. So can you talk to us about the organic industry for pecans? Do you have a sense of how many growers are out there? Is there a demand? Is it increasing?

A There's very, very strong demand for organic tree nuts in general, but, very much so for pecans.

One of the real challenges we have with organic pecans are organic herbicides and pesticides that will work particularly in the Southeast United States. Scab is a fungus that was mentioned earlier and it's hard to combat that conventionally let alone organically.

So in, and I'm not an expert on this, but it's my understanding in talking with farmers in the industry and within our company, that there's a fairly limited growing region. And that's probably the Western United States that
today can successfully grow organic pecans because of the challenges in the field that cannot be oppressed with chemicals.

It's, the demand is very, very strong.
I don't think the U.S. crop this year, past year was about 265 million pounds and I think the organic crop was probably less than 5 million pounds. So it's fairly small relative to the entire U.S. crop.

I am aware of one, two other organic growers, one in South Africa, one in Mexico. They're very small. But the majority of the organic pecans are grown in the Western, Texas, New Mexico, Arizona.

Q Thank you. You also mentioned in your testimony, you just very briefly mentioned the importance of a non-pecan person sitting on the Council. I'm wondering if you could give us your thoughts on why a non-pecan person's important?

A I think as an agricultural product, pecans are relatively small compared to a lot of the other agricultural products in the U.S. As a
shelling industry, a food processing industry, the shellers are tiny, tiny, tiny compared to other big food companies.

And the discussion we had as it would be good to get someone most likely from the food industry outside of pecans who might bring a level, a higher level of expertise in dealing in manufacturing, working with retail supermarkets, things like that, that as a shelling industry we're just starting to move into.
I would say there's five or six
shellers who export regularly into Europe and the European Food Standards are very, very strict. And so sometimes, I think we are a little bit ahead of some of the other in our industry because the demands we need to meet.

You know, they could ship product in there, but I think an outside person in the food industry can, could help us with what's going on in the United States. Food safety, the manufacturing practices and bring some good things to the industry.

Q So do you have an idea of what profession that individual might represent, for example, banker or ag economist or just your own example?

A Well, the gentlemen whose currently on the American Pecan Board came to us from the chicken industry. And he brought some great insight. Was it Tyson Foods that he was with? Yea, Tyson Foods. And your just, they're just larger but, $I$ would think probably someone outside of tree nuts. Maybe someone from an industry that has worked with a Marketing Order currently in their industry and has some experience with that. It could be someone who's comes from like a grassroots or something very involved in product development.

```
We talked about the focus, if this
```

goes through, on the marketing efforts and creating awareness would be in the United States. Maybe someone who'd been involved in product development and could give us some good input on how to go about researching that.

Q Okay. I did have one more question to talk to.

A That's fine.
Q I apologize. So, and change direction a little bit here. But I do want to take advantage of your experience as both a grower and a sheller. And referring to Exhibit number 1, which is the proposed Marketing Order.

A I'm sorry, what's that?
Q Referring to Exhibit number 1--
A Okay. Yes.
Q --the proposed Marketing Order. There is a proposed assessment category for substandard pecans. Can you explain to me both the grower's relationship to substandard pecans and the handler's relationship to substandard pecans and how that assessment impacts both of those entities?

A Okay. The relationship to a substandard pecan and it can't really talk about meat yield because with all the different varieties.

You know, a really good nut out of Georgia, a particular variety might be a 48 percent meat yield. And, that's considered substandard out here in the West just because it's a thicker cell than Georgia and things like that.

But I'll call them lows or, the substandard pecans are usually separated in the cleaning process. When we're bringing the product in from the fields, from the farm, before it's, it either goes to a sheller or to an accumulator or to someone who can take those pecans to market, they need to remove all the debris and the bad nuts from the good nuts. And, you know, the first thing you do, is you get rid of the sticks and the clumps of dirt, the rocks and things like that.

And then the pecans will go though and they remove the ones that, we call stick tights, and that's where the hull or the husk is still stuck to the nut. And there's a process to try and remove that. But those stick tights that you
can't remove will be set aside.
And those typically, don't jump on me growers out there, those typically are lighter weight nuts. They're not filled very well. They just haven't matured.

The next cut starts coming with aspiration. And with that what we're doing is as nuts will fall through and a lighter weight nut will get blown out, you know. And you can control, these guys in the clean burns, they can control that aspiration recovered at 49 percent meat over 48 or 50 . It's very good. But those will get separated out.

Those aspirated nuts that, along with the stick tights, are typically kernels that will add, that's make pieces for ingredients. So you know, in a pecan you have two halves. And ideally when you crack it, you can get those two halves out of there.

When you crack a lightweight nut it's, it doesn't make a good half. You can't take it apart. So that will be cut. It will probably
actually break during the cracking and shelling process. But then it will be cut and sized and used for different ingredients.

So there's a higher handling fee like really on both sides because as a, your big nuts will pass all the way through. And, so, and those are the ones you get the most money for and the ones you touch the least.

And that's true in the processing plant and that's true in the cleaning barn. So the lighter weight nuts, the grower or whoever has those, has to put them in cold storage. He's, he or she's going to get less money for them. So there's more handling involved.

And those nuts tend to sell later in the year after all the good pecans have been sold between October and say the middle of March.

Then the second market, seconds market might open up. Does that answer, get to what you're asking?

Q Yeah, your, that's good, that's good.
A Okay. You know.

Q So if I'm understanding correctly, the grower does get paid for substandard pecans.

A Yes.

Q Right. And then the handler would pay the assessment on those substandard pecans as well. Correct?

A Yes.

Q And so then in the proposal, what, how is the assessment rate with those substandard pecans different from the assessment rates for the native and the improved? Are they higher or lower?

A Oh. Substandard, the assessment is lower. And paid less for those pecans as well because there's just not as much kernel and you have to have a little bit more. But it's lower. It's lower.

MS. SCHMAEDICK: All right. Thank you.

MR. CARIS: Yeah.
MS. SCHMAEDICK: That concludes my questions.

JUDGE GUTHRIDGE: Mr. Davis, do you have any follow up at this point?

MR. DAVIS: I'll do like Mr. Quiros and just wait until the end.

JUDGE GUTHRIDGE: All right. CROSS-EXAMINATION

BY MR. HINMAN:

Q I just have one question. You have quite a few different perspectives as a grower, sheller, organic, non-organic and you did mention that you are familiar with Dr. Palma's study and that you took the, you know, it was good representation if you then benefit substantially you see the cost. Correct?

A I'm sorry. Good representation and what?

Q Yeah, that benefits substantially exceed the costs for the proposed Marketing Order.

A I thought it was. My initial reaction was maybe a bit conservative. But I understand that was, you know, that's probably what you want
to do in these things. But, yes I thought, I thought it was a good representation.

Q And the question then goes to, of course, all these different aspects, grower, sheller, small or large, improved native across the three regions, organic and conventional, across all those categories you also state that the benefits substantially exceed the costs.

A Yes. Yes. I believe so, without a doubt.

MR. HINMAN: Okay. Thank you.

MS. VARELA: Jennifer Varela, USDA.

MR. CARIS: Hi.

MS. VARELA: There we go. Can you hear me now?

MR. CARIS: Yes I can. CROSS-EXAMINATION

BY MS. VAREIA:

Q Jennifer Varela, USDA. I just wanted to go back to your discussion of sheller numbers.

A Yes.

Q We've heard a couple different numbers
as to how many shellers there might be in U.S. So I just wanted to get a little background on how you came up with your number. So, I know you're in touch with lots of them.

A Yes. Yes I am.

Q So I just wanted to get an idea of how you differentiated those and how you came across that.

A What, the 250?
Q Yes.

A As the witness before me said, that's a very good question. I think he might have had better answers. Quite frankly, I was a little surprised when $I$ first saw this number and we were talking about it a couple of weeks ago.

Because in the National Pecan Shellers Association, we have about 32 to 35 members. The majority of these 250 shellers are small shellers in Georgia, Texas, Louisiana, Oklahoma, and that's where the bulk of that number comes from. And it came after a lot of discussion.

Mike Adams, we've all traveled a lot,
but Mike is been in every single meeting we've gone in. And he's gone out, he's met a lot of people. So it was talking with the people in the different areas that we came up with that number. But I would say that the majority of those are small shellers.

Q Okay. Thank you. And do you think most of them would be over that 1 million pound threshold or there probably might some of those be underneath the 1 million pounds?

A I would say some of them are definitely underneath that.

Q $\quad \mathbf{M m}-\mathrm{hmm}$.
A Well, yea, even though right, I said participate. I would say that I think that number is a little bit high--

Q Okay.
A --for that million plus sum.
Q Okay. So that might not all be shellers that meet that million pounds. That's great. I also heard that you touched on the need for more data. I'd like to hear, especially from
your perspective, some of the benefits that you can think might come from having that data. And maybe a couple of the types that you think might be most beneficial that you expect the Council needed to apply.

A I'll definitely do that. You know, I'm, for the past five years have been the Statistical Chair for the National Pecan Shellers and I'm also the Statistical Chair for the International Tree Nut Council for Pecans. So I spent a lot of time looking at these numbers.

My primary source for numbers right now for import export is CFAS and we use that. And then, what we currently have is and with the budget cuts back in 12, we actually lost our final pecan estimate, so the number that is reported is it on stats.

For the 2012, was our January estimate, which we know is not a good number. So what we did as an industry is we came up with a number that we used because that number, there's just no way it's accurate.

But what we currently use, we get in October estimate, December/January estimate and then we get our final estimate in July. And those are big numbers. Timing, you know, you'd always like to have that final estimate before you start buying and selling but that's just not reality.

So what we as an industry, what we have is we get our first growers estimate comes out at the Tri-State meetings and that's in June. And that for this current year, what's on the tree now, came out of, I'm going to say, about 273 million pounds for the U.S. production for what we're going start harvesting in October.

A month later, we had the Texas meeting, and that was just last week. The estimate there came out at 327 million pounds.

So in the matter of four weeks, the information, and these are estimates that go worldwide because it's all we really have, in the matter of four weeks, we had two estimates.

That's a huge difference, you know, from 273 to
327.

So one of the things we look at is how the almond industry, you know, does their objective and subjective estimates. And taking a much more scientific approach to it, we've actually had one of our grower members make a donation of $\$ 10,000$ for the next three years to the American Pecan Board so we can start to research now and we're going to do that.

Different methods start getting a better crop estimate so that we can use that information better. Currently reporting for cold storage to the USDA comes out once a month. It's not mandatory in pecans.

So there, industry wide, there's a lot of doubts as to how accurate that is. I personally feel well one, it's our number so we have to use it.

And, two, I don't think there are too many companies out there that would risk lying like that and putting themselves at risk. That is the perception across the industry.

And when I talk about that, it's some shellers feel that way, growers feel that way and our customers feel that way. So there's not a very high level of confidence in the current numbers that we have.

And so I think with this Marketing Order, we can go out and start to get much, much better information. And it will take time, but over the course of the first three or four years, really start to get some numbers that everyone in the industry can use, can have faith in. And I think that would be a very big positive thing for our industry.

Q Thank you. You brought up another good point there in talking about not having faith in some of those numbers or not being confident in the reporting. Can you speak to some of the compliance issues or potential compliance issues that the Board talks about in coming up with their proposal and how you think the order will help to take care of that?

A Compliance issues in what?

Potentially how they can be achieved?
Q Or right now if people aren't reporting, what is it about the proposed order that gives you more confidence that they will report.

A Well they have to report is my understanding. Is that correct? That's my understanding that they would be required to report.

I will say this that David Caldwell
from the USDA, he stepped down from doing the pecan data about a year ago. He did a very good job of going out and trying to get more participation. And I think our number now is as good as it has been. But that's something own industry wide.

I think required reporting, we can look at, you know, what your receiving in your claiming run. You know, what are you bringing in from the field. What are the handlers receiving. We'll just have a lot of different data points that I think a good management of that data will
give us information we can look at from a lot of different ways. How much of the product is actually being handled by shellers? How much is being handled by accumulators and getting exported? Things like that.

Right now, the only real good number that we can get for domestic consumption is the back end of that number by taking our carry in, our imports, take away our exports, what's our carry out and we arrive at consumption. I think we can track that better with some different reporting that hopefully the Council will be able to place.

MS. VARELA: Thank you very much for your time.

## CROSS-EXAMINATION

BY MS. SCHMAEDICK:

Q Melissa Schmaedick, USDA. Mr. Caris, do you anticipate that the Council would conduct an annual analysis of this statement to help it in its decision-making and assessing the industry?

A Without a doubt. Without a doubt.
What we'll have to, again I think we're really on, we're going to have to learn on the data means. And I think, you know, talking Mike Adams has done a very good job of reaching out to the almond, pistachio and walnut commissions and boards on what they do and we talk with their people.

The commission will appoint someone in charge of statistics. And whoever that person is, I'm sure will be charged with going out and finding out how these other industries collect it and how they utilize it. But, yea, it'll be used in what we think our assessment should be on an annual basis, where we project and what we're seeing happening with demand.

I think what we'll also be able to do is gather information, better information on mean planted acres, bearing and non-bearing trees.

You know, Mike Adams mentioned the census, and if you, the 2012 census and you take that data, all the acres that are there and
divide that into the annual an average crop size, it comes out to about 600 pounds per acre, which is not at all indicative of what we do.

So that data's gathered and those are acres, but we have to find out, what do we utilize acres, and what's really being used and, you know, what are we getting in the West and what are we getting in the East.

So I think there's tremendous opportunity for this commission, whoever they put in charge of statistics, to really gather some meaningful information over a three to five week period once they're charged with that. It excites me.

MS. SCHMAEDICK: Thank you. We have no further questions.

JUDGE GUTHRIDGE: Any more questions for the USDA? Any follow up?

REDIRECT EXAMINATION

BY MR. DAVIS:

Q Yes, Your Honor. And Mr. Caris, I
have a few questions just to clarify some points
that were brought up. I know we're going to have more discussion over the coming days about this supermajority. But, again just to put some numbers to that so people know, the Board is 17, nine growers and six shellers and two independents, well accumulator independent. So the supermajority is 12 of those 17 correct?

A Correct.
Q So, in saying you're giving comfort to the shellers, that would mean that all the growers and the two independents could ban together and they still couldn't get any of this through without some sheller participation. Is that right?

A Absolutely. They'd have to have at least one vote. At least one vote for a sheller.

Q And again, just to make the example
clear, if the shellers were trying to get something through, they would have to get both of the independent votes and some grower participation if not all the growers were in favor. Is that correct?

A Yeah, and that assumes that our industry can act like republicans and democrats.

Q Yeah. We're not.

A We're looking, were moving away from that very much as an industry.

Q That's good.
A This effort is done.

Q Moving on quickly to follow up on one thing that Ms. Schmaedick asked you about, the importance of a non-pecan person. And you gave some good examples who you'd like to have.

Would you say you participated in lots of discussions with the current Board about what the Council would look like? Would you say there was an awareness of the importance of having a diverse voice and having different segments and different groups represented in the voices that you hear in this upcoming Council?

A Yeah, absolutely. And I think that when you look at how we broke out small for the growers and shellers, small and large, that we really tried to cover that because they're
different business models.

Q And then the final point, I guess.
You were giving some in response to a question about the efforts that you undertake to try and get an estimate of the crop. Is it true that a lot of your efforts are really going in to try to figure out what last year's crop was, not so much what this year's crop is or, heaven forbid, what next year's crop is?

A Yeah, well, when you look at the way pecans work, the harvest in the Southeast starts in October, here in the West starts November. So the harvest period goes October through at the latest, middle of March.

And typically, the pecans are all sold at some price as a rule a majority of them are sold at some price during that point in time.

And as a sheller, what we do is we go out and I'll pay a grower $X$ amount of dollars for the crop hoping that I can turn around, process it and then sell it at a price that works for me.

So if we had better information going
in, what we're carrying now and what this crop is going to be if, for example, I think it's going to be at 280 pound crop and it comes in at 350 and I buy my pecans in November/December, I'm going to pay a price still thinking that it's a 280 pound crop. By January/February, we seeing it's much greater, that price starts tailing off.

As a sheller who's inventoried a lot of in shell pecans early, I'm going to lose money on those pecans because the kernels are typically sold relative to the in shell price at that time.

Q Do you have a feeling that there's better market information out for the almond crop. Do they have better gathering of information than does the pecan industry?

A I do. Until last year they were really off. But they're dealing with drought conditions and they really don't know what that factor is. But as a rule, they do a very good job, yes.

Q Thank you. We have no further questions, Your Honor.

JUDGE GUTHRIDGE: Does anyone in the audience have any questions for Mr. Caris? No volunteers. So, Mr. Caris--

MR. CARIS: Thank you.
JUDGE GUTHRIDGE: --you're excused.

If you would check with Ms. Gonzalez.

MR. CARIS: Oh sure.

JUDGE GUTHRIDGE: There's a thing that
she needs clarification on.

MR DAVIS: It's Ms. Dennis, yes sir.

Okay. Oh, no. Thank you.
JUDGE GUTHRIDGE: Call your next
witness.

MR. QUIROS: Yes. Louie Salopek
please.

WHEREUPON,
LOUIE SALOPEK
was called as a witness by Counsel for the Proponent and, having been first duly sworn, assumed the witness stand, was examined and testified as follows:

MR. QUIROS: Mr. Salopek, I understand
you've prepared some testimony for us. Your Honor, we're going to tender that as Exhibit 26 and I am going to call on Mr. Salopek to read that.
(Whereupon, the document referred to was marked as Exhibit 26 for identification.)

THE WITNESS: First of all, thank you all for having me. My name is Louie Salopek. It is spelled $L-O-U-I-E, S-A-L-O-P-E-K$. I live in Las Cruses, New Mexico. Our family farm is just under 1,200 acres of improved pecans in New Mexico.

We can be classified as a large pecan grower under the Small Business Administration definition, which is more than $\$ 750,000$ in gross pecan revenues.

I graduated from New Mexico State University in 1987, and began working on our pecan farm. We also founded, we founded, an acid fertilizer company in that same year, which has been important to pecan farmers in our area, which we deal with high pH water and soils.

Selling fertilizer to pecan farmers in this 400 mile radius of Las Cruces has given me an opportunity to spend a lot of times with pecan farmers in this West region. I've met some of these farmers, discussed their concerns about the pecan industry my entire career.

Several years ago, I was attending the Paris Food Show in Paris, France, when I was part of the U.S. Pecan Growers Council to go to promote pecans internationally. On that 12 hour flight home, $I$ definitely had a lot of time to think.

And my recurrent thought coming back on that flight, that selling pecans internationally was and still is a very important part of our industry. However, we just have not made a lot of attempts to bring things to the biggest consumer market we have in the world, which is the U.S. domestic market.

Excuse my reading, by the way, I
forgot that these are my wife's. About this time two years ago, Mike Adams was talking to pecan
growers and shellers and in beginning to form what is now the American Pecan Board.

The simple idea was to listen to growers and the handlers and find out what they thought we should do to fix the obvious problems. We have breakthrough food product in pecans that is not being marketed.

I was nominated as a grower from the West and voted in by the Western Pecan Growers Association to become a board member of the American Pecan Board. I have been to dozens of meetings, been to dozens of meetings of growers and shellers since then and have literally talked to hundreds of growers and shellers.

I just thought it was important to
listen to growers and shellers and put the solutions to their problems into this Federal Marketing Order.

Here's how I see it after working on this project for over two years. First growers, shellers, accumulators and other participants just do not have accurate data on the industry,
which Bruce and you all were just talking about. Carrying inventory, which is the cold storage, and the scientific actual crop estimates in the field for the upcoming year are just nonexistent.

We rely on volunteer reporting and guesses, which we have to get by with and deal with in the best possible way we know. How can you sell or buy without good information?

Second, the price for pecans has at times been too low and unstable. Third, marketing agricultural commodities is a privilege, which they can discuss in quite a bit. You just heard from Dr. Palma on this and there's no doubt this is worked for other tree nuts and it will work for pecans.

Fourth, if we lose the ability to sell our nuts internationally, we will be in a mess if we did not have a strong domestic market for pecans to back that up.

Fifth, the large recent plantings of pecans because of the few price spikes in the last few years will create a both welcome, a new
supply, but also the prospect of lower prices for growers if we cannot find buyers for the incessant nuts.

Finally, a think as an industry, we have really started to heal. And what I mean about this. I mean, I feel a new sense of growing understanding between growers in regions that have not shared a lot of information in the past.

I've also noticed between growers and shellers, this is my quote, who have always had the challenge of being on the same page, now have a new sense of understanding between them. We need this seize on this unity and commit to work together to make this terrific, healthy food available to more Americans.

Additionally, I think our farms and the industry would also benefit in the future from grade, size, quality, shipping protocols and other handling requirements as we complete with other tree nuts for consumer attention.

I also understand that under the
proposed order, only growers with more than 30 acres of pecans or more than 50,000 pounds of average projection per year over the last four years will be allowed to vote on this proposed order.

> In my opinion, this threshold is reasonable because a grower that does not meets these thresholds is not a commercial grower.

I've reviewed the economic analysis summary prepared by Dr. Marco Palma, specifically the projected average price increase from promotion of 6.3 cents per in shell pound versus the average 2.5 in shell pound cost. I do agree that promotion will increase prices.

Overall I'm aware of the costs that a
Federal Marketing Order may impose on my farm, and I don't think, and I do not believe those costs are unduly burdensome. Further I believe that the benefits of the Federal Marketing Order on my, to my farm, will greatly outweigh any costs associated with it.

In conclusion, I fully support the
proposed Federal Marketing Order for pecans and encourage the Secretary to implement the order as proposed by the American Pecan Board. I will be glad to answer any questions anyone may have.

MR. QUIROS: Your Honor?

JUDGE GUTHRIDGE: Yes.
MR. QUIROS: Just a couple of questions, then I'd like to finish the tendering process.

JUDGE GUTHRIDGE: Certainly.

## DIRECT EXAMINATION

BY MR. QUIROS:

Q Mr. Salopek, you said that you had reviewed Dr. Marco Palma's summary economic analysis. Is that what's been identified as Exhibit 23, The Economic Analysis of the Implementation of the Federal Marketing Order for Pecans Executive Summary?

A Yes it is.

Q And do you also said participated in the preparation of the proposed Federal Marketing Order for Pecans. Is that also what is been
identified as Exhibit 1 in the notice that was published in the Federal Register for this hearing that contained the proposed Federal Marketing Order for Pecans?

A Yes it is.

MR. QUIROS: Thank you Mr. Salopek.
Your Honor, we would tender this document and this testimony into evidence.

JUDGE GUTHRIDGE: Any objection from

## the USDA?

MR. HILL: No objections.
JUDGE GUTHRIDGE: Any objection from
the audience? Exhibit 26 is admitted. Mr.
Quiros, do you have any other questions?
(Whereupon, the document previously
marked as Exhibit 26 for identification was received into evidence.)

MR. QUIROS: No, Your Honor.
JUDGE GUTHRIDGE: Okay. Department of Agriculture.

CROSS EXAMINATION

MS. SCHMAEDICK: Melissa Schmaedick,

USDA. Good afternoon Mr. Salopek.

MR. SALOPEK: Good afternoon.

MS. SCHMAEDICK: Thank you for your testimony.

MR. SALOPEK: You're welcome.

BY MS. SCHMAEDICK:

Q One of the first questions I'd like to ask of you is, according to your testimony you spent your entire career in the pecan industry. Is that correct?

A That is correct.

Q Primarily as a grower, correct?

A Correct. Primarily as a grower.

Q So are you aware of any other attempts to establish a program, a national program for pecans?

A You know, I've known for a fact, Mike Adams and another group in the early '90s attempted to take a check-off $I$ believe they were talking about earning.

But Mr. Page is out of Louisiana and he is a legend in the pecan industry. I think
he's older than the pecan industry itself to be honest with you. And he's a wonderful, wonderful man. And during this process it was last year at the Texas Pecan Show actually, he said to me said, technically, Louie, this is the fifth attempt that this pecan industry has tried to push through a marketing order. And I'll tell you, he just, he just said take advantage of the unity we have right now.

Q So given that context, what are some of the changes you've seen? Why is this so different now?

A In our pecan industry?
Q Yes.

A I don't know how I stated it in my statement, but honestly up until about ten years ago the East growers and the West growers didn't share a lot of information. The West growers and the Central growers just didn't share a lot of information.

You know, you had the Western Pecan Growers, you had the Southeastern Pecan Growers,
you had the Georgia Pecan Growers, you had the Texas Pecan Growers. And really we didn't cross lines very much. And you can ask any grower in this room. They just, communication, there wasn't much communication lines crossing. So that was one issue. And then when you talked to all the growers in those different regions, they did have one thing in common. Let's not work with the shellers.

And so there's just been these walls in the industry that are finally coming down that have given us an opportunity with all the growers in the three different regions with the shellers to finally unify and then make something happen in this industry. And we're literally at least 20 years behind the other industries. So I think, just the biggest factors is the unity of all the different regions.

Q And when you say unity, to you, does that convey a sense of sort of interdependence, you're all working together?

A Yes.

Q You all have a vested interest?
A Yes. That's exactly how, it's a vested interest. Everybody is wanting to the, together for the same goals. That's exactly right. And we, you know, we've all had the same goals but maybe we just haven't been quite on the same page in the different regions. And this is a huge change. I mean, our family has been in the pecan industry for year and years and years. And it's a good change for the pecan industry. And it's long overdue.

Q And in your work with the American Pecan Board, is it your experience that this exercise has really perpetuated that unity is it?

A It really has. It, when I was
nominated to join, $I$ didn't jump to the back of the room and say, "I want to be on this Board" buy the way. But it's been a great experience. Yes, just the first times going out to the West. I mean to the Central, Southeast Georgia, Texas and getting their feedback. And they see like me as a Western grower going out to


#### Abstract

the Eastern and Southeastern shows and Georgia shows and the Central shows and they see our commitment to what we want to do.

And then you see them coming out to the West and that is just increased tenfold literally within the last few years. And it really is exciting. And it really is because across all regions, every single region has an, I didn't realize it up until a few years ago, they have different challenges. And that's what we have one goal. We all have different challenges growing our pecans, but we have one goal and we have to address the challenges.


Q Thank you for bring up the idea of different challenges. And sort of working on that theme, you mentioned in your testimony one of the benefits is that, is the improved prices.

So are there other benefits that could come out this program that could potentially address those challenges?

A Besides improve pricing? Are you talking about marketing and the improved pricing?

Q Right but for example, would research be beneficial?

A You know, I'll tell you what's the, right next to marketing is, and you guys just talked about it is, having these cold numbers, cold storage vendors, rural members, is close to marketing. And the crop prediction that's in the field right now. And research is, there is so much research out there on the health benefits of pecans. And the National Pecan shellers have done research. The Georgia Pecan Growers, the Southeastern and there's some great, great research out there on the medical benefits of pecans. And I think this vehicle carrying that message to the public is huge. It really is huge.

Q And given your background and your family's background in this area's pecan industry, can you tell me how common is it to have a grower that has fewer than 30 acres or less than 50,000 pounds in production in this region.

A How common is it? You know, I knew you were going to ask me that question and I honestly -- and my own fertilizer business deals with a bunch of them. It's, you know, it's I would say it's pretty common to be honest with you. You got five acre, ten acre and they're motivated and they want to learn about pecans. It's common.

Q Are those individuals aware of this proposal.
A. They're aware of this proposal. They are. Yes. They're aware of this proposal.

MS. SCHMAEDICK: Thank you. No further questions.

MR. SALOPEK: What's that?

MS. SCHMAEDICK: Thank you. No further questions.

MR. SALOPEK: Oh. Thank you. If I could have one quick moment real fast? We're talking about this Board. And I just want, Your Honor, to, this American Pecan Board we put together, it's really, sorry about this. It's
really a diverse board. We've put, we put our heart and soul into this Board. And it's, the voting Board, it's a diverse board. We covered all three regions. We covered growers with shellers. We sat in meetings and meetings and meetings. Never thought in my life I'd sit in so many meetings. Working with USDA has been wonderful. Our team, you get, growers like this to jump on board. It's just been wonderful
experience and I just want to recommend that everybody should have confidence in this Board. And I'll tell you, the leader, he's out here in this audience. If it wasn't for him, we wouldn't be where we're at. And the leadership from him is just been spectacular and the support from the Board. It's just been a great experience.

MS. SCHMAEDICK: Thank you.
MR. SALOPEK: Thank you.
JUDGE GUTHRIDGE: Any more USDA
questions? Any follow up?
REDIRECT EXAMINATION
BY MR. QUIROS:

Q Yes, Your Honor. Mr. Salopek, you testified that there were some small growers in this areas that had less than 30 acres or 50,000 pounds a year. Are those people who can make a living off of those pecans?

A No. They cannot do that.
Q Are they commercial growers or are they just people that are trying to make a little bit of money on pecans?

A You know what I tell them, like I said we've had this fertilizer business and I deal a lot with them, so take care of those and you could make good business with those.

Q Right. So it's not full time living for these people.

A There's no way you could do that.
Q These are yard crops or they're hobby farming with regard to--

A Yes.

Q --getting a little extra money.
A Yes.

Q Is it your experience they put full
inputs on those trees?
A You know it's some of them do.

Q Mm-hmm.
A They really do. But they, and they, and the ones I talked to, just make sure, they know that, they know they're going to bounce back. And, but they know, like I told them, chances are it's your Christmas bonus.

Q And that's why they buy fertilizer?
A Sometimes.

MR. QUIROS: Thank you Mr. Salopek.
MR. SALOPEK: Thank you.

JUDGE GUTHRIDGE: Are there any
questions from the audience? Hearing none. Mr.
Salopek, you're excused. And, if you'd check
with Ms. Rodriguez to see if she has, Gonzales rather, see if she has any questions.

MR. SALOPEK: Thank you, Your Honor.
MR. QUIROS: Your Honor, we request a short recess if that's okay with counsel for the USDA.

JUDGE GUTHRIDGE: Yes. How brief?

MR. QUIROS: Ten minutes?

JUDGE GUTHRIDGE: All right. Ten
minutes. It's right now 3:22 at 3:32 we'll start up again.

MR. QUIROS: Thank you, Your Honor.
(Whereupon, the above-entitled matter went off the record at 3:22 p.m. and resumed at 3:31 p.m.)

JUDGE GUTHRIDGE: The hearing will come to order. Mr. Davis, call your next witness please.

MR. DAVIS: Yes, Your Honor. The proponents calls the next witness, Dr. Dennis Lucero.

WHEREUPON,

## DR. DENNIS LUCERO

was called as a witness by Counsel for the Proponent and, having been first duly sworn, assumed the witness stand, was examined and testified as follows:

JUDGE GUTHRIDGE: Proceed.

MR. DAVIS: Your Honor, as we have
done previously, we have handed out copies of Dr . Lucero's statement along with his CV, but I'll tender that at the end. Dr. Lucero, if you would please, introduce yourself to the court

DR. LUCERO: My name is Dr. Dennis

Lucero. It is spelled $\mathrm{D}-\mathrm{E}-\mathrm{N}-\mathrm{N}-\mathrm{I}-\mathrm{S}, \mathrm{L}-\mathrm{U}-\mathrm{C}-\mathrm{E}-\mathrm{R}-\mathrm{O}$.
I live in Albuquerque, New Mexico, and I am the owner of Pecans De Lucero. Pecans De Lucero is a pecan farm in Radium Springs, New Mexico, which is 14 miles North of Las Cruses. I have over 80 acres of pecans currently in production. Last year I produced 102,000 pounds of pecans. And then next year, 1 will plant two or 300 pecan trees on my existing acres that will not be in production for another seven years.

Can you hear me out there? Can you
hear me? Alright.

On our farm, we grow the improved variety of pecans. I'm a third generation pecan farmer. In 1920, my grandfather purchased our pecan farm, and my father continued in his footsteps. Three years ago, I became full time
in the pecan grower business. I am also a medical doctor and a pharmacist. Attached is my resume.

## Under the Small Business

Administration definition, Pecans De Lucero is classified as a small pecan grower business, having less than $\$ 750,000$ in annual gross revenue from pecans.

I have reviewed the Economic Analysis
Summary prepared by Dr. Marco Palma, specifically, the projected average price increase from promotion of 6.3 cents per in shell pound versus the average 2.5 cents per in shell pound cost.

Overall, I am aware of the costs that the proposed Federal Marketing Order may impose on my farm and I do not believe those costs are unduly burdensome. Further, I believe that the benefits of the federal marketing order to my farm will greatly outweigh any costs associated with it.

> In recent years, I have seen a wide
variety in the prices I have received from my pecan crop. Such wide variation in pricing makes it extremely difficult to plan for the future operation of my farm.

While prices for pecans go up and down dramatically from one year, from year to year, my costs of production have steadily increased. Cost of fertilizer, insecticide and equipment have all increased in recent years regardless of the price I receive for my crop.

Further, the lack of accurate market information on the anticipated size of the pecan crop in any given year also makes it difficult for me to negotiate a fair price for my crop and to make reasonable business decisions about investment in my farm.

Increased price stability and more accurate market information would greatly benefit my small family operation.

As a medical doctor and pharmacist, I believe the nutritional health benefit of the pecan should have continued research. In an
issue reading 2014 not 2014 , that's a typo. In 2013, the prestigious medical journal, the New England Journal of Medicine, published a study titled Association of Nut Consumption with Total and Cause-Specific Mortality.

As a brief summary, this was a 30 year study of over 116,000 patients, which demonstrated a 20 percent mortality reduction for those who consumed nuts. Clearly demonstrating a significant health benefit for nut consumption.

We still need more research as to the full scope of health benefits of the pecan specifically as related to reduction of cardiovascular disease, cancer, and respiratory ailments. This article was a part of Mike Adam's Testimony and is Exhibit 9.

I think my farm and the industry would also benefit from the future from grade, size, quality, packaging, shipping protocols and other handling requirements as we compete with other tree nuts for shelf space and consumer attention.

Also, another very important issue of
concern to me is related to work safety
standards. I understand that under 986.69 allows
the American Pecan Board to establish handling
regulations.

As a medical professional, $I$ believe that our pecan farm workers should be protected against dust particles or anything else that may cause long-term illness.

I understand that under the proposed order, only growers with more than 30 acres of pecans or more than 50,000 pounds of average production per year over the last four years will be allowed to vote on the proposed order.

In my opinion, this threshold is
reasonable because a grower that does not meet this threshold is not a commercial grower. Any grower that is smaller than the proposed threshold could not justify the cost inherent in such a small production and is most probably merely a seller of pecans from older trees that happen to be on his or her property, a hobby farmer or one that does not plan to put all

```
commercial inputs -- fertilizer, water, et cetera
on his farm.
```

I am a member of the New Mexico

Growers Association. The American Pecan Board has kept our organization informed about its efforts to propose a Federal Marketing Order.

I attended the Western Pecan Growers

Association's annual meeting this last March 2015 which presented information as related to the federal marketing order of nuts. I believe that I have been informed about the process and I have been given the opportunity to participate in the process.

In conclusion, I fully support the proposed Federal Marketing Order for Pecans and encourage the Secretary to implement the order as proposed by the American Pecan Board.

I would be glad to answer any questions anyone may have.

JUDGE GUTHRIDGE: Mr. Davis?
DIRECT EXAMINATION

BY MR. DAVIS:

Q Yes Your Honor, I may have one clarifying question just before we tender your testimony Dr. Lucero. If you have your statement there, it appears at the bottom of Page 2 referring to that New England Journal of Medicine and it was incorrectly typed 2014. With your permission, I'll make a pen and ink correction that it's 2013.

A Please.

Q Is that correct?

A Yes sir.
MR. DAVIS: And I'll initial that now,
but with that I tender Exhibit 27 which is Dr.
Lucero's sworn statement, or his testimony statement and his curriculum vitae.
(Whereupon, the document referred to
was marked as Exhibit 27 for identification.) JUDGE GUTHRIDGE: Any objection from

Department of Agriculture?

MR. HILL: No objections.
JUDGE GUTHRIDGE: Any objection from
the audience? Hearing no objection, Exhibit 27
is admitted.
(Whereupon, the document previously
marked as Exhibit 27 for identification was received into evidence.)

MR. DAVIS: I'll tender that into the record.

JUDGE GUTHRIDGE: Do you have any more questions Mr. Davis?

MR. DAVIS: Not at this time, Your
Honor.

JUDGE GUTHRIDGE: Department of
Agriculture.

## CROSS-EXAMINATION

BY MS. SCHMAEDICK:

Q Yes, Melissa Schmaedick, USDA. Thank you Dr. Lucero for your testimony. You mentioned on Page 3 of your testimony that an issue of concern to you was work safety standards. Can you expand on that and how you believe the marketing order might address your concerns?

A Through research on my small farm being with toxic chemicals. Toxic chemicals that
may be high in pH or acidity. We deal with dust with pecan husking so the hull in our cleaning plant. And I'm concerned about it well you are aware, so respiratory illness would be a concern for those who work in our industry just as in the mine industry where they have black lung and those illnesses.

I'm concerned about the husk maybe in our shelling and cleaning plants. And this research can help us understand what we may be putting our workers in hazard.

In addition, we work with
insecticides, pesticides, protoxide -- all which have long-term potential for adversity. And this is where I would really want to see research so we can protect our workers. Because I really feel that we that the pecan is a long-term industry. It's a tree that can last for centuries.

It's a long-term industry. And we need to protect the workers. And it's only through this research that we can begin to make
sure that we have safe and productive industry. And this is very common, as we saw, in the mine industry. We need to protect our workers.

Q And in that vein, would you say research on other problems and safe techniques, would that fall into handling regulations in terms of how the product is harvested? Is that kind of how you see it working in the program?

A There's so much on literally
harvesting because a lot of that's involved in how you harvest your own field. Again, we bring all those dirt clogs, sticks to clean. There's a lot of investment in cleaning pens. The shelling process, you know, you can have resistance. So all of these issues, I think, could be looked at so that we can help workers, whether they be migrant workers or long-term workers.

MS. SCHMAEDICK: Okay, thank you. No further questions for me.

MS. VARELA: This is Jennifer Varela, USDA. I really appreciate having you here, Dr. Lucero.

## BY MS. VARELA:

Q
So I was interested in the statement you made similarly on Page 3 about needing more research to get the full scope of that. When you talk about those potential projects are you referring to how this affects, long-term and what the industry has done so far? I'm trying to get like a sense of what the structure of this order, in particular, would help the industry get those particular projects done. Could you tell me a little more about that?

A If we're dealing just with the health benefit, having been a physician now for 36 years and pharmacist for 13, and so over 40 years in the healthcare industry, the human body, just as we saw in similar cases, can take years to develop in the mining industry.

And that's why we need to be having short-term as well as the long-term studies to see what is the impact on this product, good or bad. From the medical standpoint I'm concerned
about our society, our American society.
Cardiovascular disease is our number one problem.
This is a product that you made.
Q Well, just to follow up on that one, I'm sorry to interrupt you.

A Okay.
Q As you talk about the need for this type of research and the importance do you have an idea of why it hasn't been done already?

A There's been some. And this is ongoing, but $I$, having dealt with a lot of pharmaceuticals and having dispensed a lot of pharmaceuticals to my patients, there's other ways to heal the body besides pills. I've seen, and I've had patients come in who were taking 20 different medications not counting the number of pills. They could be taking 60 pills a day. It's terrible. We can make a difference in this life, but we need to research.

Q Thank you. And I wanted to go down just a little further into your testimony and ask one clarifying question. You referred to section
986.69 allowing the Board to establish handling regulations. I think there you meant the American Pecan Council. Is that correct?

A What page are we on? Oh, that--
Q Page 3.

A I see it. Yes. And what was the question?

Q I assuming that you meant to say American Pecan Council, which the order would establish.

A Okay. They have it written here wrong. That's fine.

MS. VARELA: That's fine. Okay.
Thank you very much. That's all I have.
JUDGE GUTHRIDGE: Any other questions
from Agriculture?
MR. DAVIS: No further questions, Your Honor.

JUDGE GUTHRIDGE: Are there any questions from the audience? Hearing none, Dr. Lucero, you're excused.

DR. LUCERO: Thank you.

JUDGE GUTHRIDGE: Go talk to Ms.

Gonzalez over there to see if she has any things to clarify.

MR. QUIROS: Your Honor, we'd like to call Thomas Chavez.

JUDGE GUTHRIDGE: Sure.
MR. CHAVEZ: Good afternoon.

JUDGE GUTHRIDGE: Good afternoon, Mr.

Chavez. Thank you for coming.
MR. CHAVEZ: Yes sir.

JUDGE GUTHRIDGE: Okay.
WHEREUPON,

## THOMAS CHAVEZ

was called as a witness by Counsel for the Proponent and, having been first duly sworn, assumed the witness stand, was examined and testified as follows:

JUDGE GUTHRIDGE: Mr. Quiros.
MR. QUIROS: Thank you, Your Honor.

Mr. Chavez, I understand you've prepared some testimony for us today, but you would also like to have your testimony through question and
answer. Is that correct?

MR. CHAVEZ: That's correct.

MR. QUIROS: Your Honor, I will not tender it at this time, but if I could, I would like to go ahead and give you a copy of his testimony and have that marked as the next Exhibit.
(Whereupon, the document referred to was marked as Exhibit 28 for identification.)

JUDGE GUTHRIDGE: Certainly.

## DIRECT EXAMINATION

BY MR. QUIROS

Q Mr. Chavez, we appreciate you being here with us this morning. First of all, please tell us what your name is.

A My name is Thomas Chavez. It's spelled $\mathrm{T}-\mathrm{H}-\mathrm{O}-\mathrm{M}-\mathrm{A}-\mathrm{S}, \mathrm{C}-\mathrm{H}-\mathrm{A}-\mathrm{V}-\mathrm{E}-\mathrm{Z}$.

Q And where do you live?
A I live at Las

Cruses, New Mexico.
Q And tell us about your involvement in the pecan industry and any personal or family
history of your involvement in the pecan industry.

A So this started back in 65. My dad plated his five acres of pecans, you know. And then we have a concrete business and pecan farm. Then from there on, we just took off every year. We buy a different track of land and put trees in it and kept going for years and years until we got up to 175 acres. It's still a small farm, but it keeps me real busy, you know so.

Q And, last year, how many pounds did you produce on that farm?

A We've got like 400,000.
Q That's great. And tell us what type of pecans you grow.

A We have west pecan and Western side.
Q So those are improved pecans?

A Yes.

Q Thank you. The Small Business

Administration defines a small grower as a grower with less than $\$ 750,000$ of gross revenue from pecans. Are you a large or a small grower?

A I'm a small.

Q Great. Have you received a copy of the proposed Federal Marketing Order as published in the Federal Register as part of the notice, which has been marked Exhibit 1 in this testimony.

A Yes sir.

Q And you've had a chance to review that?

A Yes sir.

Q And have you received a copy of the Executive Summary of Economic Analysis of the Implementation of a Federal Marketing Order for Pecans prepared by Dr. Marco Palma, which has been marked Exhibit 23.

A Yes sir.

Q And have you had a chance to review that?

A Yes sir.

Q Thank you. Describe the challenges you have as a small grower that the proposed Federal Marketing Order for Pecans attempts to
address.

A I'm sorry.
Q Yes. Let me repeat the question. I may rephrase it, if it's not helpful. What are the things you like the federal, proposed Federal Marketing Order for Pecans to do for you as a farmer? How would it help you?

A Well it'll help us get better prices for pecans, you know. And help everybody.

Q And how would it get you a better price for the pecans?

A Well by the marketing. You know, they're going to market it. And right now there's no, like you saying, there's no marketing. Yea, our neighbors seen pecans in the shelves, in the stores or anything, you know. So we could keep that going, get that marketing going we can better from it, you know, so.

Q Great. Let me refer back to Exhibit 23, the executive summary of the Economic Analysis of the Implementation of a Federal Marketing Order for Pecans. Do you agree with

Dr. Marco's finding that generic promotion campaigns of agricultural products stimulates demand and results in higher prices?

A Yes sir.

Q Any why do you believe that?

A Well, you know, I'm new at this game so you guys got to bear with me. And this is really the first time $I$ ever spoke into a mic and in front of people. So I'm a little nervous.

Q Sure.

A I'm here, really my thing here is to help you promote this FMO.

Q Thank you.
A And a--

Q Have you seen this work in other nuts.

Mr. Chavez promotion work?

A Yes, sir. It works good.

Q Yeah.

A I've seen it in almonds. I've seen the TV on almonds to just about anything. But you don't it in pecans, you know.

Q No, I won't tell anybody, but has
anybody in your family ever bought almonds? Just between us.

A Yes. That's what I eat.

Q Oh. You're killing me.
A Yea.

Q Back to the question.
A Sorry.
Q This is a bit of a technical question, but do you remember in that same Exhibit 23, do you recall Dr. Palma's discussion of the midpoint of the cost of assessment for handlers? This was the 2-1/2 cents for improved pecans and 1-1/2 cents for native seedlings. Do you remember that discussion?

A $\quad \mathbf{M m}-\mathrm{hmm}$.

Q Do you agree, or does it seem reasonable to you, based on Dr. Palma's presentation, that if the entire cost was born by reducing your price of pecans paid by the midpoint, the 2-1/2 cents, that you might expect to receive an addition 6.3 cents per in shell pound for your crop. Does that seem reasonable.

A Yeah. That sounds good.

Q What do you believe about the balance between the costs and the benefits presented in Exhibit 23? The balance between those two. Do the benefits outweigh the burdens or the burdens greater than the benefits?

A Probably the burdens greater than benefits.

Q I'm saying that if you spend 2-1/2 cents a pound and you get 6.3 cents per pound, you think that the benefits of getting 6.3 cents a pound are greater than the burden of $2-1 / 2$ cents.

A Yeah.

Q You understand the question?

A $\quad \mathbf{M m}-\mathrm{hmm}$.

Q Okay. And so do you believe the benefits outweigh the burdens?

A $\quad \mathbf{M m}-\mathrm{hmm}$.

MR. QUIROS: Thank you.
JUDGE GUTHRIDGE: Is that a yes?

MR. CHAVEZ: Yes.

BY MR. QUIROS:

Q The proposed Federal Marketing Order for Pecans, which is part of the notice in Exhibit one, which you've received and reviewed, only allows growers to vote for the establishment of the proposed Federal Marketing Order for Pecans and participate in the Counsel and Alternates nomination process. If they have at least 30 acres of pecans or an average of 50,000 in shell pounds of pecans over the last four years, what do you think of this requirement?

A That it's good.

Q And why do you think that it's good.
A You can be a bigger farmer so they can be able to participate in there.

Q Do you know a lot of small farmers?
A I sure do.

Q Do you know that 30 acres, does that sound, or 50,000 pounds, do you think that's an appropriate line between a commercial farmer and somebody that's just doing this part time or as a hobby?

A I think it is.

Q Okay. Thank you.
A Yes sir.

Q Maybe some specific questions, would your farm benefit from the proposed authority in 986.65 of Exhibit 1, Better Data for the Industry? Would that help your farm?

A Yes it would.

Q Likewise, would your farm benefit from the authority in section 986.68 of the proposed Federal Marketing Order for Pecans regarding research and marketing activities, including promotion?

A Mm-hmm. Yes sir.

Q And finally, would your farm benefit from section 986.68 of the proposed Federal Marketing Order for Pecans with regard to authorities regulating handling, which would be things such as packaging et cetera, shipping. Would that be a benefit to your farm?

A Yes it would.

Q Thank you. Mr. Chavez, are you a
member of a pecan growers association?

A Yes sir.

Q And which one are you a member of?

A New Mexico.

Q And how long have you been a member of that association?

A About 25 years.

Q Thank you. Have you had an
opportunity to hear a presentation on the proposed Federal Marketing Order for Pecans by the American Pecan Board.

A Yes sir.

Q Great. And tell us about that. Were you at those meetings?

A I've been to a few. And they said that from different farmers and my broker and--

Q Correct.

A I do agree that we need to get something going on now.

Q Right. Do you know Louie Salopek and Mike Adams?

A Yes sir.

Q And you have heard them testify today at this hearing?

A Yes sir.

Q And you feel like you've had an opportunity to be involved in this project and also hear from people with regard to this project and have your questions answered?

A Yes sir.
Q Thank you. Mr. Chavez, this is a bit of a business question, but how do you decide how much to sell your crops for?

A Whatever my broker gives me. I don't have a, you know, we don't have a say so. It just, it depends on year to year.

Q What would help in this regard? So you essentially get offered a price and that's the price that you--

A No there's no negotiating.
Q Right.
A They give you a price and you either take it or leave it, you know. And right now we can't negotiate anything unless we get something
else going that we can really help us to-
Q Would the information in the
authorities from this proposed Federal Marketing
Order help you in this regard.
A It will help us.
MR. QUIROS: Good. Thank you. I
appreciate your testimony Mr. Chavez. Your
Honor, I'd like to now tender the written
testimony of Mr . Chavez into the record as well
as his oral testimony.

JUDGE GUTHRIDGE: Exhibit 28.
MR. QUIROS: Yes, Your Honor.

JUDGE GUTHRIDGE: Any objection from--
MR. HILL: I'm sorry. I would just
like to ask a couple of questions.
CROSS-EXAMINATION
BY MR. HILL:

Q Mr. Chavez, you've had a chance,
obviously, to read the statement.
A Yea I've read. Yes sir.
Q So you did take part in putting
together this statement.

A Yes sir.

Q And this, the opinions in here are your opinions?

A Yes sir.
Q Would that be correct?

A Yes sir.
MR. HILL: I have no objection, Your

Honor.

JUDGE GUTHRIDGE: Is there anyone in the audience have any objection. Hearing no objection, the Exhibit 28 is admitted.
(Whereupon, the document previously marked as Exhibit 28 for identification was received into evidence.)

MR. CHAVEZ: Thank you, Your Honor.

JUDGE GUTHRIDGE: Do you have more evidence.

MR. QUIROS: No sir. Thank you, Your
Honor.

JUDGE GUTHRIDGE: Does the Department of Agriculture have any questions? No. Speak now or forever hold your peace.

MS . SCHMAEDICK: No.

JUDGE GUTHRIDGE: Anyone in the audience have any questions for Mr. Chavez? No. Mr. Chavez, you're excused.

MR. CHAVEZ: Thank you, Your Honor.

JUDGE GUTHRIDGE: Go over and speak with Ms. Gonzales. She might have questions about spelling of words or names or something.

MR. CHAVEZ: I will. Thank you.
Thank you.

MR. QUIROS: Thank you Mr. Chavez.
Appreciate you.
JUDGE GUTHRIDGE: Okay.

MR. QUIROS: Your Honor, we'd like to call our next witness, Mr. Phillip Arnold.

JUDGE GUTHRIDGE: All right.
WHEREUPON,

PHILLIP ARNOLD
was called as a witness by Counsel for the Proponent and, having been first duly sworn, assumed the witness stand, was examined and testified as follows:

MR. DAVIS: Good afternoon Mr. Arnold.

MR. ARNOLD: Good afternoon.

MR. DAVIS: Have you prepared us some written remarks you'd like to give this afternoon?

MR. ARNOLD: Yes I have.
MR. DAVIS: Why don't you go ahead and
begin.
MR. ARNOLD: My name is Phillip
Arnold, spelled $\mathrm{P}-\mathrm{H}-\mathrm{I}-\mathrm{L}-\mathrm{L}-\mathrm{I}-\mathrm{P}, \mathrm{A}-\mathrm{R}-\mathrm{N}-\mathrm{O}-\mathrm{L}-\mathrm{D}$. I live and work in Mesilla Valley, near Las Cruces, New Mexico. I have attached my resume to this testimony for your reference.

Briefly, I have been in the pecan
business full time for 31 years after spending four years in the meat business.

I have interests in three pecan
businesses. The first is about 350 acres of pecans. Of this, 65 acres is our original family farm that was planted by my father 45 years ago and over the years we have added around 85 more to total about 150 acres that we own.

In addition, we lease approximately 200 more acres of pecans. All of this acres is of improved varieties. Three generations of the Arnold family worked in this business.

I am aware of the Small Business Administration's guidelines for a small growers, less than $\$ 750,000$ in annual gross revenue. Most years our farm would have been a small business, but last couple of years we would have been considered a large pecan grower.

The second pecan business I have an ownership interest in is a custom pecan harvesting and a custom pecan cleaning business. Many of the small pecan farmers in our area cannot afford the expensive machinery to manage the pecan harvesting and pecan cleaning functions.

These farmers pay us a fee per pound to shake their trees, gather their nuts off the ground, transport their nuts to our cleaning plants and clean their nuts. The owners of these nuts then decide who they want to sell their
pecans to, and when. We never take title to these pecans and we just charge them a service fee to do the work.

If our group, or groups like ours were
not around, these growers may not be able to efficiently harvest their pecans and get them ready for market.

I have read section 986.19 of the proposed Federal marketing Order, the To Handle definition. It says, to handle means to receive, shell, crack, accumulate, warehouse, roast, pack, sell, consign, transport, export, or ship except as a common or contract carrier of pecans owned by another person, or in another way to put in shell or shelled pecans into any and all markets in the stream of commerce either within the area of production or from such area to any point outside thereof.

The term to handle shall not include sales and deliveries within the area of production by growers to handlers; growers; warehousing; custom handling except for selling,
consigning or exporting or other similar activities paid for on a fee-for-service basis by a grower who retains the ownership of the pecans; or transfers between handlers.

The second sentence described our custom harvesting and custom cleaning business. Our business provides custom handling or other similar activities paid for on a fee-for-service basis by growers who retained the ownership of the pecans.

I agree with the language of section 986.19 that these fees for service should not be defined as handling.

The third pecan business $I$ am in is as a buyer of pecans for San Saba Pecan, a large sheller as defined by the Small Business Administration, one having $\$ 7,000,000$ or more in gross revenue as a pecan sheller.

I have a perspective of the pecan industry from a lot of vantage points, but certainly that of a grower, sheller and contract service provider.

I have been President of the National
Pecan Growers Council, which is focused on MAP funding oversight, essentially promotion of pecans overseas. I was President of the Western Pecan Growers Association and I am currently President of the New Mexico Pecan Growers Association.

As current President of the New Mexico

Pecan Growers Association, I have sent a letter from our organization to the United States Secretary of Agriculture in support of the proposed Federal marketing Order, a copy of which is also attached to this testimony.

None of these organizations, The
National Pecan Growers Council, Western Pecan

Growers Association, or the New Mexico Pecan
Growers Association, will complete with the proposed American Pecan Council and their work.

Actually, I think the American Pecan
Council will allow each of these three
organizations to operate more efficiently, as the industry starts to rely on the American Pecan

Council to use its authorities to address: gathering and publish pecan industry data, research, promotion, collecting assessments, and reviewing and recommending changes to how we handle and package pecans. It will free our other pecan organizations to focus on their grower constituencies and their MAP issues. JUDGE GUTHRIDGE: What is MAP?

MR. PHILLIPS: It is the Market Access

Program that we, the pecan industry receives funds from.

## DIRECT EXAMINATION

BY MR. DAVIS:
Q And that is focused on export?
A Export. It's international. It's
solely international export.
Q Not domestic.

A Four years ago, I helped organize the first industry meeting in Frisco, Texas, that led to the formation of the American Pecan Board.

Since its formation, I have been
extremely pleased with the intense two year,
grass-roots effort by all participants in the pecan industry, growers, shellers, and other handlers to talk together and address our common opportunities through this proposed Federal Marketing Order.

I think I have been well informed of all of the steps taken by the American Pecan Board to secure the proposed Federal Marketing Order and have had numerous opportunities to participate in this process.

I have listened to the testimony of Dr. Marco Palma and have reviewed the economic analysis summary prepared by Dr. Palma, specifically, the project average price increase from promotion of 6.3 cents per pound, in shell pound versus the average of 2.5 cents per shell pound cost for improved varieties.

Overall, I am aware of the costs that a federal marketing order may impose on my grower and sheller interests, including the indirect costs of record keeping and funds transfer to the Council, but I do not believe those costs are
unduly burdensome.
Further, I believe that the benefits of the Federal Marketing Order to my grower and sheller interests will greatly outweigh any costs associated with it.

I think my grower and sheller
interests would also benefit in the future from grade, size, quality, packaging, shipping protocols, and other handling requirements as we complete with the other tree nuts for shelf space and United States consumer attention. I understand this will only occur after the Council receives and debates these issues.

I also understand that under the proposed order, only growers with more than 30 acres of pecans or more than 50,000 pounds of average production per year over the last four years will be allowed to vote on the proposed order.

$$
\begin{aligned}
& \text { In my opinion, this threshold is } \\
& \text { reasonable because a grower that does not meet } \\
& \text { this threshold is not a commercial grower. Any }
\end{aligned}
$$

grower that is smaller than the proposed threshold could not justify the costs inherent in such a small production and is most probably merely a seller of pecans from older trees that happen to be on his or her property, a hobby farmer or one that does not plan to put all the commercial inputs (fertilizer, water, et cetera) on his farm.

In my work as a fee for service
harvester and cleaner, I see this all the time.
Folks with a few acres cannot afford the expensive farming and harvesting equipment.

We built our custom harvesting and cleaning business in part on such non-commercial grower situations. But make no mistake, even though those growers may not have a vote, they will get to share in the burdens and benefits of the proposed FMO.

But on balance, $I$ think it is fair that these small, non-commercial growers are not getting a vote, pecan growing is simply not their livelihood.

I also understand that only shellers that handle more than one million pounds of in shell pecans per year will be allowed to vote on the proposed order. I believe this is also a fair threshold.

Lots of folks shell pecans. For some, it is just enough for a pecan pie or for other it is just enough to sell in small packages at a convenience store, but these are not commercial shellers.
I am not aware of any sheller in my area which handles less than one million in shell pounds per year that is in the commercial shelling business. Further, if there is such a sheller, I do not believe it would be commercially viable for such a small operation could not invest in the required equipment, pay employees and turn a profit on such a small production. It would not be sustainable as a business at that level.

In conclusion, as a person with both grower and sheller interests as well as the
current President of the New Mexico Pecan Growers Association and a member of and past President of both the Western Pecan Growers and the National Pecan Growers Council, I fully support the proposed Federal Marketing Order for pecans and encourage the United States Secretary of Agriculture to implement the order as proposed by the American Pecan Board.

I would be glad to answer any
questions anyone may have.

MR. DAVIS: Just before we tender the Exhibit, if I could ask one point blank question, Your Honor?

JUDGE GUTHRIDGE: Yes.

BY MR. DAVIS:

Q Sir, on page three of your remarks,
you noted that you had reviewed the economic analysis summary. That is the summary that appears in this record as Exhibit 23. Is that correct?

A Yes it is.

MR. DAVIS: With that clarification,

Your Honor, we would tender Exhibit 29, which I will also note for the record is the written statement by Mr. Arnold, also his curriculum vitae, also the letter of support from the New Mexico Pecan Growers Association.
(Whereupon, the document referred to was marked as Exhibit 29 for identification.) JUDGE GUTHRIDGE: Any objection? MR. HILL: I have no objection. JUDGE GUTHRIDGE: Any objection from the audience? Hearing no objection, Exhibit 29 will be admitted. Do you have any other questions?

MR. DAVIS: I'll reserve questions, Your Honor.

JUDGE GUTHRIDGE: Does Department of Agriculture have any questions?

CROSS-EXAMINATION
BY MS. SCHMAEDICK:

Q Melissa Schmaedick, USDA. Thank you
Mr. Arnold for your testimony. The first
question I have for you, you mentioned that you
lease about 200 acres is it?

A Yes ma'am. That's correct.

Q Under the proposed program, would you be considered the grower of those 200 acres?

A Well, on our lease, on most of our leases we have, we do it on a share basis. So, yes we would be considered the grower on twothirds of the crop. Is our, the way our, it's on a share basis and we do all the inputs, they pay their land and water taxes because it's in their name and sometimes some capital improvements. But all the inputs there, and we take two-thirds of the crop. Basically it's part of that.

Q So under the proposed program, that is in Exhibit 1, would you be considered a grower of those 200 acres? Would those 200 acres be attributed to you as a grower?

A I would guess it would have to be considered. I don't know. That's a good question. I don't know what the legalities involved. I would consider that we are the grower because we actually grow the crop. Yes.

Q Okay. Thank you. You also mentioned that you have a custom harvesting and cleaning operation. Can you describe in a little bit more detail what exactly your role is in the industry? How do you, who are your customers? How are you interacting with them?

You did mention that you don't take ownership of the product. But if you could just paint a slightly more detailed picture for us so we have a better idea of how you function that way.

A Certainly. There's, in this valley, the Las Cruses area, Mesilla Valley. Over the years, there were a lot of people that bought acres that anywhere between, you know, one to two, ten, 15, 20, 30 acres and planted pecans on them.

And the idea was that a lot of these people had thought it was going to be easy. Because all they had to do was plant the trees and watch them grow.

As time went on, they found out how
much work was involved from just harvesting say five acres of pecans. It took up a couple of weekends during the month of December and you got your Christmas out of it to where it became a situation where they were spending every weekend and every bit of extra time they had, including all their Christmas time, to try to harvest the pecans.

Because the, once the trees got up to size and level and there was a pretty good tonnage, it became very purposed job on them trying to get it done. So, that was where primarily our business kind of came from, $I$ would say.

It, a lot of these smaller people that couldn't afford, because a set of -- you have to understand even a used set of harvesting equipment, is you have to have a shaker, your sweeper, and then you have to have the harvester.

And so, even a used set of equipment today would probably cost you a bare minimum of maybe $\$ 100,000$ or more. And if you're talking
new equipment, your talking many more times that.

So if you have five or ten acres of pecans, there's no way you are going to go spend $\$ 100,000$ on equipment when the economics are just simply not there. And with the cost of labor, doing it all by hand is preventative.

So, you have a situation now where my brother and I have a company we started back in the early 80s. We've grown the years and we basically go in, they contract us early in the year, we check to make sure their ground is properly prepared so that we can harvest the pecans.

We'll go in and once we get a chilling freeze here, that's usually the standard modus operandi is, in this valley, is when we get a killing freeze, which knocks the leaves off the tree, dries up the hulls, and then you get an acceptable level of moisture in the nut that you can start handling, which usually around, happens around Thanksgiving.

Then we'll go in and shake the nuts on
the ground, sweep them into win rows and then pick them up with our harvesters. From there, we take them into our cleaning plant. And our cleaning plant is another deal, because even though a very inexpensive cleaning plant, a very small, minimally run few hundred pounds an hour maybe, you could be talking as much as $\$ 15,000$ to $\$ 20,000-\$ 30,000$.

With some of the larger cleaning plants, you know, you could be getting into almost in the millions of dollars in some of these things depending on how big you get with all the equipment involved and depending on the volume that you're trying to handle.

But even one that would take care of a small operation and do it in a timely method so that you can get the pecans to market in a timely basis. It's very expensive in addition to the other harvest equipment.

We take the pecans and we run them through the plant and I think, Dave referenced, I can't remember his testimony was earlier, but
they referenced how they rate the pecans and I think that Mr. Caris was talking about they separated the off grade pecans from your number ones.


#### Abstract

Essentially they come in and they separate out the major trash from the pecans themselves. They run them through, you take the hulls out and the sticks and twigs and any rocks and dirt clods.


And they run them in and they'll, from there, they separate and they'll blow out the, what they call pops, which are usually a nut that's hollow. And then they'll run them through to make sure they can peel off the stick tights with the hulls still adhering there. It peels that off and then they will run them from there into a sedimentary airways or, I can't remember the, anyway basically it's a separation unit that separates the live pecans that don't feel as well from the ones that are heavier that have a higher density that are filled well save full of what. So that's how you separate your number one grade
pecans from your number twos.
So, we'll clean those pecans for those individuals and pull off their number ones and we get their number twos and we have those, which are the two products that are pretty much marketable for the individual.

And then like my brother who runs that part of the business, he'll call them and tell them what their clean tonnage is and he'll tell them what the market is and some of the individuals maybe decide to hold them for a while hoping the market's going to come up.

Some of them will go decide they want to go ahead and take the money or, you know. Every year is different. Sometimes the price is really good and the people want to sell them right away. And then he'll make arrangements with sometimes he buys them for me, from the company I represent.

And other times he'll buy them from another company depending on what prices are and so on to get the best deal he can for them. And
he takes pecans, sells them for the individual. They get their money, we get, they pay us and we're, everybody's happy.

Q Thank you. So are your customers then predominantly small growers?

A Predominantly. We had a few growers that, I think the largest one, we had one of the larger grower that he -- I think he has about, we harvest around 1,000 acres of pecans. And one of our growers, $I$ think he has about 180 or 150, I don't interact with that end of the business as much as I used to. I am the primary one on the buying end now.

But, we have one guy who's pretty good size and he's probably be considered a large grower. But he doesn't have the time. He's also a road crop farmer. He doesn't have the time to mess with all the equipment and everything else.

And so to have his own equipment and have to go do it and everything else he simply contracts us to come in and harvest the pecans and clean them for him. So we do have some, a
few large growers. But most of the growers we have are the smaller growers. That's the bulk of our business.

JUDGE GUTHRIDGE: I'm sorry. What kind of farmer did you say he was?

MR. ARNOLD: Road crop. In other words standard crop.

JUDGE GUTHRIDGE: Road crop.
MR ARNOLD: Yeah. You have a permanent crop, which is pecans. And then you could have a road crop we currently refer to maybe cotton, chili, watermelons, whatever.

BY MS. SCHMAEDICK:
Q And in your custom cleaning operation, does that include or could it include sizing and grading.

A It could. We do grade them when we're actually, you know, we run them through the airway. We're actually sorting them, so we're actually in that sense grading the pecans.

We could size them as well if the grower put, - the demands from China the way they
are, we've actually talked about putting in a sizer.

> It's a, kind of, logistics thing as to where you can put it. And then is it viable the service be good enough for the individual.

One of these smaller growers don't have enough that you could size out a portion of the crop and have a full load to sell to China for instance where you could a better price for those particular pecans. But as time goes on, I could definitely see where that would be something that could evolve.

Q So hypothetically speaking, if the definition of to handle excludes the custom handling or the custom harvest and cleaning that you do and hypothetically if there were greater size regulation in effect, would you need to be meeting that regulation that's in effect in your operation?

A Well, really the way I look at it and what we've considered is that we never take title of the pecans. We don't take ownership. And so
when you're talking about actually providing services to somebody and until you actually, as handler, a lot of times a handler is charging those fees to handle the pecans or actually to -he takes possession of them as he buys the pecans and then turns around and sells them.

But in our operation, our basic deal
is to help the individual with the pecan crop and then so that they can sell it to somebody so that he can be paid for it.

Q So, my understanding, you correct me then, you could size and sort to your customers' wishes who would be the grower.

A Right.
Q But that -- you would not necessarily be beholding to size and grade regulations that are in effect because you are not the handler. Is that was you're saying?

A Yeah, well this is -- we're doing it to a standard so that he can sell that to shellers. For instance, in this part of the United States in the food market normally you
would consider a No. 1 grade pecan 55 percent meat and higher.

Sometimes one year if there's a very wide quality problems then you drop it down to 54 percent. But generally, industry-wide, with all the different companies that are buying, a lot of times that's going to be a separate issue.

So as a grower, even if that's what you're doing, you're talking about sorting, is you're actually separating and trying to ensure that he -- his pecans will be graded at least 55 percent or higher so that he gets more or less top price for his pecans.

Q So essentially you're assisting --
A We're not -- we're never handling the meats themselves. All we do is handle in-shell.

Q So essentially you're assisting the grower to prepare his or her products to be the best presentation to the market.

A So he can market to the best the best that he can.

Q Thank you. You mentioned -- are you
the current president of the New Mexico --

A Yes, I am.
Q Are you able to make a statement on behalf of that organization today?

A Yeah, I would think so.

Q Okay.
A I would hope so.

Q So in your experience and capacity has the -- or is the New Mexico grower population aware of this proposal?

A Yes, I believe so. The Western pecan growers as well as the New Mexican pecan growers have tried to make sure that, as well as individuals, have tried to talk this around to make sure that all individuals and all the different farmers regardless of size and so on looked at it and so they all know that they're talking about this.

Q Okay.
A And so it's been published in all of the Common Court cases in the south. And I feel that the American pecan grower did a pretty good
job of trying to make sure that everybody was -they got the information out there and they tried to make sure people were given good knowledge of this and explained -- as well as explaining all the different details of the regs and so on.

There were some meetings back in, well, September, ordinary meetings that came through, and people talked about it. And so I feel like as an organization's president organization, $I$ felt like the New Mexico area was pretty well mitigated with that information.

Q But are you aware of any concerns that exist within your growing population? Are there concerns that are specific to this area?

A Well, yeah. I mean, one of the major issues, and I think this is just a generality type thing, is that a lot of people just don't want the government involved in their business anymore. And that's something I think inherent to a lot of people, particularly farmers because they're a very independent bunch.

By the same token, I think you have,
you know, other people have referenced where the industry has started coming together. And as individual that once signed up on this industry along with others, and one of the things that always bothered me was the disdain that's shown in this industry and we've always had for each other.

I mean, we're connected at the hip. We depend on each other. 75, 80 percent of the pecans that we produce in this country are handled by this processing, this shelling industry. But we would fight with each other. And we were getting nowhere. And you're looking at these other industries, the nut industries, and these guys were planting more acres and, you know, making lots of money. And we would have these highs and lows. We have a lot of inner problems. We're not the same as these industries because we are a diversified group, across the entire United States.

But that's also something, to the credit of the American pecan grower, that they
spend only a time and the difference today versus what they're doing today with the referendum that they're looking at and what was going, was proposed in front of the industry over the last two, three times, whatever it was and they tried to do it.

It's, first of all, I think the writing's on the wall. And I think it's a lot of growers that really realize if we don't do something we're never going to gain. And I think that's a general consensus with a lot of our industry. And I believe I speak for the industry as a whole, particularly New Mexico.

There might be a few people, but I
think, generally speaking, most of the people in our industry feel that way. The other thing is is that I think that you're seeing some of the old, I don't know any -- how's it's explained to you, but the hatreds and jealousies, whatever it is that the growers and shellers, well they didn't get along.

This one guy, you know, chews some
other guy out or something, you know, whatever -bad business deals over the years. But I think they all realized that we've got to work together. And I think that you've kind of got to change the bar. You've got new, younger people coming in, and we're all realizing, you know, what we've got at stake here.

And, again, $I$ think that the American pecan grower did, bought, put a lot of time in to make sure that they address all the regions that we have, and how we're different than in the naval region in simple taxes in Louisiana and Oklahoma and how that's different from the southeastern region.

And so I feel like we, they've done -they put the time in, they've done a good job of putting this thing together and addressing all the different issues that we need to be addressing so that this marketing work will represent the entire industry and will be fair to everybody as well.

MS. SCHMAEDICK: Thank you. And on
that note, you mentioned the program members represent the industry. So I want to just ask their opinion on the sections of the proposal -again, I'm referring to Exhibit No. 1 -- that speak to the proposed council, the structure, representation of shellers and handlers as well as things such as term limits.

Q So you believe that -- well, first of all, do you feel like you have a good understanding of how it's supposed to work?

A Yeah, I think I have a very good understanding, but I know I've been a little bit more heavily involved. And I think each individual probably needs to educate themselves a little bit more. But I think that the way it's been set up it's fair. I think it's a fair representation of some advisors or with shellers or loaders.

But it has enough of the shelling interest involved and they will have and should have a say in it. I mean, it's -- one of the things I learned a long time ago was I was in

China and went to Europe too, trying to sell and promoting pecans.

And you get these customers in front of you, and they're ready to buy. And you give them a list. Well, go call these people. They don't want the list. They want you to tell them the price and when you can get it there and everything else. And so there's a disconnect there.

In order to do that the growers had to bring the shelling industry in, and we all had to do this together as a concerted effort. And I think that that's basically what we're doing with this.

Q My last question for you is do you propose to structure along with the elements and term limits -- do you think that that structure would provide for enough of an opportunity for diversity -- a continuance of knowledge but also the opportunity for many of your people to get involved? Do you think it's a good structure in those terms?

A Yes. You know, $I$ understand and $I$ certainly want the Board to understand we won't have continuity, like keeping in the Board in place. And sometimes the Board can become painted or narrow-minded or just, you know, because I think it's good to have fresh blood, you know now, to get people in it.

The other thing is is to get the right of people from the industry to come in and really understand what the Board deals with and the decisions they're making. And I think that's, for instance, the Western Pecan Growers

Association. We have, it's a very sizable board, but we have a lot of different people that come in and out anymore -- people can sit on that board for years.

So it's been a benefit to our industry because it's helped educate a lot of the growers here because of the different issues that we deal with as growers -- more than just dealing with what we hear from the farmer producing pecans.

So I feel like it's a better deal.

And one of the other major things that has been written in to this that has kind of been a -made a lot of the growers even happier, that some people worried that they were going to get shackled to something that maybe works and, you know, won't work.

Well, you have a five-year sunset clause in this. And it has to be revoted on every five years. So if it's not working, I guarantee you that they're not going to vote. And if it's working they're going to keep it in.

So that also -- you know, that, in
itself, is going to cause the authority of the Board to have to make sure they're doing their job and doing it properly. And once you -- how they spend money and where they allocate it and what they're doing. So I think that has some good quality.

Q And by sunset clause do you -- are you referring to the continuous work around that, the vote to --

A Right. It has to be voted back in
every five years.

MS. SCHMAEDICK: Okay. Thank you.
Thank you for your answers. And that's all my questions.

JUDGE GUTHRIDGE: I'd like to follow up on one of her questions -- when she was asking you about publication of the proposal. And, for instance, when you were dealing with your -- with grower customers for your custom harvesting business, would you talk with them about it?

MR. ARNOLD: Well, in the custom end, my brother, I mean, he runs that. But the -- I buy pecans and I buy from a lot of different growers. And I would have a lot of growers ask me about it because they knew I was involved in it. And I was glad to take time to talk to all these people.

And there was also other people that would come in and they would gripe about the price. And, you know, that was -- one of the things that we've seen the last several years is China.

China's been a big revelation for the pecan industry because, prior to that, you know, the other nut industries, you know, walnut industry's probably sent what they were growing domestically as being exported. But the comment is this is maybe the most in any given year when we had a big profit line of maybe 20 percent, more like 15 or less.

So we never really had a domestic market. And pecans started dealing with North America. So they know how a lot of other countries around the world didn't know anything about pecans if they're not out of North America. In Mexico didn't know a lot about them and the southern part of the United States.

And I'm embarrassed to say that there's not a lot of people in the northern tier of the United States that certainly know a lot about pecans either. And that's not their fault. That's ours, as an industry for not telling them that story.

So, you know, I think this is going to
come a long ways into educating people and, you know, I just feel like this is long overdue for our industry. And I think that, you know, but to answer your question, we try to make sure that we -- I try to myself -- matter of fact, I've been accused of talking too much. You can ask any of the growers out there. I'm sure they'll agree about it -- as evidenced by me rambling on right now.

But I try to make sure that the people, the growers, Dr. Lucero -- he's one of ones that $I$ first met -- and Tom Chavez and several other people and some of the other larger growers I've talked with the last year trying to explain to them where we were going with this.

Because there's a lot of people that were very skeptical about it from the get-go and had a lot of concerns.

JUDGE GUTHRIDGE: Any other USDA questions?

MR. HINMAN: Yes, Don Hinman, of the USDA. Actually, it's just a single question. CROSS-EXAMINATION

BY MR. HINMAN:

Q You stated in your testimony that you were aware of any accepted inclusions for Dr . Palmer's study and from your own perspective that the potential for the -- the benefits would greatly outweigh the costs.

And you bring more perspective as grower. You employ my sheller, correct? I just want to ask the different perspectives of the industry from grower, sheller, improved native across the three regions and sold to market which is all those aspects of the industry that that particularly applies that the benefits strongly outweigh the costs.

A Are you asking is it going to asking is it going to affect all that, different parts of the industry?

Q Right, because it was stated in terms of you saying, as it was stated, you had said, the findings there, there was one that said across the different aspects of the industry, do
you think that the that the, certainly, the cost for both licensed growers or nut shellers domestic and native and for legitimate across the three regions?

A Like I was mentioning earlier, when China came in the equation, for us to start exporting, what happened was we saw a huge increase in demand and everybody in this industry benefitted. The grower got a higher price. The processor got more money. The percentage of what they were processing and selling because their percentages were higher because the costs were higher in the market.

So everybody across the board in this industry benefitted from it. And that's exactly what we want to do with this, is to put pecans out in front of people. I think we have great a product. You heard the testimony about the health benefits.

And I've been repeatedly asked by different people when $I$ tell them I'm in the pecan business, well, yeah, I like nuts. How
come we never hear anything about them? And, you know, several years ago I started figuring it out. You know, if we don't start telling our story nobody's going to do it for us. So that's what this has been all about.

MR. HINMAN: Thank you. Nothing
further for this witness.

JUDGE GUTHRIDGE: Any other questions
from USDA?

MS. VARELA: Jennie Varela from the USDA. I just have a few questions for you. Thank you very much for giving us such good background on what it's like to be a customer leader. That's definitely something that was new to us, and we got to know the industry. And I appreciate you talking about how it applies to you specifically.

CROSS-EXAMINATION
BY MS. VARELA:

Q Would you say that this definition is just as accurate for most of the customer leaders in the industry, that it's across the
board, nobody takes high risks with those?
A In this area what we or the way we run our business is very common in putting risk for most of the other customer leaders.

Q I see, thank you.

A I mean, I don't think there's -- I can't speak exactly for everybody in the business but from what I know almost all the customer leaders I really think it's the same.

Q Okay. And in describing some of your activities, you referred to number ones and twos, is that a reference to U.S. Standards?

A That's more about an industry
standard. Like I said, the industry typically comes in and a western pecan or an improved writing in western United States. And most of your companies will come in and they would, if they will, if they're going to buy an unknown grade pecan and you're paying so much as point for them, and usually they're looking at a minimum as setting a standard for what that grade pecan constitutes.

So, if I contract within your house or your grower and, you know, when I buy a guy's crop I buy the whole thing. And so that's why we set a standard, you know, what is number one under this pricing agreement will be at a 55 percent or better and there might be a size limitation as well that's put in there as well.

But then once it falls below that 55 percent then we would negotiate out a price. We'll increase that pricing structure that will become basically his price now for those pecans.

Q Thank you. That's really helpful. And then $I$ had just one other question following up on your description of some of the small shellers who maybe aren't commercial shellers, who are just doing a little bit. How do they manage to juggle a product if they don't have their own facilities?

I mean, are some just doing it a different way, are they to custom shellers? And if they are going to a custom sheller what are some of those options?

A Well I try to custom shell in our -we have a buying station there for our company. And we would actually custom shell the pecans for the individual, and they would get back their own pecans. And we had to close it down because we couldn't make it work. We weren't charging enough money to do it.

I can tell you first-hand it is extremely expensive because it's very, very labor intensive. One of the large commercial shellers used electronic eyes and stenciled-on equipment to compete and get it done efficiently. And smaller shellers just can't afford that kind of input. You know, that amount of money outlaid for that type of equipment.

So a lot of it's done by hand, but it's usually a smaller operation and they're doing, like, again, $I$ know there's a few people here that's invested sharply. And there's some other shellers that are probably considered really more like a small sheller. But there's very few people that are going to handle less
than a million pounds a year, even for this area here.

If they're below that they're really
not -- they're doing it for themselves, they're doing it for their friends or they're doing a custom deal, like I said, for other people doing their own pecans. But it's not really what you would call commercial.

MS. VARELA: Thank you so much.
That's all I have.

JUDGE GUTHRIDGE: Mr. Hill?
CROSS-EXAMINATION

BY MR. HILL:
Q Well, Ms. Varela kind of stole my thunder with that last question anyway. At the bottom of Page 3 of your testimony you wrote, I think my grower and sheller interests would also benefit from future grade size following packaging and shipping protocols, which could give us a couple months of shelf space in the United States consumer attention. I do want to point to you to one thing. And you've read the
notice in the Federal Register for the proposal? A Yes. I couldn't quote it all back to you, but --

Q I can give you a copy if you need it.
A I've got one here.

MR. HILL: I just wanted to know one thing. The reports, books and records, reports pending, inventory requests for pecans handled across the span you seem to handle, could you tell me how that accountability is shown in this?

Q After being -- inventory reports with weights have been a big issue with us and accurate inventory reporting would be huge for this industry. It has been suggested that there have been years, many years past, there's been individual companies and so on that have also referred to their inventories and balance sheet, whatever, for various reasons.

One of the great things I think could come out of this, actually, with the government involved, would -- well, I would think they would not want to try and falsely report anything. So
you would get, hopefully get, more accurate reports so we know what the size of the crop is going to be, how and what the inventory positions are out there.

They're still going to have to protect the anonymity of each individual and company, what their inventory position is. You know, that's very sensitive information as far as the industry goes. But as far as the dual hold, to know how many pounds of in-shell are out there being held, that they've not hit the market yet by the handlers or whatever, how many pounds of meats are out there that have not been consumed yet, I think that is extremely important information to this industry.

Q And you see that as helping you in terms of marketing the product?

A Absolutely. I mean, if you figure out, I made a reference earlier, if he doesn't know how much actual inventory is out there then he doesn't have a good handle on making a profit.

You could end up with guys that pay
way too much money at the beginning of the crop year. and then once they figure it out then the price slides. And you have growers that are caught at the back end because they can't get their profit. And they're just stuck in a bad position because of where they -- you know, weren't able to get out in a timely basis when the market turned.

Whereas, I'm not going to say this is going to correct it, but if you have better information going in then the price will already be a little downwards and you'll probably get a better average across, throughout the entire season.

MR. HILL: Thank you very much, Mr.
Arnold. I have no further questions.
JUDGE GUTHRIDGE: Anyone else from
USDA? Any follow-up?
MR. DAVIS: We do, Your Honor. Let me touch on a couple topics that were raised.

REDIRECT EXAMINATION

BY MR. DAVIS:

Q Ms. Schmaedick mentioned the, your lease of property. And I'd like to refer you to Exhibit 1, the proposed FMO and the definition of grower. And when you look at that first sentence, and actually I've got to follow up with you because I don't know the nature of your lease.

But let's assume you're leasing 200 acres, and then you're going to sell that product. But under the proposed definition of grower is synonymous with the producer and means any person engaged within the production area in a proprietary capacity in the production of pecans if such person, A, owns an orchard and harvests his pecans for sale, even if the customer harvest is used -- even if a custom harvester is used or, $B$, is a lessee of a pecan orchard and has the right to sell harvest even if the lessee must remit a percentage of the profit or rent to a lessor.

So with that definition in mind, as to those 200 acres, would you be a grower by this
definition?
A We would, in fact, be a grower.
Q Thank you. Next, I think for the benefit of the record and our audience, I would like to refer you to the last page of Exhibit 29, the letter that you have written on behalf of the New Mexico Pecan Growers Association and have forwarded to the Secretary of Agriculture. Do you have that in front of you?

A I do not, sir.

Q Okay, let me -- look at this. I'll go
from mine, and we'll get that right up on the overhead here. Would you mind reading the body of the -- the salutation and the body of the letter into the record, please?

A Certainly. Dear Secretary Vilsack, the New Mexico Pecan Growers Association is writing you in support of federal marketing order of pecans currently being promulgated by the American pecan grower.

Our industry has, in a deep space,
issues of price and supply instilled into the
market. This situation inhibits our efforts to provide a consistent quality supply of pecans to New Mexican consumers at a price that supports a profitable return to producers and processors.

We believe that a federal marketing order will contribute to a more stable market environment that is favorable to growers, buyers, shellers and consumers. The Board of Directors of the New Mexico Pecan Growers Association goes on record in favor of the order and greatly appreciates your support. Respectfully submitted, Phillip Arnold, President, New Mexico Pecan Growers.

MR. DAVIS: I don't think I can anything to that, Mr. Phillips. Thank you so much for your testimony. I have no further questions.

JUDGE GUTHRIDGE: Follow-up?
MR. HILL: No, Your Honor.

JUDGE GUTHRIDGE: Are there any
questions from the audience? Very well, Mr.
Arnold, you're excused.

MR. DAVIS: Well, we're about on
schedule. Those are the last of the witnesses that we had to offer today.

JUDGE GUTHRIDGE: I note that. And I earlier had a report -- is Sammy Sing here still? Sammy Sing? Ms. Ray, do you have anyone else who's signed up? Is any, does anyone in the audience want to present any evidence today about this?

So I guess that pretty much concludes. Ms. Gonzalez, all the exhibits come in? Do you have any question about whether -- everything's in? It's straight?

MS. GONZALEZ: Yes.

JUDGE GUTHRIDGE: Everything's right?
The record is straight. Do you have all the exhibits?

MS . GONZALEZ: Yes.
MR. DAVIS: Great.

JUDGE GUTHRIDGE: Okay. Then, in that case, this hearing is recessed until 8 o'clock tomorrow morning.
(Whereupon, the above-entitled matter was adjourned at 4:56 p.m.)

A
$\$ 0.88145: 10,10$
\$0.92 145:10
\$1 151:17 204:6,7
\$1.46 155:7,7
\$1.50 155:7
\$1.73 145:4 180:6 223:17
\$1.90 145:5 180:6 223:17
\$10 181:20 197:13
\$10,000 269:7
\$10,833 151:22
\$100,000 341:22 342:4
\$1000 18:4
\$1190 152:5
\$1200 112:22
\$14,333 151:9
\$14,833 152:9
\$15 246:7,12
\$15,000 343:7
\$1500 112:19,21
\$16,643 151:12
\$170,000 75:7
\$1857 152:6
\$19 181:21
\$2 185:14
\$2.12 145:5 180:6
223:17
\$2.31 155:4
\$2.48 155:4
\$2.5 151:18 215:17
\$2.70 155:5
\$20,000 343:8
\$23,167 152:9
\$2310 151:10
\$24,535 152:1
\$30,000 343:8
\$30,950 152:11
\$300,000 109:7
\$4206 152:7
\$5 185:14 246:14
\$5.11 155:18
\$506 52:10
\$5192 152:2
\$5688 150:18 151:2
\$600 52:7
\$600,000 75:2
$\$ 6650$ 151:4
\$7 62:21
\$7,000,000 330:17
\$70,100 152:11
\$750,000 109:20 110:8 111:4,5 280:15 300:7
314:21 328:7
\$8 181:21 246:14
$\$ 8108$ 152:3
\$890 152:5
\$9 181:21
\$963 150:22 151:3
A-D-A-M-S 26:16
A-F-T-E-R-N-O-O-N 232:1
A-L-M-A 118:15
A-R-I-S 233:8
A-R-N-O-L-D 327:10
A\&M 118:20
a.m 1:12 5:2 116:15,16
ability 283:16
able 49:13 89:9 105:21 149:4 188:17 245:19 272:12 273:17 320:15 329:5 351:3 372:7
above-entitled 231:18 298:6 377:1
absolutely 194:15 275:15 276:19 371:18
acceptable 342:19
accepted 54:7 91:17 363:4
Access 332:9
accommodation 108:17
accomplish 66:21
accountability 370:10
accounted 183:13
accounting 190:18
accumulate 329:11
accumulated 75:5
accumulation 133:5
accumulator 82:12 235:15 259:12 275:6
accumulators 61:13 272:4 282:21
accurate 36:1 46:19 55:8 65:4,9 69:13 100:7 102:10,15 156:14 194:12 198:20 199:1 238:9,16
267:22 269:16 282:22
301:11,18 365:21
370:13 371:1
accused 362:6
achieved 144:7 236:15 271:1
acid 280:19
acidity 307:1
acre 44:13,14,16,16 58:17,18 59:12,15 60:6 112:20,21,22 130:2,4 150:2,3 153:2 154:10 274:2 294:6,6
acreage 44:20 129:7,10 129:13 130:14 150:8 154:11 207:14 226:19 226:20,22,22 227:9 228:9,14 229:6,8

244:21
acres $44: 5,7,7$ 47:8,9,12 108:6,11,20 129:5,11 130:7,9,12 150:1,1,1 154:10 164:6,7,11 165:1,3,4,5,9,12,15 172:10,15,18 173:6 228:22 233:21 234:5 234:8 239:5 245:5 273:19,22 274:5,6 280:11 285:2 293:20 296:3 299:11,14 303:10 314:4,9 320:9 320:18 327:18,19,22 328:2,2 334:16 335:11 339:1,4,16,16 340:15,16 341:2 342:2 346:9 353:16 373:9,22
acronym 17:12,22
act 6:9,9 36:11 83:14,16 87:18 93:18,22 248:1 276:2
action 188:11
active 33:8 72:2 202:7
actively 245:5
activities 7:3 135:3
191:13 205:7 321:12 330:2,8 366:11
activity 131:20
actual 33:16 158:19 175:12 176:2 187:8 188:10 191:22 197:10 197:14 198:5 205:5 208:19 213:19,21 215:9 220:8,9 225:16 226:4 227:20 229:3 283:3 371:20
actuals 195:3
Adam's 302:15
Adams 3:3,14 4:2 26:2 26:2,8,15,20 29:7,10 30:7 31:1 37:22 38:4 39:14 48:20 50:22 51:20 54:1 76:20 78:7 78:15 87:6 92:22 93:6 96:22 97:13 99:16 101:2 103:17 105:19 106:19 115:20,20 244:14 248:19 265:22 273:4,20 281:22 288:18 322:21
add 49:11 55:15 73:16 95:19 193:22 246:8 260:16
add-in 146:14
added 109:5 131:22 194:9 327:21
adding 216:22 217:2,4

245:10
addition 7:3 9:3 11:3 56:21 75:22 307:12 318:21 328:1 343:18
additional 16:14 18:3 123:15 135:19 151:14 163:21 188:19 200:9 200:15 203:21 205:18 205:22
Additionally 284:17
address 9:6 13:18,21 26:14 31:17 66:12 67:8 76:10 86:17,22 89:11 92:1 94:6,10 112:16,18 118:15 249:3 292:13,19 306:20 316:1 332:1 333:3 355:10
addressed 44:19 94:16 249:12 252:13,16
addresses 43:10 addressing 45:10 355:17,19
adequate 67:18 236:2
adhering 344:15
adjourned 377:2
adjusted 50:9 52:13,21 147:12
adjustments 242:9
administered 7:11 84:19
Administration 109:19 110:4 111:2 234:16 280:14 300:5 314:20 330:17
Administration's 62:20 328:6
administrative 1:14,18 5:5 31:4 63:21 84:17 108:19 109:15
admission 12:2 30:21 34:1
admitted 8:22 11:18 12:22 24:2,10,18 34:4 34:5,11,12,15 37:18 39:10 40:22 41:17 48:16 54:10 71:7 77:8 121:5 122:15 143:15 158:4,12 243:5 287:13 306:1 325:11 338:12
admitting 24:5,11
advance 162:10
advanced 32:1
advances 129:18
advantage 258:6 289:8
adversarial 79:17
adversity 307:14
advertisement 251:2
advertising 4:9 141:13 142:9
advisable 43:12
advised 116:19
advisors 356:17
affect 167:21 363:17
afford 328:15 335:11
341:16 368:13
Africa 125:22 255:11
African-American 70:14
after-the-fact 55:16
afternoon 23:9 193:12 193:14 243:16,17 288:1,2 312:7,8 327:1 327:2,5
ag 257:3
agenda 31:6
aggregate 82:11 126:18
ago 49:2 50:2 86:2 88:21 179:5 253:7,15 265:15 271:12 281:7 281:22 289:17 292:9 299:22 327:20 332:18 356:22 365:2
agree 79:7 285:13 316:22 318:16 322:18 330:11 362:7
agreement 1:5 6:6,7,9 36:11 83:13 367:5
agricultural 6:8 14:7 17:13,20 36:11 46:9 47:7 64:16 118:17,20 121:15 127:20 129:9 138:12 140:6,8,11,16 195:8 201:13,15 225:11 255:20,22 283:11 317:2
Agriculture 1:1 2:2,4,9 4:7 5:7,17 7:8 8:10,19 9:11,14 10:12 17:14 47:5,6 78:15 83:13 116:21 146:5,6 158:5 161:2 243:13 287:20 305:19 306:12 311:16 325:21 331:11 337:7 338:17 374:8
Agriculture's 5:15 ahead 29:7 37:22 41:4 121:9 162:5 205:19 233:13 256:15 313:5 327:7 345:14
aids 110:20 ailments 302:15
airway 347:19
airways 344:17
al 149:14
Alabama 1:6 37:1 72:8 128:11

Albany 72:15 234:4
Albuquerque 299:7
Alexandria 13:22 74:3
aligned 198:1,11 220:6
allocate 359:16
allow 144:9 331:20
allowed 213:10 214:10
239:8 285:4 303:13
334:18 336:3
allowing 311:1
allows 179:1 303:2 320:5
alluvial 40:10
almond 4:8 53:9 54:19 54:20 57:3,9,21
112:11 141:13 142:9 269:3 273:6 278:13
almonds $4: 1$ 51:5,15 53:5,11 54:15 57:1,11 57:17 64:8 134:12 136:19 137:2,17 140:17 141:5,19 177:20 317:19,20 318:1
Alright 299:17
Alston 149:14
alternate 32:21 45:11 45:22 46:2 49:15 97:15 125:5
Alternates 235:18 320:8
alternative 183:17 194:3 207:13
amazing 53:7
America 32:6 125:22 361:11,13
American 3:17 6:16 27:13,18 31:21 35:17 38:19 39:18 63:14,19 63:22 69:5 70:4,7,13 70:15,19 71:15 72:22 73:5,10,22 75:13 76:12 88:4 94:18 108:10 124:1 129:21 235:1,3 241:2 242:15 246:19 247:1 248:18 252:1 257:6 269:8 282:2,11 286:3 291:12 294:21 303:3 304:4,17 310:1 311:3 311:9 322:11 331:18 331:19,22 332:20 333:7 337:8 351:22 353:22 355:8 374:20
Americans 32:13,17 33:1 284:16
amount 168:17 173:11 196:6 204:12 205:1,5 205:6 237:11 250:9

277:19 368:14
amounted 75:6 amounting 75:1 analysis 4:4,14 49:17 69:14 121:21 129:15 134:7,15 136:10 141:4 142:13,19 144:9 146:14,19 154:20 156:17 157:1 162:16,22 164:22 165:22 166:3,18
168:1,21 171:22
173:9 177:8 181:4,9
181:17 182:1,7
183:18 184:4 185:4
186:1,3,14,21 189:21
196:1,11,13 198:3
199:12 201:5 203:1
205:8 206:20 207:6,8 207:9,22 208:11,16
209:18 211:5,8,9,15
211:18,20,22 $212: 3$
214:2 215:1 217:17
222:2 226:13 230:19
231:4 236:18 272:20
285:9 286:15,16
300:9 315:12 316:21
333:13 337:18
analytical 145:15
analyze 146:18
analyzed 49:21 203:11
analyzing 138:14
146:11 184:3
and/or 49:11 242:3
Anderson 135:8
anecdotal 65:10 99:22
Anecdotally 49:1
annual 22:15,18,21
23:1 46:18 49:16,18 50:4 55:8 58:22 59:22 62:22 63:10 95:2 109:21 110:8 111:5 153:4 272:20 273:15 274:1 300:7 304:8 328:7
annually 23:16 102:2 109:7
anomaly 49:5
anonymity 371:6
answer 76:15 111:21 173:7 179:6 242:17 261:19 286:4 304:18 313:1 337:9 362:4
answered 179:7 323:7
answers 208:12 265:13 360:3
anticipate 94:5 205:13 244:8,10 246:6,10 272:19
anticipated 155:14 238:10 301:12
anticipating 248:10
anticipation 65:1 122:9
antioxidants 39:16
anybody 117:14,17 317:22 318:1
anymore 115:17 229:17 231:6 352:19 358:15
anyway 114:20 344:18 369:15
apart 260:22
apologize 85:6 93:4 110:1 117:5 162:9 258:4
apparent 148:15
appear 27:20
appearances 2:1 5:12
appeared 106:4
appears 305:4 337:19
Appendix 138:21 140:15 225:6
applicable $38: 13$
applied 119:2 187:16 187:19 252:5
applies 22:4 363:14 365:16
apply 44:21 67:16 147:2 181:5 201:17 267:5
applying 154:1
appoint 273:9
appointed 7:13
appreciate 10:4 78:4 223:5 308:21 313:13 324:7 326:12 365:16
appreciates $375: 11$
approach 43:13 183:17 269:5
appropriate 36:8 131:4 200:7 320:20
approval 7:7
approvals 236:12
approximately 42:5,16 47:10 63:10 144:13 206:16 328:1
approximation 235:16
Apt 13:22
arbitrary 108:12 240:3
Ardmore 74:4
area 6:19,19 11:15
38:12,15,15 59:14 71:13 80:2,5 81:14 94:17 150:5 153:3 154:12 171:14 181:7 186:2 187:18 240:11 246:5 280:21 328:14 329:16,17,20 336:12 340:13 352:10,14 366:2 369:1 373:12
area's 293:18
areas 62:9 80:4 119:8 119:12 266:4 296:3
Argentina 126:1 argue 207:2
Arizona 1:6 37:5 60:4 72:5 128:6 233:15,20 234:3,4 255:14
Arkansas 1:6 37:3 43:22 59:18 71:18 128:9
Arnold 3:6 326:15,18 327:1,2,6,9,10 328:4 338:3,21 347:6,9 360:11 372:16 375:12 375:22
arranged 123:8
arrangements 10:11 345:17
arrive 55:10 272:10
article 38:5 142:8 143:1 144:1 302:15
articles 143:20
aside 35:8 260:1
asked 94:22 109:17 179:4 203:15 204:17 253:12 276:9 364:20
asking 10:5 96:7 98:8 108:1 110:4,5,14 111:18 261:20 360:6 363:16,16
asks 215:15
aspects 138:1 235:8 264:4 363:13,22
aspirated 260:14
aspiration 260:7,11
aspirators 246:16 247:19
assessed 90:14 96:1 168:7,18 171:14,19 187:22 188:2
assessing 272:21
assessment 43:7,8 122:21 123:6 144:20 144:22 145:6,11,22 146:2 166:11 170:13 171:2 180:2,12,15 187:16 204:21 237:14 248:5 258:13,17 262:5,9,10,13 273:14 318:11
assessments 7:10 145:13,17 166:15 168:11,18 171:9,11 174:20 179:22 180:8 180:10,19 181:3 187:9 189:1 190:19 205:12 206:21 236:7 237:11 332:3
assign 185:15 216:19 217:8
assigned 185:9,11 218:20
assignment 215:6
assigns 217:22
assist 36:8,15 55:9 69:13
assistance 9:15
assisted 58:2
assisting 350:14,17
Associate 118:18
associated 152:1 154:1 167:16 186:10 190:14 208:17 213:20 221:10 221:20 237:8 245:22 285:21 300:20 334:5
association 3:16 74:11 74:12,13,14 252:20 253:11 265:17 282:10 302:4 304:4 322:1,6 331:5,7,9,16,17 337:2 338:5 358:13 374:7 374:17 375:9
Association's 304:8
associations 68:2 75:4 75:4
assume 94:17 188:3,5 188:22 212:21 214:4 218:18 373:8
assumed 13:15 26:11 118:7 191:14 232:22 279:20 298:19 312:16 326:21
assumes 144:17 150:6 213:19 276:1
assuming 145:16 191:15 210:2,17 211:14 213:12 226:18 311:8
assurance 139:20 149:15
assure 65:19
assured 67:3
Atlanta 2:17
attached 119:13 121:11 233:17 300:2 327:12 331:13
attempt 289:6
attempted 79:1 92:8 288:19
attempting 49:10
attempts 79:2,4 281:17 288:14 315:22
attend $31: 3$
attendance 74:8
attended 74:9 304:7
attending 91:15 281:7
attention 139:1 189:17

212:12 239:1 284:21
302:21 334:11 369:21
attenuated 127:22
attorneys 75:14,15 76:2
attractive 67:2
attribute 136:4 205:8
attributed 190:20 339:17
attributes 135:10,13
audience 25:15 76:7 85:7 92:22 115:19 120:2 121:3 122:14 143:14 158:3,11 231:8 279:2 287:13 295:13 297:14 305:22 311:20 325:10 326:3 338:11 374:4 375:21 376:8
audiences 79:7 119:4
Auditorium 1:12
audits 236:7
Australia 125:22 222:22 222:22 231:9
authenticate $30: 15$ 159:18
authenticated 30:20 authorities 32:19 148:19 155:15 236:9 321:18 324:3 332:1
authority 7:2,4 144:15 148:20 149:21 321:5 321:10 359:13
authorized 27:17
availability $65: 19$
available 9:15 31:10 46:3 123:11 182:5 205:1 214:1,3 222:9 225:13 242:20 284:16
Avenue 2:5,10
average 22:18 23:2,17 42:15 44:13 47:12 48:6,7 49:19 50:4 54:5 59:11 108:5 126:6,18,22 132:6,10 135:22 144:12 145:1 145:4,7,9 147:2,10 148:10,12 150:2,12 150:17,21 151:6,8 154:4,11 155:3,6 180:1,5,6,7,16 181:3 181:13,20 182:2 183:1 193:22 199:21 201:4,17,17,20 207:3 208:5,8 209:4,4 210:6 211:12 216:15,16,19 217:2,8 218:6,14 223:16 224:7 227:12 236:21 237:1 239:6 250:13 274:1 285:3

285:11,13 300:11,13
303:11 320:9 333:14
333:16 334:17 372:13
averaged 42:14
averages 48:7 146:21
206:10 207:4,10,14
207:18 209:1
averaging 153:21
avocados 140:18 202:16
avoid 21:21
avoids 146:20
awakened 69:6
aware 60:9 63:2 79:3
81:3,12 92:11,18 114:13 237:2,10 240:10 255:10 285:15 288:14 294:9,11,12 300:15 307:4 328:5 333:18 336:11 351:10 352:12 363:4
awareness 203:20 257:19 276:15
axis 137:5
B
B 3:14 161:8 199:19,21 223:14 373:17
B's 200:1
B-R-U-C-E 233:7
Bachelor's 28:1
back 90:12 91:1 96:17 102:2,3 113:1,3 116:12,15,19 143:9 163:7 177:17 180:4 191:13,17,20 195:15 197:10 198:13 203:11 221:22 233:19 246:8 253:13 264:20 267:15 272:8 281:13 283:19 291:16 297:7 314:3 316:19 318:6 342:8 352:6 359:22 368:4 370:2 372:4
background 14:5 193:2 265:2 293:17,18 365:13
backyard 47:16 82:16
bad 167:8 259:14 309:22 355:2 372:5
bag 83:20
bags 64:5 82:7
bakeries 62:1
balance 236:3,16 319:2 319:4 335:19 370:17
balanced 43:13
ban 275:11
banker 257:3

Neal R. Gross and Co., Inc.
bar 170:4 220:2 355:5
bare 341:21
barn 261:10
bars 177:18 220:17
barter 32:18
base 219:10 226:3,13
based 8:12 52:3 66:13
91:5 123:14 125:15
141:3 168:20 185:22
193:21 195:11 205:10
219:3 225:5 227:18
228:6 243:20 249:21
251:10 318:17
baseline 171:3 219:19
basic 349:7
basically 134:9 184:8 196:21 197:5 199:17 211:5 212:17 339:13 342:10 344:18 357:13 367:11
basis 18:18 59:22 95:16 183:18 187:17 200:6 209:13 229:4,9 273:15 330:2,9 339:6 339:9 343:18 372:7
bathroom 116:4
BCR 201:9 203:15
204:9
BCRs 204:18
bear 45:11,22 46:2 64:18 145:19 188:3 317:7
bearing 32:14,22 49:15 97:16 125:5 190:5 207:13 273:19
bears 146:1
beauty 186:16
becoming 245:10
beef 140:18
began 65:1 72:21 280:18
beginning 10:16 29:20 123:21 133:7 282:1 372:1
begun 66:8
behalf 2:2,13 6:15 351:4 374:6
behaving 131:19
behavior 124:22 125:7 133:7 184:1 207:21 215:9 218:21
behavioral 119:9
beholding 349:16
believe 28:17 30:6 31:5 32:19 35:13 68:17 84:14 115:21 120:17 153:18 158:12 161:12 162:14 178:19 179:10 179:19 193:4 200:10

201:20 202:8 206:14
212:18 222:4 227:19 230:8,13 234:22
237:4,5 240:8,15
241:18 264:9 285:17
285:18 288:19 300:17
300:18 301:21 303:5
304:10 306:19 317:5
319:2,17 333:22
334:2 336:4,15
351:11 354:12 356:8 375:5
beneficial 267:4 293:2
benefit 55:14 61:2 67:6 67:7,7 74:20 121:16 149:12,16,17 151:4 151:13,16,20 155:22 156:12 164:21 173:8 173:11,18 175:3 191:1 203:1 238:16 238:19 263:13 284:18 301:18,21 302:10,18 309:14 321:5,9,15,20 334:7 358:17 369:18 374:4
benefit/cost 152:14 199:18,20,21,22 200:3,7,18 $201: 6$ 202:1 203:12,13 206:16 209:4,5
benefits 4:9 38:20 39:3 39:19 123:13 136:8 140:2 141:1,14 142:9 144:14 148:8,15 149:18,20 150:9 151:10,10,14,15,18 151:21 152:6,10,13 152:20 154:16,16 189:15 193:20 200:9 202:4,13 203:4,6,19 227:17 230:13,21 237:6,16 263:17 264:8 267:1 285:19 292:17,18 293:9,13 300:19 302:12 319:3 319:5,6,8,11,18 334:2 335:17 363:6,14 364:19
benefitted 137:22 364:9 364:15
benefitting 43:13 171:22
Bessler 134:20
best 47:1 49:18 66:21 82:2 104:2 113:10 181:16 222:9 234:20 283:7 345:22 350:19 350:20,20 better 39:20 55:18

62:12 88:10 105:21 155:22 156:14 214:2 242:2 245:16 265:13 269:11,12 270:8 272:11 273:18 277:22 278:13,14 316:8,10 316:18 321:6 340:10 348:9 358:22 367:6 372:10,13
beyond 90:11 99:9
big 99:10 187:10 205:4 253:11 256:3 261:5 268:4 270:12 343:12 361:1,7 370:12
bigger 320:14
biggest 133:22 281:18 290:17
Bill 146:20 184:5
billion 57:5
bit 14:4 27:4 36:18 80:6 84:12 88:4 94:4,9 120:22 183:19 204:16 218:8,15 256:14 258:5 262:16 263:21 266:16 283:12 296:9 318:8 323:9 340:3 341:6 356:12,15 367:16
black 169:4,11,13 219:5 307:6
blank 337:12
blend 254:3
blew 99:4
blood 358:6
blow 344:11
blown 35:11 260:9
blowout 90:1,3
blueberries 140:18 202:17
board 3:17 4:1 6:17 27:14,16,19,19 31:21 63:22 69:5 70:4,7,9 70:16,19,20 71:2,16 72:3,18,22 73:5,10,16 73:22 74:21,21 75:13 75:17,19 76:1,2,6 84:20 88:5,7 89:11,19 89:19 90:13 91:21 108:11 129:21 235:1 235:1,3,13 $241: 2,3$ 242:16 246:19 247:1 248:18 249:6,19 250:18 251:22 252:2 252:20,21 253:5,16 257:6 269:8 270:19 275:4 276:13 282:2 282:10,11 286:3 291:13,17 294:20,21 295:1,2,3,3,9,11,16

303:3 304:4,17 311:1 322:11 332:20 333:8 337:8 358:2,3,4,10,13 358:16 359:14 364:14 366:1 375:8
board's 141:15 142:16 boards 27:17 73:13 273:7

## bodies 92:3

body 63:21 84:17 94:19 108:19 109:15 309:16 310:14 374:13,14
bono 76:2
bonus 297:8
book 33:3
books 370:7
born 318:18
borne 191:13
bothered 353:5
bottom 51:4 53:2 104:1 104:12 170:5 187:4 195:17 218:12 219:18 220:2 305:4 369:16
bottom-line 183:11 186:3
bottomlands 40:11 44:9
bought 233:20 245:4 318:1 340:14 355:9
bounce 297:6
bound 148:5
bounty 32:13
Boyd 71:21 72:1
bread 41:6
break 77:14 116:9 261:1
breakdown 166:4 167:17 227:13,20 228:3,20
breakdowns 127:4
breakthrough 282:6
Breeding 42:9
Brian 2:3 5:14
brian.hill@usda.gov 2:7
brief 32:3 297:22 302:6
briefly 80:2 84:10 101:6 101:10 255:16 327:14
bring 53:3 103:17 114:9 114:9 204:19 256:6 256:21 281:17 292:14 308:11 357:11 363:8
bringing 79:19 132:2 203:20 259:9 271:19
broad 19:1 40:4 41:6 62:8
broader 96:21
broke 276:20
broken 22:8 176:11

Neal R. Gross and Co., Inc.
broker 322:16 323:12
brokers 63:12
Bromethio 185:18
brother 342:8 345:7 360:12
brought 39:2 79:13 188:1 245:19 253:3 257:7 270:14 275:1
Bruce 3:4 72:4,5 232:7 232:19 233:7,14 283:1
bubble 66:5
budded 19:6
budget 57:19 236:6 267:15
bugs 99:3
build 102:2,3,4,7
building 2:5 94:21 101:18 246:3,4,9
built 335:13
Bulger 71:21
bulk 265:20 347:2
bump 177:9
bunch 114:21 294:4 352:21
burden 319:12
burdens 230:14 237:18 319:5,5,7,18 335:17
burdensome 237:5 285:18 300:18 334:1
burgeoned 63:9
burns 260:10
business $28: 10,11,14$ 47:13 62:20,21 63:1 109:9,10,19 110:3 111:2 113:7,9,15 114:5,10 146:12 196:9 234:16 238:13 238:17,18 240:13 251:3,5 277:1 280:14 294:3 296:11,13 300:1,4,6 301:15 314:5,19 323:10 327:15,16 328:4,5,8 328:11,13 330:6,7,14 330:16 335:14 336:14 336:20 341:13 345:8 346:11 347:3 352:18 355:2 360:10 364:22 366:3,7
businesses 327:18
busy 314:10
buy 238:12 $245: 6$ 278:4 283:8 291:18 297:9 314:7 345:20 357:4 360:13,13 366:18 367:2,3
buy-in 69:3
buyer 82:8,12,17

330:15
buyers 55:9 61:12 62:13 133:3 284:2 375:7
buying 82:10,17 268:6 346:13 350:6 368:2
buys 345:18 349:5 bylaws $236: 6$
C
c 233:7 236:1
C-H-A-V-E-Z 313:17
C-H-I-L 12:17
calculate 201:10
calculated 144:21 148:5 150:12 151:4 154:12
calculating 207:18
calculation 51:10,19 52:19 54:5 109:2,12 216:17
calculations 147:4 179:20 180:3 181:10 206:9
Caldwell 27:21 271:10
California 1:6 4:7 6:22 37:5,7 60:4 128:7 139:9 142:1 143:4
call 13:2,7 93:13,18,20 93:22 212:19 213:4,5 232:3,6 259:7,19 279:12 280:3 298:10 312:5 326:15 344:12 345:8 357:5 369:8
called 13:13 22:1 26:9 32:8 93:14 118:5 139:19 169:6 232:20 279:18 298:17 312:14 326:19
calls 26:1 93:22 241:19 298:13
campaign 54:16 58:4 84:13
campaigns 57:18 58:1 84:11 85:2,10 140:8 317:2
Canada 126:16
cancer 302:14
capability 136:14
capacity 27:18,20 $351: 8$ 373:13
capita 132:8 133:17 175:10,12,14 176:2 176:14
capital 64:19 113:3 167:17 339:11
capture 184:7 190:5
captured 179:21
captures 165:19
capturing 183:7 186:15
cardiovascular 302:14 310:2
care 92:4 270:21 296:12 343:15
career 28:6 281:6 288:9
careful 93:20
carefully 239:2
Caris 3:4 72:4 232:7,15 232:17,19 233:5,7,14 242:20 243:16,17 262:20 264:13,16 272:18 274:21 279:2 279:3,4,7 344:2
Carlo 146:9 147:9,21 170:14 207:9
Carolina 1:7,7 36:22,22 71:20 128:11,12
Carolinas 6:20 37:7
carrier 329:13
carry 272:8,10
carrying 278:1 283:2 293:14
carryover 7:17,19,21
Carya 33:5 123:22
Cascades 118:15
cascading 196:20,20
case 15:4 58:5 124:14 138:17 140:13 141:22 143:3 145:16 149:13 166:7 167:11 168:17 177:5 190:13 200:7 200:15,20 201:18 203:18 204:22 205:2 205:4 207:12 210:2 213:2,9 216:6 217:5,8 218:13,22 228:21 230:16 376:21
cases 130:4 150:9 152:13 207:20 309:17 351:21
cash 75:6
categories 18:2 19:1 22:9,13 40:2,4 42:12 43:11 62:8 167:11 221:11 264:7
categorized 20:6 22:16 109:21
category 19:7 22:1 41:6 90:10,14 108:20 111:17 167:12,13 168:20 219:18 258:13
Catherine 15:11
cattle 28:10,11
cattleman 28:12
caught 372:4
causation 138:5
cause 155:16,20 303:8

359:13
Cause-Specific 3:16 302:5
caused 50:18 56:12 causes 138:6
cautionary 167:13 169:20,21 219:21
cautious 203:5
cell 91:19 259:5
cellophane 64:5
cellphones 5:9
census 47:5 129:9
227:8 273:21,21
cent 148:2 204:21
center 218:6
Central 21:5,10 23:1 37:1 43:21 59:9,11,13 59:16,20 60:12,14 81:18 92:14 93:13 95:2,6 128:7,22 129:9 130:8,14 172:9 183:3 289:19 291:20 292:2
cents 100:8 109:6 135:22 147:16 148:10 148:10,12 150:17,21 151:8 155:3 180:20 180:21,22 181:1 191:19 194:1,7,9,10 199:4 211:8,10,17 215:3,4 224:8,8,8 236:22 237:1 285:12 300:12,13 318:12,13 318:20,21 319:10,10 319:11,13 333:15,16 centuries 307:19 century 131:7 CEO 236:6 certain $41: 9$ 100:1 107:16 153:3,8,9 236:8
certainly 36:13 100:17 186:5 286:10 313:10 330:21 340:12 358:2 361:18 364:1 374:16 certificate 3:10 11:12 11:13
certified 237:9 cetera 80:12 135:5 149:2 239:19 304:1 321:19 335:7
CFAS 267:13
chain 82:19 96:1 97:2
Chair 267:8,9
Chairman 86:14
challenge 132:2 133:19 133:22 284:12
challenges 56:22 69:8 225:15 251:9 254:12 255:2 292:10,11,13

292:15,20 315:20
Chammoun 135:18 championed 68:21 chance 12:16 66:21 315:8,17 324:18
chances 297:8
change 36:9 71:14 97:5
154:20 166:13,16
168:19 170:13,20
174:3,12 182:11,16 182:17 186:15 187:12 189:20 191:6 213:10 218:11 231:1 242:4 258:4 291:8,10 355:5
changed 174:11 213:11
changes 169:14 184:19 213:20 215:18 289:11 332:4
changing 35:19 131:11
channels 18:10
characteristics 41:8 characterize 186:1 197:2 201:2,6
charge 273:10 274:11 329:2
charged 273:11 274:13
charging 349:3 368:6
chart 52:11,20 53:1,2,2 53:3 54:19 106:8,14 166:19,19,21 167:1 169:7,10
charts 112:10 168:13 170:4
Chavez 3:5 312:5,7,9 312:10,13,20 313:2 313:13,16 317:16 319:22 321:22 323:9 324:7,9,18 325:15 326:3,4,5,9,11 362:12 check 58:3 79:5 84:15 84:18,19,21 86:3 87:6 87:8,12,17 88:10,14 89:3 115:22 159:3 231:9 279:6 297:15 342:11
check-off 288:19
chemicals 255:3 306:22,22
chews 354:22
chicken 257:7
Chief 1:18 5:4 233:15
chili 347:12
chilling 342:14
Chilukuri 2:8 10:20
11:1 12:10,15,17 29:8
93:1,5 94:2,20 95:22
96:4 117:4 159:2,12
159:21 160:8,13,17
China 39:20 56:6 63:11

126:6,12 347:22
348:8 357:1 360:22 364:6
China's 361:1
Chinese 39:18
choice 119:10 135:18
choose 113:16
chose 88:5
chosen 42:10
Christian 28:2
Christmas 240:6 297:8 341:4,7
chronicled 32:6
cited 138:18
claiming 271:19
claims 135:4
clarification 12:5 78:18 160:21 176:17 223:13 279:9 337:22
clarify 10:8 63:19 81:7
116:2 169:2 172:2 179:13 188:4 189:3 224:11 274:22 312:3
clarifying 162:3 228:8 305:2 310:22
clarity 123:7
classified 124:6 280:13 300:6
classify 111:7
clause 359:8,19
Clay $1: 14,185: 4$
clean 260:10 308:12 328:21 345:2,9 346:22
cleaner 335:10
cleaning 82:21 90:1 259:9 261:10 307:2,9 308:13 328:13,16,20 330:6 335:14 340:2 343:3,4,5,9 347:14 348:15
clear 64:5 117:6,8 133:16 137:5 174:21 275:18
clearly 10:5,9 178:17 230:15 302:9
clods 344:9
clogs 308:12
close 42:18 81:22 100:6 178:5 227:19 293:6 368:5
clumps 259:16
co-authorized 144:3
coach 28:7
Code 6:10
codified 6:9
cold 246:6 261:12
269:12 283:2 293:5,6
collaboration 15:10
collapse 66:1
Collart 135:18
colleague 15:11
collect 7:2 59:7 82:10 190:18 273:12
collected 55:5 82:14 171:9,9 174:10 195:18 213:4 237:14 249:22
collecting 99:21 168:10 332:3
collection 36:1
college 28:7 118:16
color 33:17,18 167:6 169:5,14 219:17 220:9
color-coded 27:5
colors 27:5 220:15
column 20:12 163:10 199:18,22
columns 20:7
combat 254:16
combine 95:14
combined 22:19 23:3 70:1 95:8
combines 19:4 22:1
come 42:9 60:1 82:2 99:6,11 116:12,18 131:21 137:1 188:20 224:19 248:21 250:3 267:2 292:18 298:9 310:15 344:5 345:12 346:21 358:9,14 360:19 362:1 365:1 366:17 370:20 376:11
comes 96:12 163:12,16 163:16 166:4 257:15 265:20 268:9 269:13 274:2 278:3 366:15
comfort 275:9
coming 38:6 64:15 65:15 66:14 68:11 72:18 113:22 126:20 128:15 132:3 139:11 160:15 173:16 213:7 225:10 227:8 260:6 270:20 275:2 281:13 290:11 292:4 312:9 353:2 355:6
comment 361:5
comments 91:1 102:9 120:11 162:11 248:12
commerce 61:5,21 82:19 329:16
commercial 18:10
43:16 44:6 45:13
47:10,11,15 63:3
81:13 83:16 84:1 90:6 90:15 108:4 124:11

128:2 129:19,22
153:1,16 154:1,7
173:9 239:11,18
240:13 285:8 296:7
303:16 304:1 320:20
334:22 335:7 336:9
336:13 367:15 368:10
369:8
commercially 32:5 36:20 37:8 47:14 62:15 63:5 80:17 164:7,17 167:19 240:15 336:16
commission 1:19 5:6 84:17 86:15 273:9 274:10
commissions 68:6,7 85:9 273:6
commit 284:14
commitment 66:16 75:15 292:3
committed 92:5
committees 236:14
committing 70:16
commodities 18:12 55:21 64:16 202:15 225:11 283:11
commodity $32: 18$ 38:20 56:4 83:18 88:9,15 201:18,21
common 131:14 290:8 293:19 294:1,5,8 308:2 329:13 333:3 351:21 366:3
commonly 107:15 125:4
communicating 97:5
communication 290:4 290:5
communications 117:7 117:10
community 33:6 49:10 252:12
companies 103:13 244:6,18 245:7 256:3 269:20 350:6 366:17 370:16
company 28:10 71:17 71:19 72:5,7,9 233:16 233:19 234:2 242:12 243:22 245:4,12,17 248:2 251:4,17 254:20 280:20 342:8 345:19,21 368:2 371:6
compare 201:9,21
compared 25:10 44:22 46:5 64:15 112:11 134:13 136:2 149:12

Neal R. Gross and Co., Inc.

155:1 173:17 181:19 183:3 191:12 218:3,8 255:21 256:2
compares 23:15
comparing 105:5,17 148:14
comparison 4:1 25:10 51:4,15 53:4 101:15 200:4,6
compete 64:7 302:20 368:12
competing 238:21
competition 56:22 133:20 134:1
competitive 56:21 65:21
compilation 55:12 108:14
compile 195:4
compiled 8:9 123:5
complement 68:20
complete 157:12
284:20 331:17 334:10
compliance 80:20 81:1 90:21 94:15,17,19 236:7 270:18,19,22
complicated 152:19
complied 90:21
component 132:20
compose 74:19
composed 235:13
comprehensive 46:20 53:10 58:1
comprise 125:13 126:13
comprised 6:17
comprises 37:6
computation 193:21 201:3
computations 206:14 211:17
concentrated 128:21
concentration 130:16
concept 167:5
concepts 164:3 235:12
concern 89:9,10 90:9 252:17 303:1 306:18 307:4
concerned 90:20 307:3 307:8 309:22
concerning 11:14
concerns 89:17,20 248:15 249:11 252:13 281:5 306:20 352:12 352:14 362:18
concerted 357:12 conclude 76:9,14 concluded 29:3 36:6 concludes 23:22 192:5

222:11 262:21 376:10
conclusion 9:19 57:11
171:16 242:12 285:22
304:14 336:21
concrete 114:2 314:5
condition 125:1
conditions 17:17 231:2 278:18
conducive 30:12
conduct 7:2 8:3 84:22 168:21 272:19
conducted 85:9
conducting 57:22
conference 74:11,13,14 74:15 86:9
conferences 73:13 80:19
confidence 149:7
156:11 270:4 271:4 295:11
confident 270:17
confidentiality 21:21 22:3
Congress 83:15 166:20 220:11
connected 353:8
connection 106:16 136:4
consciousness 79:13
consensus 88:7 236:13 354:11
consequences 131:15
conservative 145:16
202:3,12 203:3 226:5 263:21
consider 209:2 230:4 243:21 245:9,21 339:21 350:1
considerable 131:20
consideration 45:12 168:3 181:11 190:2 193:20 240:8 245:21 247:12,13,22
considerations 140:4 154:15 189:15
considered 36:5 38:15 47:14 59:4 63:5 83:5 83:9 90:10 108:4 136:11 165:20 234:15 248:9 259:3 328:10 339:4,7,15,19 346:15 348:21 368:20
consign 329:12
consigning 330:1
consistent 18:18 375:2
consistently 49:11 67:1
consisting 8:13 16:13 128:6,7,10
consists 19:7 36:21

70:20
consolidation 244:11
constant 50:11
constituencies 332:7
constitutes 366:22
constraints 78:2 92:2
consult 10:8
consumed 302:9 371:13
consumer 119:10,12 121:13 149:7 238:22 281:18 284:21 302:21 334:11 369:21
consumers 61:7 62:13 67:5,7 69:8 133:11 135:6,9,11,11 156:1 156:13 375:3,8
consumption 3:16 56:13 125:15 132:6,8 132:10,14 133:13,18 134:22 175:7,8, 11,12 175:14,20 176:2,14 272:7,10 302:4,10
contact 9:6
contain 102:5
contained 287:3
container 7:6
CONTENTS 3:1
contest 85:17
context 184:11 289:10 contiguous 44:6
continuance 357:19
continue 7:18 39:14 42:6 131:6
continued 299:21 301:22
continuing 103:7
continuity 358:3
continuous 359:20
continuum 49:22
contract 49:13 329:13 330:21 342:10 367:1
contracts 346:21
contribute 42:12 58:21 59:21 67:14 98:3 375:6
contributed 74:22 75:8 75:18
contributions 75:6,12 76:4
control 245:19 260:10 260:11
convenience 240:6 336:9
conventional 264:6 conventionally 254:17 conventions 73:14 conversation 89:16 90:12,18,19
conversations $36: 3$ 73:20
convert 66:4,5
convey 290:20
convinced 72:22
cooperation 79:10
cooperative 92:16
cooperatives 92:12
coordinate 39:21 43:9
68:10 69:16
coordinated 68:14
coordination 119:1
copies 4:18 9:9 29:2,13
33:19 160:12 167:6
232:8 299:1
copy $3: 15,18,19$ 10:10
10:11 11:5,8 12:6,8,8 105:20 120:6 122:1
169:5 223:14 224:6
225:5 233:17 313:5
315:2,11 331:12 370:4
cordial 79:8
corn 101:22
corner 116:20
correct 10:18 15:6,7,21 16:4,5,18,19 25:7,8
30:4 39:22 81:8,9,21
89:2 91:8 96:20,22
97:1 98:9 106:6,7,15 112:12 157:10,16,19 161:13,20 163:8 164:8,9,12 169:8 170:7 172:4,19 174:5 175:4 184:20,21 185:7 192:11,12 193:3 196:22,22 199:7,8,14,15 206:10 206:11,17,18 209:6,7 209:11,12,16,19 210:13 211:11,22 212:2,5 214:11,12,19 215:5,6 219:6,7,15 221:4 222:8 224:8,10 247:3,16 249:16 262:6 263:14 $271: 7$ 275:7,8,22 288:10,11 288:12,13 305:10 311:3 313:1,2 322:17 325:5 337:20 339:2 349:11 363:9 372:10 correction 305:7 correctly 68:17 110:15 164:6 176:21 262:1
correlation 138:4
correspond 197:13 correspondence 221:5 corresponding 221:10 cost 46:9 64:20 66:3

67:14 144:20 145:19 148:16 149:10,16 150:11,13,17,18,21 150:21 151:13,15,16 151:16,17,20 152:2 154:21 155:3,6,9 164:21 174:9,10,12
174:17 181:5,6,11,13
182:1,12,15 183:8
184:1,9,16,19,21
186:1 187:11 189:21
190:2,5,12,13,17
191:7,9,10,12,22
194:12 200:12,17
215:15,16 230:21
237:1,8 247:11
263:14 285:13 300:14
301:8 303:18 318:11
318:18 333:17 341:21
342:5 364:1
costs 45:3 50:10 64:20 113:3 123:13 129:16
140:2 141:1 145:22
146:2 149:17,18,20
150:10 151:1,2 152:4 152:8,14,20 153:2 154:15,17 181:14 182:5,14,16 183:2 185:7,14 187:6 189:1 189:15 190:2 193:20 200:9 227:16 230:8 237:2,5 238:3,4,5,6 239:13 245:22 263:18 264:8 285:15,18,21 300:15,17,20 301:7 319:3 333:18,21,22 334:4 335:2 363:7,15 364:12
cotton 101:22 140:17 233:22 347:12
council 7:12 31:18
63:14,20 74:21 75:17
76:13 94:18 108:10
125:17 148:19 149:4
156:6,7 235:12,18,21
235:22 236:5 239:2
240:2 241:8 242:4,8 249:8,14 252:7
255:18 267:4,10
272:12,19 276:14,18 281:9 311:3,9 331:2 331:15,18,20 332:1 333:22 334:12 337:4 356:5
Council's 236:6 counsel 2:4,9 5:13,16 5:19,20,22 6:2 13:13 26:9 118:5 232:20 279:18 297:20 298:17

312:14 320:7 326:19
counting 310:16
countries 193:1 361:12
country 73:18 167:18 254:2 353:10
country's 129:3
counts 204:14
couple 88:20 91:14 112:6,10 175:5 192:8 202:4 224:15 250:7 252:16 264:22 265:15 267:3 286:7 324:15 328:9 341:2 369:20 372:20
course 70:14 138:4 156:13 186:16 213:15 219:22 264:4 270:9
court 9:9,22 11:19 299:4 351:21
Court's 31:13
cover 22:19 64:19 66:3 276:22
covered 25:5 38:16 295:3,4
covering 6:6 18:2 21:7 23:3 123:19
covers 19:2,2,9
crack 90:3 260:18,20 329:11
cracked 61:9 90:4
crackers 246:16 247:18
cracking 251:12 261:1
cream 62:2
create 98:10 283:22
created 63:15 146:8 177:9
creating 146:17 257:19
credit 353:22
critical 46:4 217:17 234:19
crop $3: 12,20,20,21,22$ 16:17 17:18 18:3,9,13 18:16,16,21 19:8 20:10 42:13,15,16 43:12 45:16,17 46:18 47:22 48:5 49:1,3,4 49:16 50:2,4,6,12 51:3,3,5,10,12 52:11 52:18 53:8,9,11 54:5 55:8,17,18 57:4 60:19 63:10 64:18 65:17 97:19,21 98:15,17,19 99:2,14,15 101:16,22 101:22 104:1,15,22 105:5,13,17 106:5,17 113:21 137:1,10,17 139:2 156:4,7 177:10 236:10 237:15,21 238:8,11 250:13,17

255:5,7,9 269:11
274:1 277:5,7,8,9,20 278:1,3,6,14 283:3 293:7 301:2,10,13,14 318:22 339:8,13,22 346:17 347:6,7,8,10 347:11 348:8 349:8 367:3 371:2 372:1
crops 32:20 46:6 52:9 54:19 66:4 99:10 101:4,5,9,10 237:12 296:17 323:11
cross 3:1 78:11 162:6 193:15 287:21 290:2 309:1
CROSS-EXAMINATION 243:14 263:6 264:17 272:16 306:13 324:16 338:18 363:1 365:18 369:12
crossing 290:5
Cruces 1:13 7:16 31:8 72:14 281:2 327:11
crucial 146:11
Cruses 280:10 299:10 313:20 340:13
cue 27:4
cumulative 20:9,12
current 118:15 123:9 125:15 268:11 270:4 276:13 331:8 337:1 351:1
currently 36:19 42:5 50:16 62:17 63:3 69:9 234:2,5 257:5,13 267:14 268:1 269:12 299:11 331:5 347:11 374:19
curricula 119:20
curriculum 3:14 4:3 242:22 305:15 338:3
curtain 186:9
curve 53:14
custom 328:12,13 329:22 330:6,6,7 335:13 340:2 347:14 348:14,15 360:9,11 367:20,21 368:1,3 369:6 373:16
customer 63:11 365:13 365:21 366:4,8 373:16
customers 49:11 63:13 270:3 340:5 346:4 349:12 357:3 360:9
customize 73:8 88:8
cut 260:6,22 261:2
cut-down 173:9
cutoff 107:16 111:3
cuts 267:15
CV 28:15 34:5,14
119:13 120:19 121:3
121:11 232:9 299:2
cycle 97:16
cyclical 125:6 127:18 131:8 133:1

| D |
| :--- |
| D-E-N-N-I-S 299:6 |
| D-O-N-A-L-D 13:20 |
| D.C 2:6,11 |
| dad 314:3 |
| dairy 140:17 |
| Dallas 7:18 $31: 576: 13$ | 115:22 249:18

damage 35:7
damaging 91:21
Dan 71:17
data 3:12 7:2 15:16
16:12,17 17:18,20 18:12,15,17 21:2,4,6 21:18,19,21 22:2,6,14 23:4,6,8,12,13 24:12 36:1 46:19,20 47:2
53:7 54:20,20 55:4,7 55:13,17,18,20 65:4
69:13 99:21,22,22
100:7 102:10,12,15
102:17,21 103:20
104:8,9,14,16 105:8
106:4,5 123:11,15
129:9 138:7 141:4,6
146:2,7,22 147:1,1
156:3,4,11,11 162:17
163:5 166:8 170:15
175:9,10,14,22 176:9
195:1,2,9,10 207:20
207:21 208:2,19
213:2,5,12,14,15,21
213:22 214:3,3,10 215:8,9 218:19,20 222:9 227:8 231:1 253:13 266:22 267:2 271:12,21,22 273:3 273:22 282:22 321:6 332:2
data's 274:4
Dave 343:21
David 271:10
Davis 2:15 5:20,20
25:21 26:3,18,20 27:2 27:3 28:16,22 29:6,11 29:17,21 30:5,13,22 33:12,18,21 34:9,12 34:19 37:10,13,22 38:6 39:5,14 40:12,17 41:4,11,13 48:1,11,20 50:21 51:6 52:15

53:16,19 71:1 76:16 76:17 77:3,12,17 78:4 78:8 81:7,11 86:13,21 96:9,15 97:8 100:9,12 100:19 104:6 105:19 112:4 115:16 116:6,7 116:13 232:3,5 233:4 242:19 243:6,10
263:1,3 274:20
279:10 298:10,12,22
304:20,22 305:12
306:5,8,9 311:17
327:1,3,7 332:13
337:11,15,22 338:14
372:19,22 375:14
376:1,19
day 100:8 114:18 310:17
days 28:12 31:10 68:12 72:19 73:15 75:21 275:2
de 43:5 299:8,8 300:5
deal 69:21 280:22 283:6 296:11 307:1 343:4 345:22 349:7 358:19 358:22 369:6
dealing 71:13 256:7 278:17 309:13 358:20 360:8 361:10
deals 294:3 355:2 358:10
dealt 310:11
Dear 374:16
death 66:2
debates 334:13
Deborah 9:21
debris 259:14
decade 56:2 130:20 133:19
December 341:3
December/January 268:2
decide 244:19 323:10 328:22 345:11,13
decided 80:4 108:20 188:9 225:7 253:4
decimals 21:14
decision 8:11,11 220:14 241:18 252:3 252:6
decision-making 117:9 272:21
decisions 100:8 146:12 166:20 238:13 301:15 358:11
decline 133:12,18 137:8 178:3
declined 52:8
declining 20:4,10
decrease 132:14
decreasing 132:13 139:11
deep 374:21
default 164:16
define 18:8 42:10 54:2 215:10 242:2
defined 6:20 47:11 87:8 93:8 108:11 163:20 216:6,11 330:13,16
defines 314:20
defining 215:21
definitely 246:2 252:14 266:12 267:6 281:11 348:11 365:14
definition 19:5 62:20 63:2 109:20,22 110:4 110:11 111:1,8 163:21 280:15 300:5 329:10 348:14 365:20 373:3,10,21 374:1
definitions 110:12 236:8 249:21
Degree 28:1,3
delineation 163:17
deliver 159:16
delivered 76:20 122:1 149:2
deliveries 329:20
demand 4:12 43:10
53:14 57:11 65:2,20
67:13 69:14 123:21
134:4 138:12,18 140:5,9,11 141:8,21
143:2 144:5,7,13 147:3,13 148:17 149:3,7 156:15 161:14 178:21,22 179:2 190:10,14 209:21 210:2,12,16 210:18,22 226:11 254:8,9 255:4 273:16 317:3 364:8
demands 256:16 347:22
demarcation 164:8
democrats 276:2
demographically 70:12
demonstrated 302:8
demonstrating 302:9
Dennis 3:5 279:10 298:13,16 299:5
dense 59:15
densities 183:15
density 182:8 183:4 185:12 216:17 344:21
Department 1:1 2:2,4,9 5:7,15,17 7:7 8:18 9:10,14 10:12 12:18

13:14 17:14 47:6
78:14 116:20 118:19
146:6 158:5 161:2
243:13 287:19 305:19
306:11 325:20 338:16
depend 173:12 353:9
dependent 187:7,13
depending 44:10 59:22 95:13 180:15,17 184:10 196:6 201:21 206:20 213:1 228:3 343:12,13 345:21
depends 47:18 99:2 174:16 323:14
depicted 134:11
derive 216:8
describe 62:5 93:9 133:6 181:16 315:20 340:3
described 40:3 51:18 128:4 130:19 132:16 145:3 149:19 192:20 220:17 223:16 330:5
describes 123:9,13 133:17
describing 71:12 81:16 212:14 366:10
description 44:17 58:8 58:9 88:11 146:15 367:14
Descriptive 62:6
designed 73:2 74:19
desired 67:1
despite 46:8 60:22
detail 46:13 340:4
detailed 5:6 340:9
details 352:5
determine 107:21 140:7
develop 309:18
developed 62:5 67:20 90:2 124:9
development 36:2 42:7 56:1 64:2,11 114:2,7 114:8 119:4 131:6 132:4 257:16,21
deviation 215:20 216:8 216:11
devices 5:10
diagram 38:11
diameter 35:1
diesel 184:15 185:14
diet 133:13
dietary 133:14
differ 58:13 60:10 130:5 138:15 186:3
difference 44:19 46:22 57:15 87:17 115:4,9 134:16 191:7 228:10 268:22 310:18 354:1
differences 46:8 58:6,9 60:10,22 108:8 166:15 181:6 183:16 183:20
different 15:5 44:8 45:1 60:3 81:17 87:13,14 87:20 88:12,16,17 119:11 128:4 129:17 131:12 146:3 166:11 166:11 174:14 177:19 180:8 182:6 183:2 184:4,21 185:5 186:4 186:18 187:22 189:12 198:3 200:2 201:14 202:14,17 204:18 205:6,9 206:19 208:1 208:12 209:1 212:20 215:8 216:1 217:3,8,9 220:13,13,19 225:9 225:10 227:9,15 230:16,17 235:7 245:13 251:3,6,9,9,12 251:15,18,19 258:21 261:3 262:10 263:9 264:4,22 266:4 269:10 271:21 272:2 272:11 276:16,17 277:1 289:12 290:7 290:13,18 $291: 7$ 292:10,11,15 310:16 314:7 322:16 345:15 350:6 351:16 352:5 355:11,13,18 358:14 358:19 360:13 363:10 363:17,22 364:21 367:20
differential 136:11
differentiated 265:7
differentiates 237:11
difficult 113:4 237:22 238:11 301:3,13
difficulty 85:5 110:21
diligently 27:10,11
diminishing 204:1
direct 3:1 14:13 63:12 233:3 286:11 304:21 313:11 332:12
directed 63:18
direction 138:8 258:4
directly 213:7
Directors 4:2 70:19 375:8
direly 64:12
dirt 259:16 308:12 344:9
disadvantaged 187:20 disaster 69:7
disclosing 21:21
disconnect 357:8
discovered 56:4 discrete 119:10 135:18 discuss 56:14 112:10 117:13 211:16 240:19 253:6 283:12
discussed 91:4 173:4 252:21 281:5
discussion 108:14 247:9 253:2,3 256:4 264:20 265:21 275:2 318:10,14
discussions 241:19 247:6 249:8 276:13
disdain 353:5
disease 99:3 302:14 310:2
diseases 41:9
dispensed 310:12 disproportionately 187:20
disruption 66:13
disruptive 56:15
distinct 21:3 110:11
distinguished 27:9
distributed 128:13 218:7 232:8
distribution 146:22 147:8 170:17 182:4 182:11 185:9,11,17 185:20 186:8 208:2 211:5 212:15,18,19 212:21 213:6,7,10,13 213:14,16,18 214:1,5 214:6,8,11,15 215:19 215:21 216:10 217:20 217:22 218:4,9,16,19
distributional 209:17 215:1
distributions 146:10 212:22
distributors 61:22
diverse 28:5 35:16 64:1 70:12,17 80:9 88:9 276:16 295:1,3
diversified 353:19
diversity 357:19
diverting 60:20
divide 241:21 274:1
divided 180:10 200:9
dividing 145:1 151:15 217:1,3
division 14:9 15:11 17:12
divisions 3:18 14:10
Docket 6:11
doctor 300:2 301:20
Doctorate 14:7
document 3:7 15:16,22 16:9,11,14,16 17:18

18:1,3 21:1,14 24:13
24:20 28:18 34:6,16
37:19 39:11 41:1,18
48:17 71:8 76:21 77:9 119:17 121:6 122:6 122:16 157:4,12,17 158:6,14 232:12 243:7 280:5 287:7,15 305:16 306:2 313:8 325:12 338:6
documents 11:20 13:4 15:5,9,14 16:3,11 17:2 29:19 30:1 54:11 120:12 143:5,16 156:21
doing 106:20 183:6 186:16 203:19 208:11 208:13 226:7 248:5 260:7 271:11 320:21 342:6 349:19 350:9 354:2 357:13 359:14 359:15,17 367:16,19 368:18 369:4,5,5,6
dollar 151:15 200:21,22 204:2,14
dollars 76:5 86:4 100:8 203:17 205:6,11 247:21 248:9,9 277:19 343:11
domestic 56:13 61:7,10 61:19 63:18 64:3 66:16,16 69:16 70:2 132:14,19 133:8 141:14 142:16 156:3 192:21 272:7 281:19 283:18 332:17 361:9 364:3
domestically 50:4 55:2 250:22 361:5
Don 13:7,12 101:2 110:16 362:21
Donald 3:2,12 13:19 17:9
donation 269:7
donations 75:8
doom 134:19
double 65:18
doubt 264:10 273:1,1 283:14
doubts 269:16
downwards 372:12
dozen 15:1
dozens 282:11,12
Dr 4:3,17 33:3 46:12,22 60:22,22 61:2 67:8 72:8 86:2 118:10 119:20 121:9 142:1 143:19 154:13 157:3 157:13 159:17 160:22

162:8 192:9 224:14 230:3 236:20 263:11 283:13 285:10 286:14 298:13,16 299:1,3,5,5 300:10 305:3,13 306:16 308:21 311:20 311:22 315:14 317:1 318:10,17 333:12,13 362:11 363:4
dramatic 53:13 56:12 57:13,14 69:17 dramatically 238:3 301:6
draw 101:15 106:16 139:1 212:12 240:4
drawn 139:2
dried 125:16 140:17
dries 342:18
Dripping 1:13
drive 13:22 102:18 118:16 313:19
driven 43:1
driving 137:16 178:8,18 178:19
drop 56:13 177:10 350:4
drought 278:17
dual 371:9
due 35:6 147:15 148:8 154:21 189:22 226:10 duly 13:14 26:10 118:6 232:21 279:19 298:18 312:15 326:20
duplicate 68:18
Durando 27:7
dust 303:7 307:1
Dwight 2:15 5:20
dynamic 197:6
— E

E 196:19
E-X-H-I-B-I-T-S 3:7
Eagle 13:22
earlier 49:14 54:14 88:20 114:15 222:15 244:13 254:16 343:22 364:5 371:19 376:5
early 32:6 124:11 $278: 9$ 288:18 342:9,10
earning 288:20
ease 113:4
easier 29:18 120:22
easily 102:5 246:13
East 21:5,10 36:21 58:15,15,18 59:1
60:11,11 80:10 93:15
95:2,6,18 98:21
129:12 130:11 172:12 251:12 274:8 289:17

Eastern 22:22 59:11 60:12 81:18 128:10 130:14,16 183:2 292:1
easy $41: 7111: 20,21$ 167:2 175:13 340:19 eat 59:7 231:15 318:3 eaten 61:9
economic 4:4,14 23:21 57:10 67:9 109:1,12 112:19 114:4 121:20 123:6,10,20 140:4 142:12,19 156:17 157:1 161:14 170:15 170:17 175:15 177:11 188:14 193:5 195:4 231:4 236:18 285:9 286:14,16 300:9 315:12 316:20 333:12 337:17
economically 153:6,10 173:15
economics 14:7,9,11 15:11 17:11 28:3 54:7 118:17,20 119:9 121:12,14 122:21 203:22 342:4
economist 13:21 17:11 28:5 118:19 257:3
educate 356:14 358:18 educated 100:1
educating 362:1
education 28:1 87:10 122:19
educational 14:5 119:1 119:3
educator 28:4
effect 56:16 128:1 135:6 138:11,15 140:7 190:9 210:21 222:4 226:3 348:17 348:18 349:17
effecting 36:9
effective 38:17 144:19
effectiveness 140:22 141:2 148:17 223:15
effects 231:2
effectuate 36:14
efficient 46:7 101:5,10 101:12,13 102:6
efficiently 329:6 331:21 368:12
effort 39:21 63:16 72:21 75:9 92:6 115:5 147:15 276:7 333:1 357:12
efforts $31: 9$ 67:15 68:11 68:15,19,20 74:18 79:16 134:3 179:10

257:18 277:4,6 304:6 375:1
eggs 140:18 202:16
eight 49:3 127:8 253:16
either 5:10 9:9 61:6
92:11 124:7 153:10
195:13 218:20 230:21
244:18 259:11 323:20
329:16 361:19
El 59:13
elaborate 88:4 215:14
elasticities 225:18
elected 240:1
elections 241:12
electronic 5:10 368:11
element 196:12
elements 76:10 357:16
eligible 239:22
eliminate 67:17 82:21
embarrassed 361:16
embedded 146:14 159:22 160:1 186:20 221:17
emerge 65:22
emphasize 27:11
empirical 208:1 212:15 213:5,6,14,15 214:6,8 214:9,15 218:16
employ 363:9
employees 117:8 336:18
empower 62:11
enable 55:1
encountering 32:8
encourage 242:14 286:2 304:16 337:6
ends 156:16
energy 101:20
engaged 207:6 373:12
England 39:1 302:3 305:5
enhanced 69:2 115:12 139:12
enhancement 4:12 141:21 143:2
enjoy 57:2
ensure 8:4 350:10
ensures 18:16
entails 125:1
enter 29:10 61:20 96:2
entered 8:14 82:3,18
entire $21: 738: 13,15$ 47:18 68:11 125:11 125:18 129:3 137:10 146:22 239:1 255:9 281:6 288:9 318:18 353:20 355:20 372:13
entirely 131:8 193:21 entities 63:1 258:18
entitled 121:20 141:20 143:1
entity 62:21 63:6
entrance 61:4
entry 113:4 247:17
environment 57:3 375:7
envisioned 68:15
equal 62:21 155:21 250:1 252:17
equating 210:11
equation 364:6
equipment 238:6 240:17 246:13,17 247:20 248:8 251:18 301:8 335:12 336:17 341:18,20 342:1,4 343:13,19 346:18,19 368:11,15
equivalent 76:3
ERS 195:6,10
ES1 148:14 180:10
ES2 180:7
ES3 145:21 148:14 149:19 155:1 179:18
ES4 147:18 148:15 149:19 154:21
ES5 149:22,22 226:16 228:19
ES8 154:22
especially $131: 10$ 136:18 205:4 207:12 235:11 236:10 241:3 266:22
ESQ 2:3,8,14,15,15
essential 60:18 66:17
essentially 80:14 166:3 170:14 175:18 182:10 183:6 185:13 186:7 188:14 201:11,16 207:19 216:12 217:9 225:12 227:10 323:16 331:3 344:5 350:14 350:17
establish 101:16,18 112:20,21 149:4 288:15 303:3 311:1 311:10
established 234:13
establishes 164:7
establishing 122:22 247:11
establishment 320:5
estate 66:6
estimate 14:21 47:10 47:15 155:3,6 183:15 199:7 202:3 207:14 225:14 267:16,19 268:2,2,3,5,9,17

269:11 277:5
estimated 46:18 61:14 62:15 125:13 149:20 151:5,15 197:8 200:8 208:3
estimates 55:5,6,17 61:1 65:9 141:2 202:11 268:19,21 269:4 283:3
estimating 152:18 182:15 197:7 211:6
et 80:11 135:5 149:2,14 239:18 304:1 321:19 335:7
Europe 256:12 357:1
European 256:13
evaluated 127:6
evaluation 144:2,14
event 216:14 249:14
events 138:5 177:11
eventual 63:20 94:18 108:10
eventually 83:1
everybody 80:22 96:21 166:2,8 167:18 168:9 291:3 295:11 316:9 352:1 355:21 364:8 364:14 366:7
everybody's 346:3
everything's 376:12,15
evidence 8:5 13:6
16:21 17:16 24:3,15 24:22 34:8,18 37:21 39:13 41:3,20 48:19 54:13 65:10 69:3
71:10 77:11 103:22 121:8 122:15,18 143:18 154:18 158:8 158:16 243:9 287:8 287:17 306:4 325:14 325:17 376:8
evidenced 119:13 362:8
evident 189:18
evidentiary 120:12
evolve 348:12
ex 117:6,10
ex-post-implementat... 141:6
exactly 100:3 125:12 242:11 $291: 2,4$ 340:4 364:15 366:7
EXAMINATION 14:13 78:11 162:6 192:13 193:15 230:1 233:3 274:19 286:11 287:21 295:21 304:21 309:1 313:11 332:12 372:21
examined 13:15 26:11

118:7 232:22 279:20
298:19 312:16 326:21
example 65:3 68:1 106:9 110:6 135:5 136:14 150:14 153:14 181:22 184:20 197:12 199:6,6 200:16 208:9 215:13 219:19 228:20 246:4 257:3,4 275:17 278:2 293:1
examples 89:8,12 140:16 276:11
exceed 155:21 263:18 264:8
exceeded 50:6
exceeds 210:16
Excel 146:15
excellent 201:7 207:11
excerpted 23:13
excites 274:14
exciting 292:7
excluded 168:6
excludes 348:14
exclusively 126:21
excuse 24:2 38:3 104:3 209:20 212:10 281:20
excused 25:16 115:21
231:9 279:5 297:15
311:21 326:4 375:22
executive 28:9 72:1 123:17 156:22 159:14 165:8 253:5 286:18 315:12 316:20
exempted 133:10
exercise 291:14
exhaustive 42:4
exhibit 3:7 9:12 11:5,7 11:10,12 12:6 16:21 16:22 24:5,10,11,14 24:18,21 28:17,19,20 33:11 34:1,4,4,7,14 34:17 37:9,10,13,18 37:20 38:4 39:4,5,10 39:12 40:11,17,22 41:2,13,19 47:21 48:1 48:1,3,4,12,16,18,22 50:20,21 51:1,2,11,12 51:14,22 52:14,15 53:16 70:22 71:1,7,9 76:19,22 77:8,10 103:16,17 104:4,6,10 105:14,16,20 106:8 106:10,11,12,22 107:1,2,6 119:14,16 119:18,19 121:5,7 122:3,5,7,14,17 123:4 124:21 141:10,13 143:14 157:2,3,5,14 157:18,21 158:3,4,7

158:15,21 159:12
160:2,4,16 161:6,7,17 166:5 167:2 169:6 172:6 173:3,3 176:5 176:18,20 179:19,19 189:8 192:10 194:19 194:20 195:16 196:18 199:10 206:8 209:9 212:10 220:21 224:3 224:16,22 225:6,21 232:9,13 234:19 236:19 242:21 243:5 243:8 258:7,10 280:2 280:6 286:16 287:1 287:13,16 302:16 305:13,17,22 306:3 313:7,9 315:5,15 316:19 318:9 319:4 320:4 321:6 324:11 325:11,13 337:12,19 338:1,7,11 339:15 356:4 373:3 374:5
exhibits 8:14 10:15 11:2,4,17,21 12:3,22 13:5 17:3 24:2 29:9 29:19 30:2,6,10 47:20 54:12 105:15 143:6 143:17 230:4 376:11 376:17
exist 352:13
existing 68:13 244:21 299:14
exists 35:17 129:13 183:7
exit 131:13
expand 306:19
expect 267:4 318:20
expected 147:10,16
191:10 192:1,2 204:4
expenditure 200:22
expenditures 179:11 225:17
expenses 66:3 75:1,9 75:11 190:3
expensive 133:21 328:15 335:12 343:18 368:9
experience 122:20 204:8 257:14 258:6 291:13,18 295:10,16 296:22 351:8
experienced 108:15 137:8
experiment 135:19
experimental 42:7
119:9 154:4
expert 63:8,9 122:21 254:18
expertise 119:3,8 256:7
explain 46:12 47:21
50:17,22 51:7 52:15
78:21 85:12 101:6,11
102:11 191:4 207:7
222:2,19 258:14
362:15
explained 217:21 352:4 354:18
explaining 179:20 352:4
explanation 132:20 184:6 204:17
exploited 137:14
explore 212:16 217:13
explored 199:1
explorers 32:7
exponential 3:21 52:22
export 63:11,17 114:7
115:3 132:17 256:12
267:13 329:12 332:14 332:15,16
exported 163:6 250:12 251:5 272:5 361:5
exporter 127:2
exporters 61:13
exporting 126:6 330:1 364:7
exports 126:5,14 163:3 163:4 195:1 272:9
expressed 89:17,20 90:9
extending 86:1
extension 118:19 119:1 204:16
extensive 89:7
extensively 124:2
extent 87:2 100:1
extra 160:11 191:9,9,12 192:2 200:19,20,21 200:22 204:2 217:16 296:20 341:6
extraordinary 31:9
extreme 212:22
extremely 237:22 301:3 332:22 368:9 371:14
eyes 368:11
F

F 189:14
faces 56:22
facilitate 49:13 55:12
facilities 367:18
facility 234:14 245:6
facing 69:9
fact 30:15 32:19 53:7
57:8 65:12 69:6 91:12 98:3 168:3 188:1 194:2 195:6 197:6 203:10 206:18 212:14

219:14 220:10 288:17 362:5 374:2
factor 60:15 278:19
factors 60:13 69:22
97:14 98:2,10 115:11
138:9 168:14,16 174:7 178:8 230:5 245:8,18 290:17
factory $101: 17,17,21$ 102:2,3,4,7
failed 79:16
Failure 153:8
fair 135:5 174:22 187:18 230:9 240:9 250:2 301:14 335:19 336:5 355:20 356:16 356:16
fairer 247:12
fairly 67:17 175:5 187:19 189:4 244:3 244:15 254:21 255:8
faith 55:6 270:11,16
fall 32:12 99:1 111:16 260:8 308:6
fallen 50:14
falling 178:5 223:3,8
falls 367:8
falsely 370:22
familiar 32:9 263:11
family 280:10 291:8 301:19 313:22 318:1 327:19 328:4
family's 293:18
far 28:12 107:19 309:8 371:8,9
farm 1:13 3:22 51:7,9 51:13,18 52:6,9,10,18 52:20 54:2,4,18 57:9 58:8,9 104:17,21 105:8,16 106:4,17 129:16 130:5 146:18 146:20 149:18,21 150:10 151:22 152:2 152:4,8,21 153:5,8,11 153:12 154:6 164:5 165:20 166:8,20 167:3,10 168:2 169:1 170:12,21 183:12 184:5,11 186:14 206:20 209:2 211:16 211:19 212:1,3 219:2 221:14,17,17 233:20 234:1,4 238:1 239:19 259:10 280:10,19 285:16,20 299:9,18 299:21 300:17,20 301:4,16 302:17 303:6 304:2 306:21 314:5,9,12 321:5,7,9

321:15,20 327:20
328:8 335:8
farm/crop 152:22
farmer 26:17 27:16
67:11 154:8 173:14 220:10 239:17 299:20 303:22 316:7 320:14 320:20 335:6 346:17 347:5 358:21
farmer's 27:5
farmers 45:13 46:11
47:17 65:1 66:2 103:11 114:10 146:3 154:2,4,5,5,6 168:15 173:10 174:2 254:19 280:21 281:1,4,5 320:16 322:16 328:14 328:18 351:16 352:20
farming 54:7 111:8 115:9 296:18 335:12
farms 27:21 33:8 44:6 46:6 58:13 59:2 72:1 72:11,13,15 129:22 130:7,9,11,12 131:11 150:4,14 164:11,17 164:19 165:18 166:1 167:21 168:5,9,11 170:18 171:17,22 172:9,11,14 173:5 175:1 183:22 187:7 187:11 230:18 234:3 234:11 284:17
fashion 147:19 167:7
fast 294:19
faster 132:18
father 299:21 327:20
fault 361:19
favor 42:20 68:14 69:4 275:22 375:10
favorable 52:12 57:2 170:1 220:1 375:7
favored 32:10
fax 2:7,12,18
FDA 175:10 248:5
feasibility 146:11
feasible 43:12
federal 1:19 3:8 4:5,15 5:5 6:12,13 11:6 12:7 12:9 27:12 31:15 36:7 36:12 39:22 43:9 54:22 55:11 58:2 63:15 64:10 66:20 68:16,18 69:2 72:19 73:1,8 79:3 88:1,5,16 89:1 115:12 121:21 122:22 123:7,14 136:8 137:19,21 138:2,17 139:18 140:3 142:13 144:14

144:18 145:14,14 147:10,15,17 148:1,9 148:19 149:20 150:9 150:11 154:17 155:16 156:18 157:2 168:7 192:20 222:7 234:18 235:8,10 236:16 237:3,6,17 242:6,13 282:17 285:16,19 286:1,17,21 287:2,3 300:16,19 304:6,10 304:15 315:3,4,13,22 316:5,5,21 320:2,6 321:11,16 322:10 324:3 329:9 331:12 333:4,8,19 334:3 337:5 370:1 374:18 375:5
fee 261:4 328:18 329:3 335:9
fee-for-service 330:2,8
feed 82:8 83:20
feedback 91:5 291:21
feel 66:17 117:15,17
248:1 269:17 270:2,2 270:3 284:6 307:17 323:4 344:19 351:21 352:9 354:16 355:15 356:9 358:22 362:2
feeling 278:12
fees 330:12 349:4
feet $35: 1$
Feldman 146:16
felt 80:16 91:21 109:8 241:4 245:12 250:4 250:20 251:8 352:10
female 70:15
fertilization 45:6
fertilized 100:17
fertilizer 100:14 238:5 239:18 280:20 281:1 294:3 296:11 297:9 301:8 304:1 335:7
fertilizing 153:15 173:16
fewer 113:10,10 293:20
field 73:15 255:2 271:20 283:4 293:8 308:11
fields 66:4 259:10
fifth 283:20 289:5
fight 353:12
figure 123:3 126:2
127:19 128:5 130:19 131:2,20 132:10,16 133:17 134:5 136:20 136:22 139:1,4,14 159:4 163:1 164:20 169:5 170:12,22

176:10,18,19 177:15
177:17 178:21 179:18 194:20,21 195:7 219:2,11 277:7 371:18 372:2
figures 132:22 133:6 162:20 166:6
figuring 365:2
file 10:12
filled 260:4 344:21
final 20:7 23:8,19 109:17 170:20 186:21 210:21 267:16 268:3 268:5 277:2
finally 142:22 241:17 284:4 290:11,14 321:15
financed 7:9
financial 75:3
financially 153:20
find 44:5 59:14 77:15 135:13 141:8 159:20 175:18 274:5 282:4 284:2
finding 273:12 317:1
findings 363:21
fine 162:2 258:3 311:12 311:13
finish 205:17 $286: 8$
finished 222:14 229:11
finishes 206:6 223:4
first 5:8 13:2,14 26:1,10 33:6 83:12 103:22 105:2 108:3 112:19 112:22 118:6 124:9 124:13 137:20 144:20 156:22 159:10 193:17 194:19 198:4 202:5 212:8,11 216:7 219:2 223:1 232:21 240:10 240:22 250:8 253:19 259:15 265:14 268:9 270:9 279:19 280:7 282:20 288:7 291:19 298:18 312:15 313:14 317:8 326:20 327:18 332:19 338:21 354:7 356:8 362:12 373:4
first-hand $368: 8$
fit 88:9 196:10 201:5 213:13
fits 213:15
five 9:8 64:17 134:17 208:4 211:13 234:9 244:15 256:11 267:7 274:12 294:6 314:4 341:2 342:2 359:9 360:1
five-year 25:9 359:7
fix 282:5
fixed 66:3 188:15,21 215:18 216:4
flat 49:22 54:18 112:13 112:15,18 113:18 132:11 175:20 178:14 186:9
flavor 170:18
flexibility 227:22 242:7
flight 281:11,14
floats 196:5
flood 60:19
Florence 71:20
Florida 1:6 6:20 37:1 118:18 128:11 184:17
flow 67:9
fluctuated 56:11
fluctuation 47:22 48:5
Fluctuations 3:20
FMO 96:19 153:1 155:19 156:5 168:13 190:20 208:3 317:12 335:18 373:3
focus 63:16 257:17 332:6
focused 85:10 235:11 331:2 332:14
folks 335:11 336:6
follow 120:22 253:14 253:19 263:2 274:18 276:8 295:20 310:4 360:5 373:5
follow-up 96:10 97:12 100:10 101:3 112:4 115:15,16 192:7 193:17 205:16 210:10 217:11 222:15 229:20 229:21 372:18 375:18
followed 20:7 32:13 125:3
following 70:20 147:5 208:4 211:13 367:13 369:18
follows 13:16 26:12 118:8 233:1 279:21 298:20 312:17 326:22
food 32:16 35:16 38:19 55:21 61:22 115:10 135:12,15 141:21 143:2 246:15 248:1 256:1,3,5,13,18,20 281:8 282:6 284:15 349:22
Food-Safety 4:13
Foods 257:8,9
football 28:7
footnote 212:11,12,14 217:12
footnotes 199:17
footsteps 299:22
forbid 277:8
forces 35:20 79:12,12
foregoing 116:14
foreign 56:14 195:3,8
Foreman 71:17
forever 325:22
forgot 281:21
form 282:1
formal 156:16
formation 332:20,21
formed 70:4
Fort 59:14
forth 190:19
forum 252:22 253:4
forward 77:22 78:7 232:6 236:15 240:7 244:18
forwarded 374:8
found 33:6 40:10 43:21 44:9 45:7,8 59:17,19 64:7 103:6 135:18 138:20 204:3,9 340:22
foundational 10:15
founded 280:19,19
four 10:14 11:4,17 12:2 12:21 47:13 108:6 153:6,20 208:4 216:9 239:7 268:18,21 270:9 285:3 303:12 320:10 327:16 332:18 334:17
fourth 98:18 283:16
fractured 68:8
framework 123:20
146:17,19 161:14 217:21
France 281:8
frankly 265:13
free 67:15,18 80:15 94:4,8,13,14 117:15 117:17 332:5
freeze 342:15,17
French 32:7
fresh 163:17,20 358:6
freshness 149:1
Friday 23:8
friends 369:5
Frisco 332:19
front 59:6 74:17 82:16 99:7 105:20 317:9 354:4 357:3 364:17 374:9
frozen 246:5,8
fruit 17:12 125:17 133:10 135:10 176:11
fruits 23:14 133:13,18 133:20 134:22 135:7
frustrate 68:19
FSMA 247:22 249:4
fuel 215:15,16
fueled 132:17
fulfilling 28:13
full 31:6 36:15 147:7
153:1 166:5 182:4
183:4 185:8 197:22
233:5 234:9 242:13
296:14,22 299:22
302:12 309:5 327:15
344:21 348:8
full-time 92:2
fully 89:10 90:2 242:12
285:22 304:14 337:4
function 8:3 182:8
185:12 216:18 340:10
functioning 76:12
functions 135:14 328:17
fund 75:8 248:21
fundamental 65:21
funded 138:16
funding 67:16,19 331:3
funds $64: 10$ 85:1,15
86:1 332:11 333:21
fungicide 60:12,16
fungus 254:15
further 24:19 25:13 36:14 80:6 92:20 97:9 193:9 199:2 229:15 237:5 240:14 274:16 278:21 285:18 294:14 294:17 300:18 301:11 308:19 310:21 311:17 334:2 336:14 365:7 372:16 375:16
Furthermore 133:22 135:8 166:14
future 30:14 35:22 69:18 146:11 149:5 237:22 238:19 242:1 244:9 248:4,11 284:18 301:3 302:18 334:7 369:18

| G |
| :--- |
| G 1:14,18 |
| gain 354:10 |
| gallon 215:17 |
| game 317:6 |
| gap 132:21 |
| gas 28:9 |
| gasoline 215:17 |
| gather 273:18 274:11 |
| 328:19 |
| gathered 156:5 253:13 |
| $274: 4$ |

gathering 55:12 $278: 14$ 332:2
general 2:4,9 5:16 40:2 58:8,9 133:21 138:12 176:11 254:10 354:11
generality 352:16
generally 54:6 60:11 186:22 187:1 199:5 350:5 354:15
generate 167:10 202:12 204:4 208:19 227:16
generated 131:9 151:14 203:11
generating 167:4
generation 234:20 299:19
generational 103:8
generations 328:3
generic 57:19 85:3,11 85:18 140:4,7,10 141:9 147:3 148:16 199:13 317:1
gentleman 89:15
gentlemen 257:5
geographic 58:6 67:22
geography 36:19 46:8
George 35:4,10
Georgia 1:6 2:17 7:20 20:14 31:6,20 37:1 38:1,8 58:5 65:3,7 68:6 72:10,15 74:14 84:8,11,15,16,16,18 85:9,14 86:12,14 87:3 88:17 90:19 99:14 102:10,14 128:11,16 154:14 184:17 234:4 259:2,5 265:19 290:1 291:21 292:1 293:11
get-go 362:17
getting 86:4 111:22 191:5 269:10 272:4 274:7,8 291:21 296:20 319:11 335:21 343:10 353:13
give 9:9,15 26:3 29:2 31:14 32:1 36:17 51:11 66:21 89:8,12 101:20 113:15 122:20 183:9 189:12 217:10 233:10 255:18 257:21 272:1 313:5 323:20 327:4 357:4 369:20 370:4
given 9:12 50:16 77:3 78:1 133:1,16 201:2 234:21 238:11 281:2 289:10 290:12 293:17 301:13 304:12 352:3 361:6
gives 180:11 220:19 245:13 271:4 323:12
giving 93:11 275:9 277:3 365:12 glad 76:15 120:16 242:17 286:4 304:18 337:9 360:16
gloom 134:19
go 10:16 29:6 30:6,20 37:22 41:4 47:20 58:10 59:12 78:6 82:6 82:8,12,20 83:1 90:12 91:3 92:6 96:17 102:17 114:4,20 162:5 175:14 180:4 203:8 205:19 211:15 213:18 219:2,20 223:1 231:9 233:13 233:19 238:2 257:22 259:18 264:14,20 268:19 270:7 277:18 281:9 301:5 310:20 312:1 313:5 326:6 327:7 342:3,10,14,22 345:13,14 346:20 357:5 374:11
goal 62:10 292:11,12
goals 291:4,6
goes 80:13 82:19 93:12 181:21 197:10 206:21 249:15 257:18 259:11 264:3 277:13 348:10 371:9 375:9
going 18:18 27:3 33:16 38:4 47:1,20 51:13 55:17 67:8 73:4 76:7 86:22 90:9 95:20 96:7 101:21 103:17 106:22 109:3,6 113:9,22 115:1 120:10 123:19 140:1 161:2 168:2 170:10 173:20 177:17 178:4 191:19 198:3 198:12 205:12 212:6 217:10 219:10 222:19 222:21 223:3,3 231:13 240:7 244:20 246:6,8,12 248:10 253:5 256:19 261:13 268:12,14 269:9 271:13 273:3,11 275:1 277:6,22 278:2 278:2,5,9 280:2,3 291:19,22 294:2 297:6 314:8 316:13 316:17,18 322:19 324:1 340:19 342:3 345:12 350:7 354:3 354:10 359:4,10,11

359:13 361:22 362:15 363:16,17 365:4 366:18 367:21 368:22 371:3,5 372:9,10,11 373:9
Gonzales 297:16 326:7
Gonzalez 9:21 13:1
25:17 116:1 231:10 279:6 312:2 376:11 376:14,18
good 5:3 26:20 47:2,3
55:6,20 56:5 57:18
65:19 67:9 78:13,15
86:1 101:1 102:17
114:3 115:1 118:13
167:7,8 193:12,14
198:4 204:17,19
222:5 243:16,17
244:15 253:2 256:5
256:21 257:21 259:1
259:14 260:12,21
261:16,21,21 263:12
263:15 264:2 265:12
267:19 270:15 271:12
271:15,22 272:6
273:5 276:6,11
278:19 283:8 288:1,2
291:10 296:13 309:21
312:7,8 317:17 319:1
320:12,13 324:6
327:1,2 339:19
341:10 345:16 346:14
348:5 351:22 352:3
355:16 356:9,11
357:21 358:6 359:18
365:12 371:21
gosh 114:22
governing 94:18
government 352:18 370:20
Governors 11:16
grade 7:5 149:1 238:19 284:19 302:18 334:8 344:3,22 347:17 349:16 350:1 366:19 366:21 369:18
graded 350:11
grades 166:12
grading 347:16,20
graduated 280:17
Graduation 62:7
grafted 19:6 40:8 41:22
42:11 124:9,15,19,20
grafting 124:9
grand 35:3
grandfather 299:20
grandson 27:4
grapes 140:21
graph 51:3 134:11

137:3 139:1 173:11 174:9 177:12 178:11 219:6,9 220:9
graphs 51:21 187:3 219:12,18 220:10
grass-roots 333:1
grassroots 257:15
gratified 75:16
Grauke 131:3
great 35:14 257:7
266:21 291:18 293:12 293:12 295:16 314:14 315:2 316:19 322:13
364:17 370:19 376:19
greater 36:2 154:22 189:22 278:7 319:6,7 319:12 348:16
greatly 49:17 237:7 238:16 285:20 300:20 301:18 334:4 363:7 375:10
green 27:8 72:4,6 167:7 169:10,12 170:2,3,6 219:5 233:16,18 234:2
grew 28:10
grinning 114:18
gripe 360:19
grocery 82:7 83:20 197:12
gross 109:7 280:15 300:7 314:21 328:7 330:18
ground 65:15 99:8 103:1 328:20 342:11 343:1
grounds 35:5
group 6:17 26:1 121:17 123:12 129:22 136:9 136:13 154:13 158:22 245:3 248:7 288:18 329:4 353:20
grouped 128:4
groups 74:3 80:19 91:16,16 235:6 276:17 329:4
grove 45:5,7
groves 40:9 58:18 59:17 60:8 114:1
grow 42:6 43:16 80:13 80:17 153:12 234:11 255:1 299:18 314:15 339:22 340:21
grower 22:14,15,18,21 23:2,17 25:10 26:17 44:15,17,19 46:2,15 47:9 67:12 72:6,10,12 72:14,16 73:13 75:4 83:16 84:1 89:16 90:8

91:15 93:22 107:22
108:5,10,11,18 109:13,14,20,22 110:7,10 111:17 145:12 146:1,1 153:11,19,21 154:2 154:20 171:10 180:1 189:20 190:12 192:10 193:22 196:20 197:9 197:10,14,18,19 198:6,6 234:15 235:5 236:11 237:16 239:10 239:11,12 244:2,19 244:19 252:1 253:20 258:6 261:11 262:2 263:9 264:4 269:6 275:20 277:19 280:14 282:8 285:7,8 288:12 288:13 290:3 291:22 293:20 300:1,6 303:15,16,17 314:20 314:20,22 315:21 328:10 330:3,21 332:7 333:19 334:3,6 334:21,22 335:1,15 336:22 339:4,7,15,17 339:22 346:8,16
347:22 349:13 350:8 350:18 351:9,22 353:22 355:9 360:9 363:9,11 364:9 367:2 369:17 373:4,11,22 374:2,20
grower's 258:14
grower/handler 196:21 236:14
growers 4:10 6:18 7:12 43:14,15,20 44:2,8 46:14 47:10,16 50:11 50:14 55:9 59:3 61:14 65:11 67:2,6 68:2 70:8,13,13,14,15 73:14 74:3,11,13,14 74:17 79:9 83:6,9 93:14,15 94:1 107:13 107:20 108:15 113:22 114:17,22 127:21 140:12 141:1,14 142:10 145:18,19 148:16 149:9,12 153:1 156:1,13 157:9 159:9,17 167:19 181:10 188:8 191:2,6 191:16,17,21 194:8 198:9,10 230:9 234:21 235:4,7,14,16 235:19 239:5 244:4 247:7 249:2 250:9,10 250:14,19 254:7

255:11 260:3 268:9 270:2 275:5,11,21 276:21 281:9 282:1,4 282:9,12,14,16,20 284:2,7,10 285:1 289:17,17,18,19,22 289:22 290:1,2,7,12 293:11 295:4,8 296:2 296:7 303:10 304:4,7 320:5 322:1 328:6 329:5,21,21 330:9 331:2,5,6,9,15,16,17 333:2 334:15 335:16 335:20 337:1,3,4 338:5 346:5,6,10 347:1,1,2 348:6 351:12,12 354:9,20 357:10 358:12,18,20 359:3 360:14,14 362:7,11,14 364:2 372:3 374:7,17 375:7 375:9,13
growing 51:14 110:9 132:18 154:3 178:13 179:1 237:4,7 254:21 284:7 292:12 335:21 352:13 361:4
grown 1:5 36:19 57:4 129:14 139:8 255:13 342:9
grows 227:22
growth 45:1,19 49:1 124:10 131:2 137:1 137:14 177:16 178:9
guarantee 359:10
guess 12:12 29:15 30:17 34:19 81:22 82:2 100:1 170:10 193:11 277:2 339:18 376:10
guesses 283:6
guests 27:9
guideline 241:6 guidelines 109:11 133:15 234:17 328:6
Guthridge 1:14,18 5:3,4 5:18 6:4 10:22 12:1 12:20 13:9,17 14:2 17:5 24:4,9,17 25:3 25:14,20 26:5,13,18 28:20 29:17 30:8,19 33:15,19,22 34:3,13 37:11,15,17 39:7,9 40:19,21 41:16 48:13 48:15 51:1,20 52:2,5 53:18,22 54:6,9 71:3 71:6 76:16 77:4,7,15 77:19 78:1,6,10 87:5 88:1,20 89:3,5 92:21

93:3 94:13 95:17 96:6 96:14 97:10,20 98:7 99:16 104:3,8,11,18 104:22 105:3,12 106:10,19 107:10 110:14,18,22 111:9 111:12 112:8 115:15 115:17 116:10,17 117:19 118:9 119:19 120:1,19 121:2 122:8 122:11,13 141:17 142:7,12,18,21 143:8 143:13 157:21 158:2 158:10,18 160:18 161:1,16,19 166:21 169:2,9,15,18,21 170:3,8 172:1,6,16,20 192:7 193:10 205:16 205:20 206:2 222:13 222:18 223:6 224:3 228:17 229:11,13,17 229:21 231:6,14 232:3,14 233:2 243:1 243:4,12 263:1,5 274:17 279:1,5,8,12 286:6,10 287:9,12,19 295:19 297:13,22 298:2,9,21 304:20 305:18,21 306:7,11 311:15,19 312:1,6,8 312:11,18 313:10 319:21 324:11,13 325:9,16,20 326:2,6 326:13,16 332:8 337:14 338:8,10,16 347:4,8 360:5 362:19 365:8 369:11 372:17 375:18,20 376:4,15 376:20
guy 27:6 346:14 354:22 355:1
guy's 367:2
guys 60:20 76:8 92:3 252:16 253:11 260:10 293:4 317:7 353:15 371:22

| H |
| :---: |
| H-I-N-M-A-N 13:20 |
| 17:10 |
| half 109:4 130:9 172:8 |
| $204: 21247: 21$ 251:5 |
| $260: 21$ |
| halves 62:7 260:17,19 |
| hand 13:10 26:6 117:3 |
| $118: 2130: 3131: 14$ |
| 164:18,19 178:17 |
| $342: 6$ 368:16 |

Neal R. Gross and Co., Inc.
(202) 234-4433
handed 158:22 299:1
handle 61:18 90:9
239:21 250:11,16
251:16,17 329:9,10
329:19 332:5 336:2
343:14 348:14 349:4
350:16 368:22 370:9 371:21
handled 90:22 272:3,4 353:11 370:8
handler 67:13 90:22
92:12 96:20 97:5,6
154:15,18 155:2,3,6
155:10 156:6 171:10
171:12 187:17 188:2
189:15,19 190:9,11
190:12,16 191:10
193:19 194:1,3,4,10
194:13 195:19 196:3
196:5,7 197:18,19,20
198:8,10,13,17
236:12 238:21 244:2 262:4 349:3,3,17
handler's 258:16
handlers 6:18 7:10,13 49:9 55:9 61:12,15,16 67:3,6 132:22 133:2 145:13 154:16,22 156:1,13 157:9 159:9 159:17 189:22 191:1 191:7,15,20 192:1 195:20 198:7 230:11 234:21 237:12 244:5 244:5 249:2 271:20 282:4 318:11 329:21 330:4 333:3 356:6 371:12
handles 240:11 336:12 handling 10:19 49:9 148:21 149:5,11 155:15 191:9 192:2 236:9 261:4,14 284:20 302:20 303:3 308:6 311:1 321:18 329:22 330:7,13 334:9 342:20 348:15 350:15
handout 30:10 233:17
happen 239:16 290:14 303:21 335:5
happened 53:15 56:2 364:7
happening 69:20 216:14 273:16
happens 186:17 342:20
happier 359:3
happy $28: 6$ 346:3
hard 32:8, 14 82:1 113:6 219:4 254:16
hardy $33: 7$
harvest 128:14 277:11 277:13 308:11 329:6 341:7 342:12 343:19 346:9,21 348:15 373:16,18
harvested 18:9,14 40:7 47:13 308:7
harvester 335:10 341:19 373:17
harvesters 343:2
harvesting 268:14 308:10 328:13,16 330:6 335:12,13 340:2 341:1,17 360:9
harvests 373:15
Hass 140:18
hatreds 354:19
havoc 50:18
hazard 307:11
hazelnut 177:20
he'll 345:8,9, 17,20
head 179:13 247:21
heal 284:5 310:14
health 38:20 39:3,18,19 86:10 115:5,10 293:9 301:21 302:10,12 309:13 364:19
healthcare 309:16
healthful 35:15 67:4
healthfulness 56:5
healthy $38: 19$ 39:16 135:16 167:14 284:15
hear 68:12 72:17 73:7 73:19 86:19 91:16 92:6 163:9 264:15 266:22 276:18 299:16 299:17 322:9 323:6 358:21 365:1
heard 31:12 80:21 162:3 185:3 252:13 252:14,15 264:22 266:21 283:13 323:1 364:18
hearing 1:3,12 3:9,11 5:8 7:15,18 8:1,4,6,9 8:12 10:1 11:8,11,14 12:11 15:17,18,20 24:9,17 34:3,14 37:17 39:9 40:21 41:17 48:16 54:9 71:7 77:8 85:5 110:2,19,20,21 116:17 117:8 121:17 121:19 122:2 143:14 158:3,11 222:20 231:8 287:3 297:14 298:9 305:22 311:20 323:2 325:10 338:11 376:21
hearings 14:18 31:4,19
heart 295:2
heaven 277:8
heavier 344:20
heavily 32:22 128:21 356:13
hedging 45:17 153:15
held 7:15 74:6 132:22 371:11
Helen 71:19
help 25:18 39:22 46:14 96:16 113:13 256:19 270:21 272:20 307:10 308:16 309:10 316:7 316:8,9 317:12 321:7 323:15 324:1,4,5 349:8
helped 332:18 358:18
helpful 30:9 207:3
231:13 316:4 367:12
helping 371:16
helps 228:15
Henderson 27:22
Henson 72:7
herbicides 254:13
heretofore 56:3
Heritage 1:13
hey 252:8
Hi 224:14 264:13
high $39: 15$ 56:8,16,18 64:22 103:4,7,12 114:16,19 125:2,8 131:10,16,19 144:8 148:5,7 152:1,6,7,10 152:11,16 180:19 182:3 185:6,10 202:22 203:8,9 209:11 210:8 218:1,3 221:8 224:18 225:2 226:9 248:6 266:16 270:4 280:22 307:1 366:1
high/low 208:10
higher 43:7 45:2 65:2 130:15 134:10 135:12 140:12 149:8 174:19 211:21 214:16 217:14 217:15,17,22 218:15 256:7 261:4 262:11 317:3 344:20 350:2 350:12 364:9,12,13
highest 132:8 218:5
highly 129:14 131:12 153:18
highs 353:17
Hill 2:3 5:14, 14 10:14 10:18 13:2,7 14:2,3 14:14 16:20 17:6 24:1 24:19 25:1,18,19 29:1

29:4,15 30:4 34:2,10
37:16 38:3 39:8 40:20
41:15 48:14 53:21
71:5 77:1,6,19,21
96:16 112:6,9 114:11
115:14 116:5 119:22
120:4,7,13,21 122:12 143:12 158:1,9,19 160:10 161:3,7,18,20 162:1,5 179:3,12
223:7 229:14,15 243:3 287:11 305:20 324:14,17 325:7 338:9 369:11,13 370:6 372:15 375:19
Hinman 3:2,12 13:8,12 13:20 14:3 17:6,10 25:12,15,16 42:17 46:22 101:1,2,8 102:8 102:14 103:15 104:4 104:5,7,9,12,20 105:2 105:4,11,12,13 106:2 106:15 107:4,9,12,20 108:2 109:16 110:3 111:5,13,15,18 112:1 193:11,16 205:18,21 205:22 206:7,12 210:9 222:11 263:7 264:11 362:21,21 363:2 365:6
Hinman's 24:5
hip 353:8
Hispanic 70:12
historical 146:2 147:1,6 147:21 207:20,21 213:3,12
historically 38:9 56:8 64:22 114:16
history 3:21,22 32:4,6 78:17 79:5 104:21 105:6 314:1
hit 371:11
hobbled 55:3
hobby 154:4 173:13 239:17 296:17 303:21 320:22 335:5
hold 28:22 133:3 252:17 325:22 345:11 371:9
holiday $61: 8$
holidays 240:6
hollow 344:13
home 13:21 99:7
281:11
Homer 72:7
Hondo 1:12
honest 289:2 294:5
honestly 79:6 103:2 289:16 294:3
honey 140:18
honor 10:20 11:2,18 12:4,15 16:20 24:3,16 25:2,19,22 27:9 28:16 30:5 31:2 33:5,21
34:2 37:10 38:7 39:5 40:18 41:15 50:21 66:9 71:5 76:17 77:6 77:12 93:1 96:9 107:9 116:8 117:4 119:15 119:22 122:4,12 141:12 142:5,22 143:12 156:20 158:17 173:1 192:8 193:9 206:6 228:7 229:19 231:17 232:6 242:19 243:11 274:21 278:22 280:2 286:5 287:7,18 294:21 296:1 297:18 297:19 298:5,12,22 305:1 306:10 311:18 312:4,19 313:3 324:8 324:12 325:8,15,19 326:5,14 337:13 338:1,15 372:19 375:19
honored 27:12
hope 66:8 79:7 228:14 234:20 351:7
hopefully 272:12 371:1 hoping 277:20 345:12
Horn 59:14
horticultural 44:21 60:10 71:14 80:11 113:20 119:2
horticulture 118:21 119:5 124:22 129:18
hour 181:20 182:2 231:11,13,14 281:10 343:6
hours 75:22 76:5 91:4 241:18
house 367:1
housing 66:5 114:2
how's 354:18
Hudson 72:9,9
huge 241:7 268:22 291:8 293:15,16 364:7 370:13
hull 90:5 259:20 307:2 hulls 342:18 344:8,15
human 309:16
hundred 34:22 343:6
hundreds 73:20 76:5 82:13 124:5 282:14
hurricane 99:4
husk 259:20 307:8
husking 307:2
hypothetically 348:13

| $348: 16$ |
| :--- |
| I |
| ice 62:2 |
| ID 3:7 |
| idea 68:21 $163: 2$ 227:14 |
| 257:1 265:6 282:3 |
| 292:14 310:9 340:10 |
| 340:18 |

ideally 260:18
ideas 73:8
identification 11:22
13:5 17:4 24:14,21
28:19 30:3 34:7,17
37:20 39:12 41:2,19
48:18 54:12 71:9
76:22 77:10 119:18
121:7 122:7,17 143:7
143:18 157:5,18
158:7,15 176:5
232:13 243:8,9 280:6
287:16 305:17 306:3
313:9 325:13 338:7
identified 117:1 159:20
286:15 287:1
identify 9:4 12:16
107:15 110:9
identifying 247:6,10
identity 71 :2
II 16:13,16 18:3 23:11 23:15 25:9 123:13,18 140:1 157:8 159:15
illinoensis 33:5 123:22
Illinois $33: 5$
illness 303:8 307:4
illnesses 307:7
illustrated 149:13
illustration 133:16 137:13 227:13 228:5
illustrative 138:22 193:7
immaterial 9:1
impact 56:6 171:21 174:19 181:10 186:2 186:4 187:6,10,18,19 205:2 208:20 214:13 214:14 222:5 226:6 309:21
impacted 186:22 189:2 189:5
impacts 141:15 142:16 146:20 199:13 202:8 208:3 220:12 225:8 225:15 258:17
implement 208:16,17 242:15 286:2 304:16 337:7
implementation 4:5,15 121:21 139:13 142:13

156:17 157:1 179:5
207:15 222:6 286:17 315:13 316:21
implemented 127:20 139:9,19 155:19 177:8
implementing 149:10 154:17
implies 151:17
imply 138:5
import 195:9 267:13
importance 255:17 276:10,15 310:8
important 18:10 40:3 58:11 62:10 80:5 86:19 109:15 168:17 193:4 235:16 236:3 241:4 250:20 251:7 251:21 255:19 280:21 281:15 282:15 302:22 371:14
imported 163:7
importer 126:17
importers 126:8,15
imports 126:20,22 133:21 195:1 272:9
impose 237:3 285:16 300:16 333:19
impractical 131:13
improve 22:16 42:10 127:7 131:17 292:21
improved 3:19 19:2,5 19:11,16,19 20:18 22:10,18 23:17 25:10 40:5 41:5,11,12,14,21 42:3,5,15,19,20 43:2 43:2,7,14,17,18,19 44:12,22 45:2,8,13 46:1,4,10,11,15 58:16 59:2,5,10 60:5,7 84:5 84:8 90:11 113:21
124:7,8,20 127:9,12 128:20 129:17,20 130:1 131:8 144:22 145:8 147:17 148:11 150:7,16,18 151:2,7 151:11 155:5 180:19 206:15 211:10 215:3 220:20 221:9 226:19 226:21 227:5,21 229:2 262:11 264:5 280:11 292:17,22 299:18 314:17 318:12 328:3 333:17 363:11 366:15
improvements 148:21 149:11 339:11
improving 149:14 in-shell $61: 6$ 63:4,8

83:3 126:4,5 145:2,5 145:9 150:2 154:9 155:19 195:18,19 196:2 223:17 224:7 237:1 241:20 245:15 251:10 350:16 371:10
inaccurate 55:4
incentive 67:12 101:18 114:4
incessant 284:3
include 12:8 42:4 47:16 80:17 133:2 140:17 167:18 177:19 181:15 192:10 329:19 347:15 347:15
included 23:9 28:6 84:3 162:18 163:18,19 166:2 168:9,10 174:17 175:22 176:1 176:3,13 195:13 225:6
includes 12:8 69:10 134:12 164:22 167:15 168:5 190:17 201:13
including 9:5 23:12 29:10 39:3 45:16 58:21 75:13,14 119:12 121:15 126:1 135:1,15 146:19 156:12 164:21 167:16 168:22 321:12 333:20 341:6
inclusion 80:12 81:1 109:13 122:2
inclusions 363:4
inclusive 91:9,12 92:9 108:7,9,18,21
income 134:21
incomplete 55:3
incorrectly 305:6
increase 42:19 50:9
56:1,14,17 65:6,20
67:13 69:17 127:9 134:16 137:17 144:6 147:3,13,16 148:3,7 149:3 151:6,8 155:14 178:18 188:9 190:14 191:18,22 200:15 209:15,21 210:2,4,8 210:11,13,18,21 211:1,9,14 214:17,18 215:2 218:14,15 221:20 226:8,10 236:21 285:11,14 300:12 333:14 364:8 367:10
increased 53:11 54:16 57:12,14,14 65:18 66:13 67:19 132:16

136:19,21 137:22
144:5 148:18 156:11 190:15 238:5,7,15 292:5 301:7,9,17 increases 134:21 138:18 140:5 141:9 144:8
increasing 65:2 132:15 134:6,10 136:8,15,17 148:22 162:12 175:19 188:6,7 190:10 210:19 254:8
incremental 209:3 incurred 75:11
Independence 2:5,10
independent 275:6,20 352:21
independents 275:6,11 indicate 37:9 65:10 134:9 173:2 175:7
indicated 56:7 90:20 164:10
indicates 47:7 48:4,22 52:11 139:6
indicating 165:18
indicative 40:14 274:3
indigenous 32:5
indirect 333:20
individual 21:22 44:1
64:7 67:12 73:20 89:9 95:16 132:9 196:8 245:9 257:2 345:6 346:1 348:5 349:8 353:3 356:14 368:4 370:16 371:6
individually 198:18
individuals 59:6 75:5 80:20 82:15 83:4 91:10 135:21 294:9 345:3,11 351:14,15
industrial 235:7
industries 134:2 273:12 290:16 353:14,15,19 361:3
industry 6:16 7:2,5,13 31:14,15 32:4 35:19 36:3,6,8,15,18 38:13 43:1 46:20 47:9 50:17 50:19 55:1,3,4,14 57:4,21 61:1 62:11 66:2,20,21 67:17,22 68:11,22 69:5,9,14 70:2,3,5,11,18,20 73:4,9,19 74:1,10 78:17 79:6,12,14,18 79:19 80:10 87:11 88:9 91:6 92:6,7 93:12,17 97:7 99:21 100:7 102:4 107:14

107:17 110:11 114:8 119:4,5 123:11,16 131:5 132:3 137:7,15 156:4 193:6 222:6 234:20,21 235:4 236:15 238:18 239:1 240:7 242:8,9 244:4,6 244:12 245:2 248:3 248:16 249:1,1,22 250:2 253:1,10 254:6 254:20 256:1,1,6,9,15 256:19,22 257:7,12 257:13 267:20 268:8 269:3,15,22 270:11 270:13 271:16 272:22 276:2,5 278:15 281:6 281:16 282:22 284:4 284:18 288:9,22 289:1,6,13 290:11,15 291:9,10 293:19 302:17 307:5,6,18,20 308:1,3 309:8,10,16 309:18 313:22 314:2 321:7 330:20 331:22 332:2,10,19 333:2 340:4 353:2,3,6,12 354:4,12,12,16 355:20 356:2 357:11 358:9,17 361:2,20 362:3 363:11,13,18 363:22 364:8,15 365:15,22 366:13,14 370:14 371:9,15 374:21
industry's 361:4 industry-wide 66:15 69:11 350:5 inefficient 156:2 inelastic 149:7 inexpensive 343:5 inferior 82:22 89:21 infers 61:17 infinity 213:18,19 inflation 50:10 52:13,21
influence 168:14 174:8 183:10
influenced 32:22
inform 62:12
information 8:2,8 9:6 55:8 74:6 87:18 135:1 135:19 136:2 146:3 155:22 156:15 173:10 192:22 193:2 210:15 225:17 227:7,16,18 238:10,16 268:19 269:12 270:8 272:1 273:18,18 274:12 277:22 278:13,15 283:8 284:8 289:18

289:20 301:12,18
304:9 324:2 352:2,11 371:8,15 372:11 informed 199:12 220:14 242:7 304:5 304:11 333:6
ingredient 35:16 61:22
ingredients 260:16 261:3
inhabitants 32:10
inherent 239:14 303:18 335:2 352:19
inhibits 375:1
initial 56:6 180:2 263:20 305:12
initially 99:3 145:20 188:22 202:9
initiate 124:14
ink 305:7
inner 353:18
innovation 64:11
input 45:3 46:4 73:2 91:5 123:15 153:2 154:13 182:14 184:19 184:19 185:5 190:3 238:6 257:21 368:14
inputs 153:12,15 154:1 154:7 167:16 168:15 173:20 174:7,8 182:5 182:17 183:8,11,14 184:10,13 185:1 239:18 297:1 304:1 335:7 339:9,12
insect 60:12
insecticide 100:14 301:8
insecticides 307:13
insects 41:9
insight 257:8
instability 50:16,18
instance 57:3 88:14 99:13 348:9 349:21 358:12 360:8
instilled 374:22
integral 216:21
integrated 243:22 244:7 245:17
integration 244:9
intellectually 28:13
intend 16:6 29:10 intended 29:12 83:15
intending 154:5,6 intense 332:22 intensity 169:14 intensive 368:10 intent 48:7 intentionally 41:22 interact 346:11 interacting 340:6
interaction 133:8
interchangeable 87:13
interconnected 38:14
interdependence 290:20
interest 69:11 73:3 244:16 245:1 248:13 291:1,3 328:12 356:20
interested 8:16 9:2,16 11:9 117:11 167:20 309:3
interesting 53:6 56:2 Interestingly 50:1 137:16
interests 327:17 333:20 334:4,7 336:22 369:17
interject 117:5 179:4

## internal 56:22

international 125:16 126:3 133:9 267:10 332:15,16
internationally 281:10 281:15 283:17
interpretation 177:1
interpreted 190:22
interrupt 29:1 48:11 310:5
interrupting 106:20
intervention 147:11,22
intrinsic 216:5
introduce 29:12 90:13 299:4
introduced 119:14
inventoried 278:8
inventories 132:22 370:17
inventory 238:14 283:2 370:8,11,13 371:3,7 371:20
inverse 125:8
invest 204:2,6 240:16 336:17
invested 134:2 200:14 204:13 205:12 368:19
investment 204:1 246:7 246:12 301:16 308:13
investments 205:9
invitation 91:14
invitations $91: 15,18$
involve 211:19 212:1
involved 15:3 75:20 89:15 97:17 117:9 247:5,8 251:1 257:16 257:20 261:14 308:10 323:5 339:21 341:1 343:13 352:18 356:13 356:20 357:21 360:15

370:21
involvement 313:21 314:1
involves 147:6
irrelevant 9:1
irrigated 46:5,5,6
100:19,21 101:4,8 234:1
irrigation 45:6 60:13,18 60:19 101:11
Israel 126:17
issue 22:3 64:14 67:18 72:21 80:6,15,20 81:1 94:4,9,11 290:6 302:1 302:22 306:17 350:7 370:12
issued 23:7
issues 69:20 80:18 235:11,22 239:3 249:3 270:18,19,22 308:15 332:7 334:13 352:16 355:18 358:19 374:22
it'll 38:7 86:9 102:5 273:13 316:8
$\bar{J}$

James 33:3
January 23:6 249:18 267:18
January/February 278:6
jealousies 354:19
Jen 97:11 223:9
Jennie 2:22 365:10
Jennifer 264:12,19 308:20
job 47:4 86:1 271:13 273:5 278:20 341:11
352:1 355:16 359:15
join 291:16
joined 234:22
journal 39:1 302:2,3 305:5
Judge 1:14,18 5:3,5,18 6:4 10:22 12:1,20 13:9,17 14:2 17:5 24:4,9,17 25:3,14,20 26:5,13,18 28:20 29:17 30:8,19 33:15 33:19,22 34:3,13 37:11,15,17 39:7,9 40:19,21 41:16 48:13 48:15 51:1,20 52:2,5 53:18,22 54:6,9 71:3 71:6 76:9,16 77:4,7 77:15,19 78:1,6,10 87:5 88:1,20 89:3,5

92:21 93:3 94:13
95:17 96:6,14 97:10
97:20 98:7 99:16
104:3,8,11,18,22
105:3,12 106:10,19
107:8,10 110:14,18
110:22 111:9,12
112:8 115:15,17
116:10,17 117:19
118:9 119:19 120:1
120:19 121:2 122:8
122:11,13 141:17
142:7,12,18,21 143:8
143:13 157:21 158:2
158:10,18 160:18
161:1,16,19 166:21
169:2,9,15,18,21
170:3,8 172:1,6,16,20
176:4 192:7 193:10
205:16,20 206:2
222:13,18 223:6
224:3 228:17 229:11
229:13,17,21 231:6
231:14 232:3,14
233:2 243:1,4,12
263:1,5 274:17 279:1
279:5,8,12 286:6,10
287:9,12,19 295:19
297:13,22 298:2,9,21
304:20 305:18,21
306:7,11 311:15,19
312:1,6,8,11,18
313:10 319:21 324:11
324:13 325:9,16,20
326:2,6,13,16 332:8
337:14 338:8,10,16
347:4,8 360:5 362:19
365:8 369:11 372:17
375:18,20 376:4,15
376:20
juggle 367:17
juice 140:19
July 1:10 3:9 6:13 7:16 7:19,20,20,22 11:7 23:9,13 268:3
jump 260:2 291:16 295:9
June 268:10
justify 239:13 303:18 335:2

|  |
| :--- |
| Kansas 1:6 37:4 44:1 |
| 128:9 |
| Katy 2:20 224:14 |
| keep 27:6 57:7 106:20 |
| 223:3 316:17 359:11 |
| keeping 333:21 358:3 |

keeps 45:18 314:10
Keith 233:19
kept 304:5 314:8
kernel 61:21 90:3 126:4 262:15
kernels 57:6 61:7,20 83:3 109:4 260:15 278:10
key 68:21 72:20 123:16 135:9 146:10 206:13
kill 248:3
killing 318:4 342:17
kind 51:11 64:15 97:2 102:21 113:8 114:4 144:3 179:13 308:8 341:13 347:5 348:3 355:4 359:2 368:13 369:14
King 2:16
Kingdom 126:16
knew 92:9 107:5 205:7 294:1 360:15
knocks 342:17
know 8:19 13:1 35:11 42:17 60:21 65:11 76:8 86:22 87:3 91:22 92:17 93:7,18 96:18 99:14 100:4 102:19 105:7 106:22 107:4 111:6,7 113:13 115:4 116:6 124:22 176:8 177:7 194:8 204:15 205:5,11 206:19 207:7 211:6 219:9 220:7 221:22 246:3 247:18 251:6,10 256:17 259:1,15 260:9,17 261:22 263:12,22 265:3 267:6,19 268:4,22 269:3 271:18,19 273:4,20 274:7 275:1 275:4 278:18 283:7 288:17 289:15,21 291:5 293:3 294:1,4 296:10 297:2,6,6,7 308:14 314:4,10 316:9,12,16,18 317:6 317:21 320:16,18 322:20 323:13,21 339:19,20 340:15 343:10 345:14 347:18 351:17 353:1,16 354:18,22 355:1,6 356:12 358:1,5,7 359:6,12 360:20 361:2,3,11,12,14,18 361:22 362:2,3 365:2 365:3,15 366:8 367:2

367:4 368:14,18
370:6 371:2,7,10,20
372:6 373:6
knowledge 104:2 352:3 357:19
known 7:12 17:12,21 23:14 39:20 42:5 125:12 288:17

| L |
| :--- |
| L 2:15 3:12 |
| L-O-F-T 15:12 |
| L-O-U-I-E 280:9 |
| L-U-C-E-R-O 299:6 |
| label 85:19 |
| labeled 97:2 |
| labor 181:18,20 182:1 |
| 182:15 238:5 342:5 |
| 368:9 |
| lack 47:2 69:10,13,15 |
| 69:16 100:14 131:4 |
| 156:3 214:7 238:9 |
| 301:11 |
| lagged 137:15 |
| laid-back 56:4 |
| lamb 140:19 |
| land 112:21 131:11 |
| 153:3 314:7 339:10 |
| Landgraf 72:11,11 |
| language $235: 9$ 249:21 |
| 330:11 | 330:11

large 32:20 56:12 58:16 59:9 62:20 70:6,8,8 72:6,6,14 89:16 107:13,13,16,17 108:16,22 109:19,22 110:7,10 111:3,17 124:10 130:12,16 150:4 152:8 158:22 192:3 203:13,19 204:8,12 205:2 234:15,15 241:4,11 241:21 244:6,19 245:3,7 250:21 251:4 264:5 276:21 280:13 283:20 314:22 328:10 330:15 346:15 347:1 368:10
largely 202:22
larger 44:4 49:2,2 53:8 80:4 202:10 250:9 257:10 343:9 346:8 362:13
largest 38:10 63:11 65:8 125:19 161:10 202:22 216:13 234:1 234:12 254:1,2,4 346:7

Larry 72:14,16
Las 1:13 7:16 31:8 72:13 280:10 281:2 299:10 313:19 327:11 340:13
lasting 210:17
late 23:9
latest 86:9 277:14
law 1:14,18 5:5 31:4 87:21 88:15,16,17 237:10
layman's 184:7 185:2 187:15 188:14 216:14
lead 66:2 69:7 97:14 129:2 149:6,8 156:14 186:9
leader 126:5 295:12 365:14
leaders 365:22 366:4,9
leadership 118:22 295:14
leading 56:6 126:8
leads 132:5
learn 273:3 294:7
learned 87:16 356:22
lease 328:1 339:1,5 373:2,7
leases 339:6
leasing 373:8
leave 34:19 323:21
leaves 159:18 342:17
led 69:5 332:19
left 9:22 88:7
legalities 339:20
legend 220:3 288:22
legitimate 364:3
Lenny 154:13
lent 79:10 115:11
lessee 373:17,19
lesson 66:18
lessor 373:20
let's 29:21 53:16 77:15 78:6,8 104:18 109:4 112:18,20 116:3,11 162:10 181:18 189:8 290:8 373:8
letter 331:9 338:4 374:6 374:15
letters 69:4
level 20:5 45:2 53:2 90:22 134:21 136:1 154:18 167:15 171:10 171:10,12 187:17 188:2 189:19 190:9 190:12,16 226:9 247:17 256:7,7 270:4 336:20 341:10 342:19
levels 56:11 64:22 170:13 183:15 208:13

209:1 220:19 221:10 238:14
licensed 364:2
life 295:6 310:19
light 90:3
lighter 90:1 260:3,8 261:11
lightweight 260:20
likelihood 166:7,12 168:11,19 171:1 174:13,16 187:6,10 226:6
Likewise 321:9
limitation 367:7
limited 85:15 126:1 203:18 254:21
limits 356:7 357:17
line 3:21 52:22 137:3 139:6 169:16 176:22 176:22 178:2 187:5 240:4 320:20 361:7
lines 219:6,13 253:17 290:3,5
linked 136:3
lion's 63:18
list 8:17 42:2,4,6 138:20 199:11 202:15 253:8 357:5,6
List/Photos 4:1
listen 73:7 282:3,16
listened 74:1 333:11
listening 89:18
literal 39:17
literally 82:6,15 89:18 91:3 282:13 290:15 292:6 308:9
literature 138:14,18 140:6 200:4 203:7 205:10 225:4,13,16
little 14:4 27:3 30:11 35:11 36:18 46:20 50:9 63:16 67:12 80:6 84:12 94:4,9 102:18 120:21 130:3 183:19 204:13,16 218:8,14 256:14 258:5 262:16 265:2,13 266:16 296:8,20 309:12 310:21 317:9 340:3 356:12,15 367:16 372:12
live 27:22 233:14 280:9 299:7 313:18,19 327:11 344:19
livelihood 47:18 335:22
living 3:18 83:17,19
296:5,14
LLP 2:16
Ioad 348:8
loaders 356:18
loading 192:2
local 73:15 82:8,9 135:5 135:15
locally $7: 11$
Loft 15:12
logical 171:16
logistics 348:3
long 8:22 14:15 27:11 33:7 114:18 121:4 199:11 223:7 237:19 253:2 291:11 322:5 356:22 362:1,2
long-term 56:16 303:8 307:14,17,20 308:17 309:7,20
longevity 40:15
Looft 2:20 224:14,15,22 226:14 229:10,12
look 53:14 140:2 159:20 161:3 166:4 166:14 170:13 171:21 173:10 174:6 177:8 177:14 178:11,12 180:8,14 182:22 185:12,18 186:8 187:3 188:6 194:21 197:9 200:16 201:16 202:15,20 203:13 205:9 210:20 215:14 217:19 218:13 269:2 271:18 272:1 276:14 276:20 277:10 348:20 373:4 374:11
looked 53:7 162:15 163:13 171:1 181:17 248:22 250:7,8,13,16 250:18 308:15 351:17
looking 115:1 163:9 169:4,11 170:9,14 185:6 201:19 208:10 220:15,18 223:13 246:4,13 247:20 248:6 267:11 276:4 353:14 354:3 366:20
looks 219:11
lose 278:9 283:16
lost 267:15
Iot 86:10 98:4 162:10 174:16 176:8 203:20 244:16 248:18,22 250:8,22 255:21 265:21,22 266:2 267:11 269:15 271:21 272:1 277:6 278:8 281:3,11,17 284:8 289:18,19 296:12 308:10,13 310:11,12 320:16 330:20 340:14

340:18 341:15 349:3
350:6 352:17,20
353:18 354:8,11
355:9 358:14,18
359:3 360:13,14
361:11,14,17,18
362:16,18 368:16
lots 240:4 265:4 276:12 336:6 353:16
Louie 3:4 279:14,17 280:8 289:5 322:20
Louis 72:12
Louisiana 1:6 20:21 37:3 43:22 59:18 74:3 74:4 128:8 129:2 265:19 288:21 355:12
Louisville 72:7,8
low 125:3,9,9 131:16 148:5,6 149:11 151:19,22 152:5,7,9 152:11,15,16 155:10 180:18 182:2 185:6 185:11 187:9 191:11 201:8 209:11 210:7 218:1 221:6 224:17 225:1 226:7 228:12 228:13 283:10
lower 43:8 53:2 199:7 262:12,14,16,17 284:1
lows 259:7 353:17
Lucero 3:5 298:14,16 299:3,5,6,8,8 300:5 305:3 306:16 308:22 311:21,22 362:11
Lucero's 299:2 305:14
lunch 222:21
lung 307:6
lying 269:20

| M |
| :--- |
| M 2:22 28:3 |
| M-A-R-C-O 118:14 |
| M-I-K-E 26:16 |
| ma'am 78:20 339:2 |
| macadamias 177:21 |
| machinery 328:15 |
| Madill 72:12 |
| magazine 85:17 |
| magnitude 20:5,11 | 154:19 189:19

main 18:1 123:8 126:15 222:1 245:18,21
maintain 49:10 154:6
maintained 153:5
major 98:10 119:8 235:22 252:3,6 344:6 352:15 359:1
majority 61:10,19 63:1 63:7 124:8 255:12 265:18 266:5 277:16
makers 62:2
making 9:5 83:17 107:4 168:12 174:13,16,19 179:11 190:18 353:16 358:11 371:21
male 70:15
man 27:8 289:3
manage 328:15 367:17
manageable 45:18
managed 98:16 100:13 195:19,20 196:3
management 45:3,4,6 45:12,20,22 60:13,15 60:16 65:7 187:8,14 271:22
Manager 236:6
managerial 168:16
manages 46:2
mandated 248:3
mandatory 269:14
manufacturing 256:8 256:21
MAP 331:2 332:7,8
March 35:6 261:17 277:14 304:8
Marco 3:3 4:3,17 117:1 118:4,14 157:13 236:20 285:10 286:14 300:10 315:14 333:12
Marco's 317:1
margin 109:5 155:2 197:8,10,13,17 198:5 198:6,8,10,12,15,16 199:19
marginal 200:18 201:4 203:15,22 209:5
margins 197:20
Maritime 1:19 5:5
mark 11:2 16:21 116:19 232:9
marked 11:21 13:5 17:3 24:14,21 28:17,19 30:2 34:7,17 37:20 39:12 41:2,19 48:18 54:12 57:15 71:9 76:22 77:10 119:18 121:7 122:3,7,17 141:10 143:6,17 157:5,14,18 158:7,15 225:21 232:13 243:8 280:6 287:16 305:17 306:3 313:6,9 315:5 315:15 325:13 338:7
market 17:17 35:17,20 36:12 42:9 43:1,5 49:12 55:2,11 60:2

61:10,20 62:9 63:8,9
63:17,19 64:3 65:21
66:12 79:12 80:14
82:4,9 114:7 115:3,5
126:15 131:13 132:4
132:19 135:2 137:6,9
138:9 139:11,17
149:3,15 156:2
163:17,20 176:19
177:18,22 178:1,3,13 178:21,22 179:2 188:8,17 196:4,7,21 202:6,18 226:4 238:9 238:16 245:14,20 259:13 261:18,18 278:13 281:18,19 283:18 301:11,18 316:13 329:7 332:9 343:17 345:10 349:22 350:19,20 361:10 363:12 364:13 371:11 372:8 375:1,6
market's 345:12
marketable 345:6
marketed 282:7
marketing 1:5 4:6,16 6:6,7,8 12:9 17:13 27:12 31:16 36:1,7,11 36:12 38:12 39:21,22 43:6,9,10 47:19 51:16 53:10 54:15,22 55:11
56:1 57:3,16,17 58:1
58:2,4 62:11 63:16
64:10 66:7,16,17,20
67:10,19 68:10,15,16
68:18 69:2,21 72:19
73:1,8 74:19 78:22
79:4 83:8,13 84:11,13 85:2,8,10 87:12,21 88:5,8 91:17 94:6,10 99:20 100:5 113:13 115:13 118:21 119:2 121:12,22 122:22 123:7,10,14 131:4 134:3,20 136:6,9,15 137:18,19,20,21
138:2,16,17 139:7,8 139:13,18 140:3 141:2,4,15,15,22 142:14,16,17 143:3 144:14,16, 18 145:14 145:15 147:11,14,15 147:17 148:1,2,9,20 149:21 150:9,11 154:17 155:16 156:18 157:2 168:7 173:17 173:19 174:4 175:2 177:2,4 179:10 192:20 193:5 197:6

222:7 234:18 235:8 235:10 236:2,10,16 237:3,6,17 242:6,13 248:14,22 249:4,15 257:12,18 258:8,12 263:18 270:6 282:18 283:11 285:16,19 286:1,17,21 287:4 289:7 292:22 293:4,7 300:16,19 304:6,10 304:15 306:20 315:3 315:13,22 316:6,12 316:15,17,22 320:2,6 321:11,12,17 322:10 324:3 329:9 331:12 333:5,8,19 334:3 337:5 355:19 371:17 374:18 375:5
markets 63:13 67:3 162:18 225:14 329:15
Mason 86:13
Master's 14:6 28:2
masting 124:22
match 132:15
material 220:5
materials 142:2 159:1
mathematical 146:7
mathematician 28:4
Mathematics 28:1
matter 5:17 55:21
116:14 231:18 268:18 268:21 298:6 362:5 377:1
matters 117:21
matured 260:5
McFadden 135:3
McWilliams 33:3
mean 46:22 53:14 65:11 66:10 75:16 77:16 81:8 82:19 85:15,18 86:9 87:8 98:13 103:8 110:17 114:16 138:6 144:9 144:21 163:6 164:16 165:2 180:18 182:20 184:15 185:18 187:2 188:14 191:5,11 192:16 195:10 196:21 199:2 202:21 207:1 215:20 216:7,11 217:6 221:7 226:8 230:22 273:18 275:10 284:5,6 291:8,20 352:15 353:8 356:21 360:12 366:6 367:19 371:18
meaning 62:9
meaningful 241:13 274:12
meanings $88: 18$
means 18:9 182:9
185:12 186:7,10
190:13 197:15 200:13
200:19 203:14,15
204:2,11 215:7,12,22 216:3,3,12 217:19,20 218:10 221:19 239:2 273:4 329:10 373:11
meant 15:22 192:10 193:6 198:1,2 311:2,8
measurable 36:9
measure 203:3
measured 69:22
meat 61:17,18,21
258:21 259:3 260:12 327:16 350:2
meats 61:6,11,20 62:6 350:16 371:13
mechanism 67:16 248:21
medical 293:13 300:2 301:20 302:2 303:5 309:22
medications 310:16
Medicine 39:2 302:3 305:5
medium 107:15,17 150:4,14 151:21 152:2 185:10
meet 62:19 239:10 256:16 266:20 303:15 334:21
meeting 74:2 75:21 88:6 249:18 252:21 253:5,15 266:1 268:16 304:8 332:19 348:18
meetings 36:4 73:15,21 73:22 91:13 235:2,5 252:19 268:10 282:12 282:12 295:5,5,6,7 322:14 352:6,7
meets 94:15 285:7
Melissa 2:21 78:13 94:22 162:8 243:15 272:18 287:22 306:15 338:20
member 247:1 249:7 282:10 304:3 322:1,3 322:5 337:2
members $31: 19,20$ 71:22 72:18 73:10,17 75:13,19 76:1,6 89:19 121:3 235:18,22 253:10 265:17 269:6 293:6 356:1
membership 249:8
mention 18:11 58:8

Neal R. Gross and Co., Inc.

89:13 112:9 263:10 340:7
mentioned 49:14 50:2 54:14 79:11,22 $81: 5$ 81:18,19 84:10 89:7 93:7 94:8 95:1 112:12 130:18 212:7 244:14 246:18,22 253:20 254:16 255:15,16 273:20 292:16 306:16 338:22 340:1 350:22 356:1 373:1
mentioning 221:2 364:5
merely 67:15 136:13 239:15 303:20 335:4
merits 117:11,14
Mesilla 327:11 340:13
mess 283:17 346:18
message 293:15
met 89:16 266:2 281:4 362:12
method 343:16
methods 119:10 138:13 146:9 209:17 269:10
Mexican 162:12 163:12 163:15,16 351:12 375:3
Mexico 1:7,13,13 20:14 37:5 38:1,8 60:4 72:14 114:17 124:4 125:20 126:9,12,17 126:21 127:4 128:6 128:16 161:10 162:12 163:4,6 193:1 255:11 255:14 280:10,12,17 299:7,9 304:3 313:20 322:4 327:12 331:6,8 331:16 337:1 338:5 351:1,9 352:10 354:13 361:14 374:7 374:17 375:9,12
mic 317:8
Michael 3:3,14
Michelle 87:15
Michigan 14:8
micronutrients 39:17
microphone 10:6
mid 221:4
mid-level 167:13
middle 95:19 169:20 170:5 219:20,22 261:17 277:14
midpoint 180:1,21 181:1 209:10 221:2,3 318:10,20
midpoints 200:10 migrant 308:17 migration 33:1

Mike 3:14 4:2 26:2,8,15 244:14 248:19 265:22 266:1 273:4,20
281:22 288:17 302:15 322:21
mile 281:2
miles 299:10
million 19:14,20 20:1
21:10,11,11,16 49:5,6 50:3,5,7 52:8,10 57:5 62:16,17,22 63:4 108:22 109:3,4 126:7 126:9,10,18 127:1,13 127:15 132:6 234:7
239:21 240:11,21 241:20 246:7,10,12 246:14 247:15,21 248:8,9 255:6,7 266:8 266:10,18,20 268:13 268:17 336:2,12 369:1
millions 343:11
mind 57:7 138:21 172:2 373:21 374:13
mine 201:8 307:6 308:2 374:12
minerals 39:16
minimally 343:6
minimum 47:11 149:4 152:22 153:3,4 165:9 341:21 366:21
mining 309:18
minor 125:21 175:6
minus 50:5 213:18
minute 38:3 179:5
minutes 88:21 116:10 116:12 298:1,3
misheard 96:18 misleading 146:21 183:1,19 207:5,17
missing 5:18 159:3 160:6,8,9,13
Mississippi 1:7 37:3 43:22 74:5 128:8
Missouri 1:6 37:3 44:1 128:9
misspoke 96:18 165:10
mistake 335:15
mistaken 105:14
mitigate 45:14
mitigated 352:11
Mm-hmm 266:13 297:3 318:15 319:16,19 321:14
model 146:8,13 152:18 170:19,21 186:20 191:14 211:16,19 212:1,3 219:2 221:13 221:14,17,18 222:4

251:4
modeling 230:20
models 277:1
Modernization 248:1
modifying 236:8
modus 342:15
moisture 342:19
moment 29:13 204:19 294:19
momentum 139:12
MONDAY 1:9
money 245:2 261:7,13 278:9 296:9,20 345:14 346:2 353:16 359:16 364:10 368:7 368:14 372:1
monies 75:10 86:10
Monte 146:9 147:8,21 170:14 207:9
month 268:15 269:13 341:3
Monthly 3:17
months 32:12 35:9 73:6 216:7,9 245:4 369:20
morning 5:3 26:20 27:8 31:13 77:14 78:13,15 101:1 118:13 313:14 376:22
mortality 302:5,8
motion 15:11
motivated 294:7
Mount 13:22 35:5,8
move 43:12 56:20 66:9 77:21 96:10 155:17 232:5 236:14 240:7 244:17 256:10
moved 172:5
moving 37:11 48:6,7,7 276:4,8
mowing 153:14
multiple 86:19 216:21
Multiply 76:1
mundane 64:5
Museum 1:13
mushrooms 140:19
Myers 2:15 6:2,2

| $\mathbf{N}$ |
| :--- |
| N 3:8 |
| N-A-S-S 17:22 |
| N.E 2:16 |
| name 5:4,14 9:6 13:18 |
| 13:19 17:9,10 26:14 |
| 26:15 33:4 61:16 |
| 78:13 118:14 233:5,7 |
| 233:14 280:8 299:5 |
| 313:15,16 327:9 |
| 339:11 |

names 62:6 326:8
narrative 123:8
narrow-minded 358:5
NASS 17:22 18:12 19:5 21:2,20 23:5,7,16 106:5 146:4 195:1,2,7 195:10 196:15
Natchez 74:5
national 17:20 47:6 68:1,2 74:12 146:4 245:3 252:19 265:16 267:8 288:15 293:10 331:1,15 337:3
native 3:15,18 19:3,16 19:22 20:20,22 22:12 22:21 23:2 32:10,13 32:17 33:1,6,14 34:21 40:4,6,9 41:10 42:14 42:21 43:3,13,20 44:7 44:14,17,22 45:4,7 46:10 58:18 59:2,5,17 60:8 70:13 80:11 84:4 84:7 90:11 93:13 113:22 114:1 124:1,7 124:16 127:6,10 128:20 129:1,3,7,10 129:13,17 130:2 136:1,4,7 144:22 147:19 148:3,12 150:8,19 151:3,9,11 155:7,12,13 180:21 192:16,16,18 206:14 215:4 221:11 $224: 9$ 227:5,21 228:1,10 262:11 264:5 318:13 363:11 364:3
native/seedling 46:11 46:15 124:16 127:14 226:20,22
natives 43:8 59:19 136:5 228:1 229:3 natural 38:19 45:10 115:6,6 124:17 136:5 naturally 40:8 103:12 125:6
nature 113:20 125:5 131:9 133:1 373:6 naval 355:12
near 69:18 155:20 248:11 327:11
nearly 65:18
necessarily 174:3 217:6 349:15
necessary 60:17 75:11 122:20 153:12 173:20
need 10:10,15 46:11,19 66:7,10,11,15 79:14 174:18 176:7 200:5 227:21 236:13 240:3

248:11 251:18 256:16 259:13 266:21 284:14 302:11 307:21 308:3 309:19 310:7,19 322:18 348:17 355:18 370:4
needed 39:2 55:14 64:2 64:12 80:16 184:10 241:10,13 251:14 267:5
needing 309:4
needs 25:17 31:15 116:2 135:14 249:1 279:9 356:14
negative 127:4
negotiate 238:12
301:14 323:22 367:9
negotiating 323:18
neighbors 316:15
neither 55:20
nervous 317:9
Ness 135:8
net 4:9 127:2 136:16 142:9 170:20 183:11 186:17 187:5 201:5 211:8 214:17
net/benefit 200:12,17
Netherlands 126:16
nets 141:14
neutral 15:21
never 295:6 329:1 348:21 350:15 354:10 361:9 365:1
Nevertheless 50:10 138:10
new 1:7,12,13 20:14 32:7,10 37:5 38:1,8 39:1 42:7,18 43:17 45:19 49:11 56:17 60:4 65:4,10,12,14 66:1 69:19 72:14 74:4 102:9,12 103:10 114:12,17 115:2 128:6,16 131:7 132:3 234:8 246:4 255:14 280:10,11,17 283:22 284:6,13 299:7,9 302:2 304:3 305:5 313:20 317:6 322:4 327:12 331:6,8,16 337:1 338:4 342:1 351:1,9,12 352:10 354:13 355:5 365:14 374:7,17 375:3,9,12
niche 42:22
NICPRE 4:11
nine 250:19 253:16 275:5
nobody's 365:4
nomenclature 93:12
nominate 240:1
nominated 7:13 242:3 282:8 291:16
nomination 31:18 76:11 241:16 320:8
nominees 241:12
non 40:7
non-bearing 273:19
Non-Citrus 23:14
non-commercial 58:20 335:14,20
non-organic 237:12 263:10
non-pecan 235:15 255:17,19 276:10
non-production 136:21
nonexistent 283:4
normal 154:7 212:22 213:17 218:4,9,18
normally 153:16 182:17 220:9 349:22
North 1:7 36:22 124:1 128:11 299:10 313:19 361:10,13
northern 124:3 361:17
Nos 3:7
note 145:21 338:2 356:1 376:4
noted 20:3 23:7 33:2 337:17
notes 202:16
noteworthy 57:8 58:7
notice 3:9 8:20 11:6,8 12:7,10 32:1 117:7 287:1 315:4 320:3 370:1
noticed 284:10
notified 3:11 11:13,16
November 39:1 87:15 88:6 277:12
November/December 278:4
number 4:8 11:10,13 12:6 16:22 17:1 28:21 44:1 49:19 51:16 55:8 58:20 65:7 67:20 76:6 80:21 82:1,5 87:7 90:16 91:19 99:5 104:21 108:12,13 109:12 112:18 129:5 132:17 140:6 142:8 151:5 161:4 164:18 196:10 198:19 199:18 200:14 202:2 217:3 229:1 241:20 242:2,4 249:4 250:14,14 258:7,10 265:3,14,20 266:4,16 267:16,19

267:21,21 269:17
271:14 272:6,8 310:2 310:16 344:3,22 345:1,3,4 366:11 367:4
numbers 18:19 21:13 21:13 55:16,16 76:1 85:16 103:2 105:15 175:21 202:2 203:8 217:3 228:4 264:20 264:22 267:11,12 268:4 270:5,10,16 275:4 293:5
numerous 121:11 235:2 333:9
nurseries 42:8 102:20
nursery 103:13
nut 3:16 32:5,14 38:22 39:18 41:7 42:21 55:20 70:3 90:4 96:22 125:16 134:9 137:4,7 137:9 138:13 139:10 140:22 144:11 176:11 177:21 202:6,18 223:15 225:14 251:11 259:1,21 260:8,20 267:10 302:4,10 342:19 344:12 353:14 361:3 364:2
nutritional 301:21
nutritious 32:16 35:15
nuts 23:14 35:2 39:3 43:4 57:1,16 61:6,8 61:14 62:17 66:19 82:22 83:3 90:5 98:13 99:8 100:21 101:20 131:1 133:18 134:1 134:11 135:1 136:18 137:1,11,14,16,16 139:3,16 141:5 175:9 175:13,19 176:12,14 177:19 178:12,19 179:1 202:20 238:22 240:22 248:6 254:10 257:11 259:14,14 260:4,8,14 261:5,11 261:15 283:14,17 284:3,21 302:9,21 304:10 317:15 328:19 328:20,21,22 334:10 342:22 364:22

| $\frac{0}{0}$ |
| :--- |
| o'clock 231:11,16 |
| 376:21 |
| object 120:8 |
| objection 12:2,5,21 |
| $2445,7,10,11,16,18$ |
| $34: 1,4,11,14,1537: 15$ |

37:18 39:7,8,10 40:19 40:20,22 41:16,17 48:13,15,16 54:10 71:4,6,7 77:5,7,8 119:21 120:1,4 121:5 122:11,13,14 143:11 143:12,13,14 157:22 158:1,2,3,4,9,10,11 243:1,3,4 287:9,12 305:18,21,22 324:13 325:7,10,11 338:8,9 338:10,11
objections 30:17 37:16 41:15 48:14 53:21 77:6 119:22 122:12 287:11 305:20
objective 66:22 269:4
objectives 236:19
observation 102:21 103:11 196:12,14
observe 210:18
observed 210:3 226:10
observing 210:3
obtain 147:4,8,10 150:17,21 151:9,10 151:16
obtained 194:22 215:8 obvious 56:15 282:5
obviously 75:11 253:21 324:19
occupation 9:7 13:18 26:14,16
occupies 42:22
occur 124:17 215:8 334:12
occurred 66:4
October 99:1,6 100:22
261:17 268:2,14
277:12,13
offer 376:3
offered 323:16
office 2:4,9 5:16 9:13
Officer 233:16
officials 3:10 11:13
offs 84:21
offset 56:13
Oh 93:3 95:6 111:14 205:18 206:2 224:13 254:5 262:13 279:7 279:11 294:18 311:4 318:4
oil 28:9
oils 39:16
okay 11:1 12:20 16:2,9 17:6 26:18 29:6 52:5 91:2 93:16 95:12,22 96:4 98:22 101:16,20 102:20 105:3 106:1 111:15 113:5 114:11

114:18 116:11 117:19
121:1 142:21 143:10
159:21 162:1,2,4,21
163:2,18,22 164:3,15 165:17 169:18,22
170:8 171:6 172:16 172:21 175:5,21
176:16 179:12,17
185:2,22 187:15
189:14,16 192:4
194:16 195:12,15 196:16 197:16 199:4 199:9 206:7 210:5 222:14 223:6 226:15 228:20 229:11,18 233:14 250:7 258:1 258:11,19 261:22 264:11 266:7,17,19 279:11 287:19 297:20 308:18 310:6 311:11 311:13 312:11 319:17 321:2 326:13 340:1 351:6,19 360:2 366:10 374:11 376:20 Oklahoma 1:7 20:20 37:2 43:22 59:18 72:12 74:5 128:8 129:1 265:19 355:13 old 33:10 34:22 354:18 older 33:10 239:15 289:1 303:20 335:4 once 55:18 101:16,18 103:7 124:13 269:13 274:13 341:9 342:14 353:3 359:15 367:8 372:2
one's 52:18
one-size-fits-all 88:11 ones 90:7 107:11 166:9 168:6 259:19 261:7,8 297:5 344:4,20 345:3 362:12 366:11
ongoing 45:11 310:11
Onozaka 135:3
onward 139:22
open 123:2 156:18 261:19
operandi 342:16
operate 92:12 331:21
operating 62:17 63:3 233:15
operation 44:2 110:9
111:8 153:11 237:4,7 238:1,14 240:16 245:11 246:1 247:12 247:19 301:4,19 336:16 340:3 343:16 347:14 348:19 349:7 368:17
operations 21:22
opinion $91: 8$ 112:13,15 239:9 252:12 285:6 303:14 334:20 356:3
opinions 325:2,3
opportunities 333:4,9
opportunity 8:7 115:7 274:10 281:3 290:12 304:12 322:9 323:5 357:18,20
opposed 63:21
oppressed 255:3
optimistic 114:22
optimum 204:5
options 245:13 367:22
oral 324:10
orange 140:19
orchard 41:14 44:12
92:4 190:4 373:14,18
orchards 41:21 43:2,16 44:4,22 45:9,13 46:5 58:16 59:10 60:19 124:18 129:19
order 1:5,12 4:6,16 7:1 7:4 12:9 15:19 20:4 20:11 27:12 29:1 31:11,16 32:1 36:7,13 38:13,16 39:22 42:2 43:6,10 44:18 46:12 46:14 51:16 54:22 55:11 61:2 62:11 63:16,20,21 64:10 66:8,10,11,20 67:10 68:16,18 69:2,21 72:19 73:1,9 74:19 76:11 78:22 79:4 83:8 83:22 87:21 88:5,8 90:14 91:1,4,17 93:8 94:6,10,16 99:20 112:16 113:13 115:13 116:18 121:22 122:22 123:7,14 136:9 138:2 138:17 139:8,18 140:3 141:22 142:14 143:3 144:15,18 145:15 147:11,15,17 148:2,9,20 149:21 150:10,11 153:5 154:18 155:16 156:18 157:2 166:14 167:20 168:7 173:17,19 174:4 175:2 177:2,5 179:6 192:20 219:7 220:6,7 222:7 234:19 235:8,10 236:17 237:3,6,17 239:5,8 242:6,13,15 248:15 249:15 257:12 258:8 258:12 263:19 270:7

270:21 271:3 282:18
285:1,5,16,19 286:1,2 286:17,22 287:4 289:7 298:10 300:16 300:19 303:10,13 304:6,10,15,16 306:20 309:9 311:9 315:3,13,22 316:6,22 320:2,6 321:11,17 322:10 324:4 329:9 331:12 333:5,9,19 334:3,15,19 336:4 337:5,7 357:10
374:18 375:6,10
orders 58:2 87:14 137:21 141:5 145:14
ordinary 352:7
organic 135:5,15
234:12 237:10,12,15 237:15 253:20 254:3 254:6,10,13,13 255:1 255:7,10,13 263:10 264:6
organically 254:17
organization 27:14
31:21 36:2 68:9 69:12 304:5 331:10 351:4 352:10
organization's 352:9
organizations 47:9
67:21 68:3,4,5,14,17
69:1 84:20 331:14,21
332:6
organize 332:18
organized 19:8 69:10
origin 128:22 163:17
original 33:15 99:17
189:4 327:19
Oscilla 72:10
out-of-pocket 75:1
out-of-the-shell 61:11
outlaid 368:14
outlets 61:22
outline 66:8
outlined 69:9
output 146:10
outreach 89:7
outset 72:22
outside 73:21 81:4,13 102:17 244:17 245:2 245:2 256:6,18 257:11 329:18
outstanding 177:11 outweigh 148:16 150:10 152:14 154:16 230:14 237:7,17 285:20 300:20 319:5 319:18 334:4 363:7 363:15
overall 42:13 166:1 178:1 193:5 206:15 206:22 210:21 237:2 285:15 300:15 333:18 overdue 291:11 362:2 overestimating 203:5 overhead 374:13 overlooking 35:4 overreaching 36:10 overseas 331:4 oversee 68:7 84:21 oversight 7:11 331:3 overview 31:14 36:17 owned 112:20 329:13 owner 27:20 299:8 owners 328:21 ownership 328:12 330:3,9 340:8 348:22 owns 373:14

| P |  |
| :---: | :---: |
|  | P 118:14 216:21 217:1 |
|  | P-H-I-L-L-I-P 327:10 |
|  | P-R-O-C-E-E-D-I-N-G-S |
|  | 5:1 |
|  | p.m 231:19,20 232:2 |
|  | 298:7,8 377:2 |
|  | pack 7:6 329:11 |
|  | package 64:7 332:5 |
|  | packagers 62:3 |
|  | packages 336:8 |
|  | packaging 64:3,12 |
|  | 149:2 238:20 302:19 |
|  | 321:19 334:8 369:19 |
|  | packer 163:20 |
|  | packers 119:6 |
|  | page 6:14 18:19 19:9 |
|  | 19:10 20:13,16,18 |
|  | 21:22 22:14,17,20 |
|  | 23:13 105:4 107:5 |
|  | 123:21 160:3 161:4 |
|  | 164:14 165:9,12 |
|  | 167:1 169:6 172:3 |
|  | 173:2,3 175:6 176:6 |
|  | 176:17,20 179:17 |
|  | 189:7,11 193:18,19 |
|  | 194:19,21 195:16,17 |
|  | 195:20 196:18 197:17 |
|  | 197:20,22 199:10,11 |
|  | 199:16 206:8 208:21 |
|  | 209:8 211:3 212:7,9 |
|  | 212:10 217:12 219:1 |
|  | 220:21 223:13 224:3 |
|  | 224:4,5,16,20 226:16 |
|  | 226:21 227:3,3 |
|  | 228:15 229:5,7,8 |
|  | 284:12 288:21 291:7 |
|  | 305:4 306:17 309:4 |
|  | 311:4,5 337:16 |

Neal R. Gross and Co., Inc.

369:16 374:5
pager 220:12
pages 18:20 21:3 22:9 22:11 121:3
paid 145:18 154:22 189:22 191:16,19,21 198:8,9,15 237:11 262:2,14 318:19 330:2,8 349:10
paid-for 92:3
paint 340:9
painted 358:5
Palma 3:3 4:3,17 46:12 60:22 61:3 67:8 86:2 117:1,2 118:1,4,10,14 119:20 121:9 134:20 135:8,17 142:1 143:19 157:3,13 159:18 160:22 162:8 179:3 192:9 222:21 224:14 230:3 231:8 236:20 283:13 285:10 300:10 315:14 333:12 333:13
Palma's 121:2 263:11 286:14 318:10,17
Palmer's 363:5
panels 235:5
paragraph 189:14 197:20,22 211:2 212:8,11 224:16 225:1
Paris 281:8,8
parity 23:15 25:6,11 155:17,18,21
part 10:3 12:6 16:13,16 16:16 18:2 23:11,15 25:9 27:3 56:12 58:2 59:4 99:18 137:21 143:20 156:2 159:7 159:10,14 160:14 162:18 193:2 223:22 241:15 246:18 281:8 281:16 302:15 315:4 320:3,21 324:21 335:14 339:13 345:8 349:21 361:15
part-time 47:17
parte 117:6,10
partially 211:19
participants 156:12 282:21 333:1
participate 8:6 31:3 80:15 91:10 235:17 249:7 266:15 304:12 320:7,15 333:10
participated 14:18 235:2 276:12 286:20 participation 44:20

46:21 271:14 275:13
275:21
particles 303:7
particular 15:4 21:12 21:20 22:3 51:11 62:5 90:8,17 98:3 106:13 107:14 131:14 135:17 136:9 177:16 178:11 182:12 185:19 196:3 196:5,8 198:19 200:16 201:18 204:20 206:22 207:12,16 208:8 211:16 212:18 212:21 213:13 215:22 216:5 217:6 218:11 218:22 227:11 231:2 231:3 259:2 309:10 309:11 348:10
particularly 45:12 76:11 98:20 113:5 254:14 352:20 354:13 363:14
parties 156:10
parts 16:12 31:22 363:17
party 117:12
Paso 59:13
pass 11:19 29:20 261:6
passed 83:16 197:1
passes 124:13
pasteurization 246:15 248:7,13
patients 302:7 310:13 310:15
patter 127:18
pattern 20:6
patterns 33:1
Paul 2:14 5:22
pay 135:7,12,21 145:13 262:4 277:19 278:5 328:18 336:17 339:9 346:2 371:22
paying 191:15 366:19
Payne 131:3
peace 325:22
Peachtree 2:16
peaked 52:7
pecan $3: 11,12,15,17,20$ 6:16,16,18 7:10 16:12 16:17 17:17,18 19:1,9 21:2 23:12,13,20 24:12 26:17 27:7,13 27:15,16,18,19,21 28:14 31:4,14,18,21 32:4,4,9,20 33:3,4,7,8 34:21 35:3,10,15,18 35:21 36:15 38:12 40:6,16 $41: 6$ 42:8 43:1 44:16 45:10,13 46:6,11 49:8,15,18,21

50:8,16 52:10 53:8 54:17,19,20 55:1 56:5 56:10,22 58:6,13 61:6 61:11 62:6,11 63:14 63:19,22 64:8,16,21 64:22 65:2,22 67:10 68:1,2,4,5,6 69:5,7,8 69:9 70:2,4,7,11,13 70:13,14,15,16,20 71:2,15,17,19 72:4,7 72:9,22 73:2,5,7,10 73:12,13,15,15,22 74:1,7,10,11,12,13,14 74:15,17,19,20 75:13 76:12 80:13,13,19 84:16,18,19 85:17,18 85:19 86:3,14 88:4 90:15 92:15 94:18 101:4,9,15,16,17 102:3 103:8 104:8,9 104:13 108:10 112:10 112:12 114:5 121:12 123:10,21,22 124:5 124:12,21 125:5,7,21 126:5,13,15,20 127:19 128:2,22 129:21 130:20 131:11 132:3 133:1 134:19 137:6,15 139:16 141:6 153:16,19 154:2,2,7,14 155:9,14 155:16,20,21 156:1,4 161:9,14 178:14 180:1 233:16,18 234:1,2,4,8,19 235:1 235:3 236:15 237:16 237:21 238:10 241:2 242:7,16 245:3 246:19 247:1 248:3 248:18 252:1,19 257:6 258:20 260:17 265:16 267:8,16 269:8 271:12 278:15 280:13,16,19,21 281:1,3,6,9,22 282:2 282:9,11 286:3 288:9 288:22 289:1,4,6,13 289:21,22 290:1,2 291:9,10,13 293:10 293:11,18 294:21 299:9,13,19,21 300:1 300:6 301:2,12,22 302:12 303:3,6 304:4 304:7,17 307:2,17 311:3,9 313:22 314:1 314:5,16 322:1,11 327:14,17 328:10,11 328:12,13,14,16,16 330:14,15,18,19

331:2,5,6,9,15,15,16 331:18,19,22 332:2,6 332:10,20 333:2,7 335:21 336:7 337:1,3 337:4,8 338:5 349:8 350:1 351:11,12,22 353:22 355:9 358:12 361:2 364:22 366:15 366:19,22 373:17 374:7,17,20 375:9,13
pecans 1:5 3:22 4:6,16 6:7 12:9 18:7 19:4 23:16,18 27:12 $28: 7$ 35:14 36:13,19 37:7 38:18,20 39:4,15,18 39:19 40:2,3,4,5,6 41:5 42:12,15,20 43:11,20 46:16 47:8 47:19 51:17 52:6,20 54:22 56:3,8 58:3 60:1 61:4 62:22 63:5 63:7,9,17 64:1,4,6 66:20 67:4,13 73:1 82:3,7,11,20 83:20 84:5 89:20,22 90:2 96:1 109:3 110:8 113:21 115:6 121:15 121:22 123:1,7 125:11,15,19 126:3,8 126:15 127:3,4,5,15 128:12,18 129:7 130:21 131:4,19 133:2,9,20 134:3,13 135:17 136:1,7,16 137:4 138:3 139:3 142:14 144:3,19 145:2 147:4,17 149:1 149:6 150:2 153:2,13 153:22 154:3 156:11 157:2 161:10 164:2 171:13 175:8,20 176:3,20 178:1,4,17 180:20 188:16 192:21 195:18,19 196:2 203:12 204:3,9 207:13 211:10 225:8 226:6 233:22 234:7 234:12,13,14 236:17 237:9,12 238:2,12 239:6,15,22 240:5 242:14 244:16,22 245:14 246:11 251:18 254:6,11,13 255:1,13 255:21 256:6 258:14 258:15,16 259:8,13 259:18 261:16 262:2 262:5,10,14 267:10 269:14 277:11,15 278:4,9,10 280:11

281:10,14 282:6
283:9,15,19,21 285:2 286:1,18,22 287:4 288:16 292:12 293:10 293:14 294:7 296:5,9 299:8,8,11,12,19 300:5,8 301:5 303:11 303:20 304:15 314:4 314:15,17,22 315:14 315:22 316:6,9,11,15 316:22 317:21 318:12 318:19 320:3,7,9,10 321:11,17 322:10 327:19 328:2 329:1,2 329:6,13,15 330:3,10 330:15 331:4 332:5 334:16 335:4 336:3,6 337:5 340:16 341:2,8 342:3,13 343:17,20 344:1,3,6,19 345:1,2 346:1,9,21 347:10,20 348:10,22 349:4,5 350:11,13 353:10 357:2 358:21 360:13
361:10,13,19 364:16
367:11 368:3,5 369:7
370:8 373:14,15
374:19 375:2
peculiar 124:21
PED 17:12
peeked 248:13
peel 344:14
peels 344:15
pen 305:7
pending 66:13 370:8
pens 308:13
people 73:2 74:20,20
113:16 114:9 115:7 200:3 223:3 251:14 251:16 253:16 266:3 266:3 271:2 273:8 275:4 296:4,8,15 317:9 323:6 340:14 340:19 341:15 345:16 352:3,8,17,20 353:1 354:14,15 355:5 357:5,20 358:7,9,14 358:15 359:4 360:17 360:18 361:17 362:1 362:11,13,16 364:17 364:21 368:18,22 369:6
per-pound 187:17
percent 19:21 20:2,15
20:17,21 42:14,16 50:15 58:22 59:21 81:20 95:2,3,9,18,19 95:21 98:8 99:19 125:14,18,20 126:13

126:22 127:16 128:17
129:2,6,11,12 130:6
130:10,13,22 137:9
137:10 144:9,10,13 145:8,12,17 147:2,13 148:6,7 150:6,7,16,20 155:11,11,12,13 161:12,12,22 163:3 164:11,17 165:17,19 165:21 171:17 172:7 172:7,11,14,17,20 176:19 178:4,5 180:17 188:3 194:9 194:11 197:3,7,17,21 198:2,21 199:3,5 209:14,21 210:3,7,8 210:13 211:7,14 212:13 214:17,18 215:2 217:16 219:20 220:1,20 221:1,7,8,9 221:13,15,15,21 224:18,18 226:8,9,19 226:20,21,22 227:5,6 228:2 229:2,3 250:12 251:11,12 259:3 260:11 302:8 350:1,5 350:12 353:9 361:7 367:6,9
percentage 20:12 97:15 144:21 145:7,11,22 155:9 163:12 164:22 172:12 173:5 178:1,3 179:22 180:9,12 181:2 194:10 196:7 214:19 227:4 364:10 373:19
percentages 19:17 20:8 20:9 21:17 95:15 364:12
perception 136:5 269:22
perennial 124:1
perfectly 243:22
performance 70:1
period 53:5 54:17 57:10 114:15 126:11 127:1 127:13,15 128:14 132:7 137:6 153:6,13 153:20,22 274:13 277:13
permanent 347:10
permission 31:13 100:10 305:7
perpetuated 291:14
person 8:16 9:5,16 83:19 116:21 175:7 235:15 255:17 256:18 273:10 276:10 329:14 336:21 373:12,14
person's 255:19
personal 72:1 91:19 313:22
personally 15:8 269:17
personnel 8:19 74:7
persons 8:4 9:2 11:9 113:11
perspective 249:10 250:5 267:1 330:19 363:5,8
perspectives 263:9 363:10
pertains 231:1
pertinent 133:12
Peru 126:1
pest 45:6 60:15
pesticides 254:14 307:13
pH 280:22 307:1
pharmaceuticals 310:12,13
pharmacist 300:2 301:20 309:15
PhD 118:17
phenomenon 32:22
Phillip 3:6 326:15,18 327:9 375:12
Phillips 332:9 375:15
phone 241:19
photo 3:15,18, 19 33:17 33:18
photocopies 33:20
photograph 33:14 34:22 40:13 41:10,13
phrase 195:17 214:16 217:13,17
physically 28:13
physician 309:14
pick 99:9 108:13 240:21 343:2
picked 99:1
picture 52:12 178:10 340:9
pictures 35:12
pie 336:7
piece 198:3
pieces 62:7 260:16
pills 310:14,17,17
pipe 64:15 66:14
pistachio 149:15 273:6
pistachios 57:2,12,17 64:8 134:12 137:2,18 139:18,19 141:20 142:1 143:1,4 149:13 177:20
place 51:16 61:5 69:1 73:21 89:8 90:19 92:16 125:21 128:3 129:19 131:21 132:4

137:19 272:13 358:4
plainly 236:5
plan 31:2 76:10 113:7
136:6 237:22 239:17 301:3 303:22 335:6
planning 56:1
plant 64:17 82:21 90:1 92:4 102:1 103:7 115:1 125:1 244:20 244:21 246:14 261:10 299:13 307:3 340:20 343:3,4,5,21
planted 35:4,10 65:5,13 131:17 188:12,19 234:8 273:19 327:20 340:16
planters 65:11 69:19 115:3
planting 41:22 64:18 65:1 103:5 114:12 124:11 131:16,20 190:3 353:15
plantings 42:18 43:17 56:18 58:20 59:15 102:9,13 103:11 131:7 283:20
plants 49:15 307:9 328:21 343:10
plated 314:4
play 35:21 138:9
please 5:9,13 9:8,18 13:3,9,17 14:4 25:16 26:5,13 27:2 31:1 118:2,12 205:19 233:6 250:6 279:15 298:11 299:4 305:9 313:14 374:15
pleased 332:22
plots 138:22
plotted 137:5 139:15
plus 16:14 50:4 266:18
point 48:22 68:21 78:19 79:1 82:10,20 120:17 131:3 138:7 139:22 144:9,21 165:7 172:3 176:16 178:20 180:18 188:1 189:17 193:12 197:6,16 202:21 204:6 205:11 207:1 209:14 212:4,6 218:17 219:4 221:7 225:19 226:8 230:15 241:17 263:2 270:15 277:2,17 329:17 337:12 366:19 369:22
pointing 85:7
points 107:16 176:22 182:4,8 214:19 253:3 271:21 274:22 330:20
policies 184:4 220:13
policy 146:19 166:18 184:4 236:2,10
poor 55:17
pops 344:12
popular 42:3
population 351:9 352:13
pork 140:19
portion 57:18 124:3 217:17 237:9,13 348:7
portions 67:22
posed 96:11
position 15:21 42:22 371:7 372:6
positions 371:3
positive 36:9 49:8 56:7 130:19 138:11 139:12 139:21 154:19 189:20 191:6 270:12
possession 349:5
possible 7:19,21 29:9 114:8 147:1,9,14 170:17 181:15 182:9 182:10,14 183:10 185:20 186:15 213:22 216:21 218:1,5 283:7
possibly 7:17
post-implementation 141:4
potatoes 140:19
potential 35:17 36:16 56:15 136:8 137:14 144:12 146:20 148:8 167:21 168:5 186:13 202:4,8 203:4,5 205:10 208:3,9,17,20 210:21 217:20 225:8 225:15 226:3,7 244:18 248:14 270:18 307:14 309:6 363:6
potentially $241: 7$ 271:1 292:19
Potomac 35:5
pound 22:15 145:2,5,10 146:7 148:10,12 149:19 155:19 204:21 224:7 228:14 229:4 236:22,22 247:17 266:8 278:3,6 285:12 285:13 300:13,14 318:22 319:10,10,12 328:18 333:15,16,17
poundage 44:21
pounds 18:6 19:14,20 20:1 21:11,16 35:2 47:12 49:5,6 50:3,5,7 57:5,6 62:16,18 63:4

64:6 108:5 109:1,3,4
126:7,10,10,18 127:1 127:13,16 132:6,9 150:1,12,15,15,20 151:5,7 153:21 154:3 154:10 165:13,14 175:8 223:18 228:9 228:18,20,22 229:1 234:7 239:6,21 240:12,12,21 241:20 246:11 255:6,8 266:10,20 268:13,17 274:2 285:2 293:21
296:4 299:12 303:11 314:11 320:10,19 334:16 336:2,13 343:6 369:1 371:10 371:12
poured 114:2
pquiros@kslaw.com 2:18
practice 58:7
practices 44:21 45:15 46:9 71:14 80:11 127:20 129:16 168:16 173:12 187:8,14 256:21
preamble 12:12
precipitous 137:8 177:16 178:2
precise 45:22
precursor 51:12
predecessor 14:10
predict 113:14
predictable 113:8
prediction 293:7
predominantly 58:19 84:4 346:5,6
prefer 29:4 77:13
preferences 119:11
preferred 35:16
preliminary 23:6
premium 43:3 90:6 135:22 136:3
preparation 75:22 142:2 143:21 230:3 286:21
prepare 10:2 157:3 350:18
prepared 9:20 15:5,8 15:10,19 16:3 23:5,20 26:21 51:21 121:18 122:9 157:7,15 159:8 159:16 233:9 236:19 280:1 285:10 300:10 312:20 315:14 327:3 333:13 342:12
preparing 15:13 104:16 105:8
present 2:19 8:5 9:17 17:16 20:8 21:4 22:10 22:11,14,15,20 27:9 58:19 59:10 83:5 134:8 170:20 183:12 186:17 187:5 220:4 376:8
presentation 64:4,11 76:13 318:18 322:9 350:19
presentations 73:11,12 73:17 75:20 121:11
presented 8:8 18:17,22 20:10 86:8 123:15 166:9 220:10 304:9 319:3
presenting 18:15 220:8 presents 21:6 22:17 23:1
preservative 64:12
preside 5:7
president 27:13,15,18 27:19 331:1,4,6,8 337:1,2 351:1 352:9 375:12
presiding 1:14
press 3:10 11:10,12
pressure 132:1
prestigious 302:2
pretty 53:13 166:6 177:21 294:5 341:10 345:5 346:14 351:22 352:11 376:10
prevalent 98:21
prevent 80:14
preventative 342:6
previous 177:14 221:19
previously 13:4 24:13 24:20 34:6,16 37:19 39:11 41:1,18 48:17 54:11 71:8 77:9 121:6 122:16 130:18 143:16 158:6,14 243:7 287:15 299:1 306:2 325:12
price 3:13 16:18 17:19 18:17 22:14 23:15,17 25:10,11 43:5 46:18 50:15,18 51:10 52:19 53:13 54:5,16,18 55:10 57:9,14 131:16 135:6,22 136:3,11 145:1,12 146:6 147:10,16,21 148:7 151:6,8 154:19 155:3 155:18 180:11,12,16 181:18,20 182:16 184:15 188:7,7,9 189:20 191:6,16,21

193:22 194:1,3,5,13
197:9,13,18,19,21
198:8,9,15 208:4,13 208:18 209:15,22
210:1,13,16 211:9,20
213:2 215:8 218:15
226:4,8 236:10,21
238:7,15 277:16,17
277:21 278:5,7,11 283:9,21 285:11
300:11 301:10,14,17
316:11 318:19 323:16
323:17,20 333:14
345:15 348:9 350:13
357:7 360:20 364:9
367:9,11 372:3,11
374:22 375:3
prices 22:15,18,21 23:2
50:8,13,14 56:7,8,10
56:17,19 64:21 65:2
65:22 67:2 69:15
97:17 103:4,7,12
113:7,8,14 114:16,19
125:8,9 129:17 131:9
131:19 132:1 134:6,7
134:10,16 135:12
136:16,18 140:5,9,12
144:6 145:4,7,10,18
146:1 147:6,8,9,12,14
148:3 149:3,8 152:19
154:22 155:6,10,15
155:17,20,21 180:1,5
180:7,7,9 181:3
189:22 190:10 208:1 208:11,12,20 210:4 210:19 211:1,6,12,13 211:21 213:8 214:6 215:20 218:14,22 223:16 224:7 226:10 237:20 238:2,12
284:1 285:14 292:17 301:1,5 316:8 317:3 345:21
pricing 25:6 56:21 125:7 155:17 156:14 237:21 292:21,22 301:2 367:5,10
primarily 43:17 72:10 83:2 86:11 93:14 288:12,13 341:13
primary 59:19 267:12 346:12
printing 23:10
prior 14:10 79:1,16 252:21 361:2 privilege 283:12 pro 76:2
proactive 35:22 probabilities 216:1

217:9 220:12
probability 167:3,10 185:13,15 215:7 216:13,20 217:7 218:1,3,5,8 219:16
probable 183:5
probably 112:22 183:19 198:22 239:15 247:20 250:11,12 254:22 255:7 257:10 260:22 263:22 266:9 303:19 319:7 335:3 341:21 346:15 356:14 361:4 368:20 372:12
problem 93:5 120:13 310:2
problems 99:18 282:5 282:17 308:5 350:4 353:18
procedural 117:15
procedure 147:5 251:16
Procedures 236:1 proceed 17:7 26:19 27:2 29:7 30:18 48:20 117:2 118:9 121:9 233:2 298:21
proceeding 11:5,6 12:7
process 87:11 89:22 91:8,22 96:21 101:11 109:6 117:9 133:4 241:16 251:19 259:9 259:21 261:2 277:20 286:9 289:3 304:11 304:13 308:14 320:8 333:10
processed 163:7
processes 82:21
processing 163:21 234:14 246:5 256:1 261:9 353:11 364:11
processor 93:10 96:17 96:19 364:10
processors 70:6 79:7 93:7,17,19,20 375:4
produce 32:20 43:19 55:19 60:2 101:20 124:12 125:1 140:8 167:19 244:20 314:12 353:10
produced 37:8 49:5,6 124:2 125:6 171:13 192:22 234:6 299:12
producer 92:12 93:22 125:19 161:10 190:8 190:21 191:14 192:9 198:13,16 234:12 373:11
producers 70:6 92:15

119:5 130:16 153:17
188:4 189:2 375:4
produces 35:2
producing 20:14 33:8,9 38:10 65:8 70:10 101:19 129:19 358:21
product 47:12 55:2 57:20 61:19 62:14 64:2,11 85:11 136:5 140:11 149:8,10 156:14,15 163:7 196:4,6 203:16 245:20 255:20 256:17 257:16,20 259:10 272:2 282:6 308:7 309:21 310:3 340:8 364:18 367:17 371:17 373:10
production 3:13 6:19
6:19 11:15 16:17
17:19 18:5,17 19:7,11 19:14,15,18,20,21 20:1,2,3,5,15,18,20 20:22 $21: 2,4,9,15$ 22:6,10,12 23:8 35:3 38:12,14,15 41:8 45:15 46:10,21 47:16 49:18,21 50:10 58:7 58:12 62:16,18 65:16 69:14,18 71:13 80:1,3 80:5 81:4,13,14,17,20 83:5 101:19 104:13 112:11,11,13 115:10 124:14,21 125:6,11 125:13,17,18,21,21 127:5,9,10,12,14,17 127:19 128:1,2,12,17 128:19,20 129:1,4,6,8 129:11,16,22 130:2,8 130:10,20,21 131:1,9 131:12,18,22 132:1 132:15,16,21 133:2,4 135:4 136:17,20 137:4 139:5 146:4 148:21 150:5,6,7,19 150:20 153:3,4 154:12 156:10 162:11 162:12,18,19 163:12 163:15 164:20 165:13 165:19,20 167:16 168:15 171:14,17,18 172:10 173:13,17,20 174:7 178:16 179:1 181:5,6,7,11,13 182:15 183:8 184:1 185:1 186:2 187:18 188:20 190:15 194:22 207:14 209:2 233:22 234:6,9 238:4,4 239:7

239:14 240:18 268:13 293:21 299:11,15 301:7 303:12,19 329:17,21 334:17 335:3 336:19 373:12 373:13
productive 308:1
products 121:15 135:10,15,21 138:12 138:19 140:16 141:9 201:14,15 225:11 255:22 317:2 345:5 350:18
profession 13:21 257:2
professional 28:5 303:5
Professor 118:18
profile 81:16
profit 64:20 113:12 115:8 154:5 166:1 167:14 174:16 187:7 240:17 336:18 361:7 371:21 372:5 373:19
profitability 166:3,7,12 166:16 167:21 171:1 174:2 181:12
profitable 67:2 168:19 175:2 375:4
profits 167:4,11 168:12 174:13,19 187:11
prognosticators 65:17
program 7:9 17:13 53:11 78:22 81:2 88:22 119:4 138:16 139:7,13 141:16 144:3 148:1 151:14 177:2,7 192:21 203:10 204:10,12 207:15 222:3 288:15 288:15 292:19 308:8 332:10 339:3,14 356:1
programmed 146:13
programs 45:18 68:7 74:10 79:3 87:9 88:12 119:1,13 121:14 137:18,19,20 141:3,7 141:9 142:17 144:7 144:16,17 201:14 202:6,6
progress 225:5
prohibited 117:7,10,22
project 113:7 273:15 282:20 323:5,6 333:14
projected 65:17 236:20 285:11 300:11
projection 285:3
projections 236:11
projects 309:6,11
promote 203:16 281:10 317:12
promoting 63:17 204:3 357:2
promotion 7:3 14:9 17:11 57:19 69:17 84:22 85:3 86:12 87:18 100:6 119:12 121:14 132:4 135:3 136:15 138:11 140:4 140:8,10,13 141:7,9 144:2,7,15 147:3,14 148:8,16 149:21 155:15 174:11 199:13 200:20,21 201:14 203:10,17 204:13 222:3,7 223:15 225:5 236:9,21 237:14 285:12,14 300:12 317:1,16 321:13 331:3 332:3 333:15
promotions 141:1 203:19
promulgate 6:5 27:11
promulgated 374:19
promulgation 15:2
pronounced 232:16
propagated 40:8 124:18
propagation 209:3
propensity 45:11
properly 242:9 342:12 359:15
properties 138:1
property 239:16 303:21 335:5 373:2
proponent 5:21 6:1,3 6:17 24:8 26:1,10 27:14 31:21 63:22 118:6 121:17 123:12 136:13 154:12 232:21 246:20 247:2 279:19 298:18 312:15 326:20
proponents 2:13 298:13
proportion 154:21 189:21 194:2,4,13 proportionately 187:22
proposal 6:5,11,12,15 8:2 31:5 86:8 89:10 117:11,14 246:20 247:2 262:8 270:20 294:10,11,12 351:10 356:3 360:7 370:1
proposals 36:4 85:20 242:11
propose 304:6 357:16
proposed 1:5 7:1 11:15

12:9,12 31:18,22
38:11,16 39:22 42:2
43:6 44:18 46:12,13
55:11 61:2 62:10
63:15 76:11 80:1 83:8
93:8 94:5,10 96:19
123:6,14 138:2 140:2
144:18 180:2 192:20
234:18 235:8,10
236:16 237:17 239:2
239:4,8,13 242:6,13
242:15 249:14 258:8 258:12,13 263:18 271:3 285:1,4 286:1,3 286:21 287:3 300:16 303:9,13,17 304:15 304:17 315:3,21 316:5 320:2,6 321:5 321:10,16 322:10 324:3 329:9 331:12 331:18 333:4,8 334:15,18 335:1,18 336:4 337:5,7 339:3 339:14 354:4 356:5 373:3,10
proposes 156:6
proposing 36:13
proprietary 373:13
prospect 284:1
protect 307:16,21 308:3 371:5
protected 303:6
protection 236:3
protein 115:6,7
protocols 238:20 284:19 302:19 334:9 369:19
protoxide 307:13
proven 38:21
proves 242:1
provide 7:1,4 67:18 123:1,6 135:10 156:9 214:10 357:18 375:2 provided 42:2 55:5 135:20 146:3 183:11 227:18
provider 330:22 provides 236:2 330:7
providing 32:3 43:6 119:3 206:8 349:1
proving 177:6
provision 90:17 94:16
provisions 87:20
pruned 100:18
prunes 140:17
pruning 45:17 153:15 public 1:3 8:6 67:9

71:22 121:16 293:15 publication 55:13 360:7
publications 121:13
publicity 39:2
publicized 38:22
publish 332:2
published 6:12 11:7
12:11 21:18,20 23:6
23:16 25:11 287:2
302:3 315:3 351:20
publishes 18:12 21:2
pull 345:3
pulled 46:22 47:3
pullout 85:17
purchase 61:7,13 244:21
purchased 299:20
purely 245:14
purpose 8:1 15:13,15 17:15 36:10,14 74:18 79:20 106:18 195:22
purposed 341:11
purposes 123:8 138:22 145:15 193:7 227:14 228:6
pursuant 6:7
push 289:7
put 5:11 103:16,22 105:14 132:1 159:3 174:11 175:15 177:22 178:10 186:13 188:16 207:16 239:17 240:5 249:20 261:12 274:10 275:3 282:16 294:21 295:1,1 296:22 303:22 314:7 329:14 335:6 347:22 348:4 355:9,16 364:16 367:7
puts 195:11
putting 190:3 269:21 307:11 324:21 348:1 355:17 366:3


106:18 109:17 111:21 120:7,8 171:7 173:8 174:21 188:5 189:4,7 190:1 193:18 198:4 201:7 203:14 204:16 207:11 219:3 221:12 221:19 223:10 226:15 228:8 258:1 263:8 264:3 265:12 277:3 294:2 305:2 310:22 311:7 312:22 316:3 318:6,8 319:15 323:10 337:12 338:22 339:20 357:15 362:4 362:22 367:13 369:15 376:12
questioner 96:12 questioning 77:22 172:12
questions 9:17,18 10:5 25:1,4,13,15 76:15,18 77:13,16,17,20 78:9 78:17 86:16,20 92:20 92:22 93:2 96:5,6 101:3 112:2,5,7 115:14,18,19 117:15 123:2 156:19,21 158:13 160:19,22 162:10 175:6 192:5 193:9 194:18 205:14 205:19,21 206:1,4,6 222:12 224:15 229:16 229:17,20,22 231:7,7 231:10 242:17,20 243:6,10,13 253:9,13 262:22 274:16,17,22 278:22 279:2 286:4,8 287:14 288:7 294:14 294:17 295:20 297:14 297:17 304:19 306:8 308:19 311:15,17,20 321:4 323:7 324:15 325:21 326:3,7 337:10 338:13,14,17 360:4,6 362:20 365:8 365:11 372:16 375:17 375:21
quick 97:12 176:16 203:6 223:13 294:19 quickly 117:5 276:8 Quiros 2:14 5:22,22 12:4,14 24:7,16 25:3 25:5,12,21,22 48:3 118:10 119:15 120:3 120:5,10,16,20 121:1 121:9 122:4 141:12 141:19 142:5,11,15 142:20,22 143:19 144:4 156:20 157:7

157:11,20 158:12,17 158:21 159:6,13 160:1,5,9,11,15,19,20 165:7 173:1 176:4 192:8,14 193:8 205:17 206:5 209:20 210:5 222:15,16 226:1 228:7,13 229:7 229:19 230:2 231:5 231:12,17 263:3 279:14,22 286:5,7,12 287:6,14,18 295:22 297:11,19 298:1,5 312:4,18,19 313:3,12 319:20 320:1 324:6 324:12 325:18 326:11 326:14
quite 45:1 79:6 103:2 139:14 171:7 263:9 265:13 283:12 291:6 quo 69:6 quote 284:11 370:2

## $\frac{R}{\text { R-U-P-A 12:17 }}$

Radium 299:9
radius 281:2
raise 13:9 26:5 89:9 117:2 118:2
raised 372:20
raisins 140:20
rambling 362:8
Ranch 1:13
randomly 44:10
Randy 72:9
range 44:7 58:17 60:5 98:2,10 99:18 130:1 145:8 150:10 151:19 151:21 152:1,5,9,10 155:10 166:16 170:16 180:2,17 181:15 183:9 185:6,8 197:14 198:19 199:1,2,12 201:5,15 203:7 216:1 216:18 221:2
ranges 152:15 194:8
rapidly 35:19
rarely 45:7 64:6
rate 131:6 132:18 134:16 171:3 179:1 204:21 247:13 262:9 344:1
rates 262:10
ratio 42:19 149:16 151:13,17 152:14 195:18,22,22 196:2,8 199:18,20,22,22 200:3,7,13,17,18 202:1 203:12,13

Neal R. Gross and Co., Inc.

206:16 209:4,5
rationale 250:3,4
ratios 134:8 151:20 201:6
Ray 116:20 117:16 376:6
re-imported 163:3,4
reach 36:15 44:4
reached 64:22 73:19
reaching 73:6 273:5
react 135:2,9
reacting 103:12
reaction 131:15,19 263:20
read 16:6 83:13 120:14 121:4 161:9 189:9 193:19 233:12 $235: 9$ 280:3 324:19,20 329:8 369:22
reader 207:3
reading 17:7 106:21 107:3 120:15 169:4 170:9 281:20 302:1 374:13
ready 13:1,2 17:7 30:6 30:10 118:2 232:5 329:7 357:4
real 66:6 115:5 254:12 272:6 294:19 314:10
realities 35:20
reality 49:8 152:18 268:7
realize 292:9 354:9
realized 102:22 355:3
realizing 109:2 355:6
really 38:18 40:14 51:19 72:20 85:22 86:6 87:16 108:14 166:13 200:22 204:22 205:5 215:2 228:10 240:4 251:1 252:4 258:20 259:1 261:5 268:20 270:10 273:2 274:6 274:11 276:22 277:6 278:17,18 284:5 290:2 291:14,15 292:7,7 293:15 294:22 295:1 297:4 307:15,16 308:21 317:8,11 324:1 345:16 348:20 354:9 358:9 361:9 366:9 367:12 368:21 369:3 369:7
reason 30:14 80:16 81:2 106:20 114:13 167:4 188:5 201:12 202:1,5,11 207:5 214:5
reasonable 55:10 238:13 239:10 285:7 301:15 303:15 318:17 318:22 334:21
reasons 21:21 31:15 72:2 99:19 100:5 112:19 113:18 131:5 202:4 370:18
Rec'd 3:7
recall 86:3 175:11 318:10
receive 8:2 238:8 301:10 318:21 329:10
received 13:6 24:15,22 34:8,18 37:21 39:13 41:3,20 48:19 54:13 71:10 77:11 121:8 122:18 143:18 155:4 155:6 158:8,16 194:3 194:5,14 197:18,19 233:18 237:20 243:9 287:17 301:1 306:4 315:2,11 320:4 325:14
receives 332:10 334:13
receiving 271:18,20
recess 231:16 297:20
recessed 376:21
recipe 85:17
recognize 35:18
recognized 43:5 138:8
recommend 7:5 295:10
recommending 332:4
recon 116:7
record 8:9,11,12,15 10:1,3,16 11:3,18 12:22 13:18 15:17 16:7 24:6,11,18 26:14 33:16 76:7 85:16 107:2 116:15,16 122:2 169:3 173:2 179:9,14 189:10 231:19 232:7 298:7 306:6 324:9 333:21 337:19 338:2 374:4 374:15 375:10 376:16
recorded 32:6
records 370:7
recovered 260:11
RECROSS 3:1
recurrent 281:13
red 167:8,11 169:9,11 169:16 170:4 219:4 219:17
REDIRECT 3:1 192:13 230:1 274:19 295:21 372:21
redistricting 236:7
reduce 66:12 127:21

153:12
reducing 134:14 153:14 318:19
reduction 184:9 302:8 302:13
refer 18:18 104:15 123:3 166:18 176:18 179:18 182:18 195:15 197:5 199:9 211:3 214:8 216:15 316:19 347:11 373:2 374:5
reference 15:16,22 102:8 173:4 198:18 248:20 327:13 366:12 371:19
referenced 343:21 344:1 353:1
referendum 354:2
referred 11:20 17:2 28:18 30:1 76:21 119:17 121:22 122:6 125:2,4 133:5 143:5 157:4,17 172:3 203:21 217:12 229:6 232:12 280:5 305:16 310:22 313:8 338:6 366:11 370:17
referring 21:12 100:13 101:8 123:3 162:21 172:13 174:1 176:6 200:6 208:21 228:15 258:7,10 305:5 309:7 356:4 359:20
refers 23:5 93:19 176:19 198:5,7 224:9
reflect 168:4 179:9 210:19 226:5
reflected 145:17 168:12 168:22 171:3 174:9 186:5 188:8 191:16 191:20 198:13 210:22 231:1
reflecting 190:8
reflection 47:3
reflective 71:16
reflects 198:12
regard 133:22 165:10 173:5 192:22 208:7 208:15 230:21 296:18 321:17 323:6,15 324:4
regarding 11:11 117:10 156:15 321:11
regardless 171:2 238:7 301:9 351:16
Regina 2:15 6:2
region 20:6,7 21:2 22:8 22:10,12 36:21 37:2,4 43:21 58:10,14,14,15

59:9,11,13,16,20 60:3
60:7,12,15 65:12
71:15 81:19 92:15 93:13 95:14 124:2 128:6,7,10,16,21,22 129:8,10 130:5,17 182:21 183:3,18 186:3,4,8, 19, 22 187:1 230:6,20 231:3 235:14 240:21 241:5 241:12,15,22 254:21 281:4 292:8 293:22 355:12,14
regional 3:17 21:16 56:3 68:3 74:6 95:16 108:7 235:13
regions 21:3,6,7,10 22:17 23:1 36:20 43:19 70:10 81:17 128:4,5,13,19 130:6,8 130:15 146:4 150:3 170:16 172:17 182:6 183:16,20 184:2,9,18 185:4 188:1,4 189:5 227:9 230:5,9,14 236:8,13 251:8,15 264:6 284:7 290:7,13 290:18 291:7 292:8 295:4 355:10 363:12 364:4
Register 3:8 6:13,13 11:6 12:7 287:2 315:4 370:1
regression 134:7,15
regression-type 205:8
regs $352: 5$
regular 45:5 207:18
regularly $256: 12$
regulated 137:19 195:20
regulates 139:8
regulating 321:18
regulation 7:6,7 11:4 118:1 141:22 143:3 348:17,18
regulations 4:13 303:4 308:6 311:2 349:16
regulatory $12: 13$
related 103:16 121:12 121:13 138:6 147:4 173:13 221:19 225:4 237:14 302:13 303:1 304:9
relates 94:22
relating 8:2 166:1
relationship 79:9,18 125:8 137:12 258:15 258:16,19
relative 137:7 180:16

181:3 208:11 250:17
255:8 278:11
relatively 46:20 48:22 49:22 54:18 132:11 149:6 175:20 178:14 186:9 255:21
release 3:10 11:10,12
released 38:22
relevant 8:5 121:18 129:15 140:3
reliable 55:7,13 156:3 156:10 213:2
reliant 245:14
relied 143:20,22
rely 283:5 331:22
remain 175:20
remained 112:13,15,17 127:11 132:11 178:14 178:16
remaining 16:22 168:14
remains 127:2
remarkably 70:11
remarks 76:9,14,20 77:1 327:4 337:16
remember 84:3 318:9 318:13 343:22 344:17
remit 373:19
remote 153:19
remove 259:13,19,22 260:1
removed 35:6
removes 61:17
rent 373:20
repeat 168:2 223:20 316:3
repeatedly 364:20
repetitious 9:2
rephrase 316:4
reply 215:16
report 23:14 121:18,20 122:1,8 123:2,4,5,22 126:2 136:12 138:21 140:1,15 141:3 142:3 143:21 144:1,17
157:8 159:11,15
166:5 168:22 182:18
195:11 200:3 271:5,6 271:9 370:22 376:5
reported 130:7 143:21 144:1 151:20 182:5 193:1 267:17
reporter 9:9,12,22 11:19
reporting 203:3 269:12 270:17 271:3,17 272:12 283:5 370:13
reports 156:6,7,9 370:7 370:7,11 371:2
represent 18:6,21 19:4

19:10,15 20:4 38:11 67:21 70:5 81:19 130:13 177:18 257:2 345:19 355:20 356:2
representation 68:8 69:11 70:16 71:16 152:20 167:3 222:5 227:20 235:13,20 241:21 249:11 252:17 263:13,15 264:2 356:6,17
representative 44:16 71:12,21 144:11 146:18 150:4 166:8 183:22 206:10 225:8
representatives 9:14 68:13 70:7,9,21 117:22 235:20 241:3 242:8
represented 18:4,5 20:1,17,21 167:9 186:19 242:10 276:17
representing 5:16 12:18 17:17 19:21 20:15 22:7 210:12
represents 72:5 127:16 republicans 276:2 request 297:19
requests 370:8
require 45:2 153:11
required 11:4 153:16 154:7 240:17 271:8 271:17 336:17
requirement 6:8 320:11
requirements 238:21 284:20 302:20 334:9
requires 153:3 156:7
research 7:3 23:21 36:1 64:2 67:19 68:10,15 69:17 84:22 85:20 86:5,11 87:18 119:2,8 119:12 154:14 175:16 195:4 236:9 269:9 293:1,8,9,11,13 301:22 302:11 306:21 307:10,15,22 308:5 309:5 310:8,19 321:12 332:3
researched 38:21
researching 257:22
reserve 86:16 160:21 206:5 222:16 243:10 338:14
resident 99:6
residential 66:5
resistance 41:9 308:14
Respectfully 375:11
respective 21:16
respectively 19:12,17

21:6,11 128:18
130:15 145:6 152:3,8 155:8
respiratory 302:14 307:4
respond 9:19 188:9
response 115:20 131:10 188:10,12,21 277:3
responsibility 8:3 118:22
rest 98:4 127:3 160:5 176:13
restate 185:3
restaurants 62:1
restricted 31:12
restrooms 116:8
result 69:18 148:2 151:17 153:10 180:15 206:13 209:11 211:17 218:13
resulted 70:1 149:15 201:3
resulting 39:21
results 67:1 144:6 147:5 187:4 204:19 207:4 214:21 228:6 230:15 317:3
resume 231:15 233:17 300:3 327:12
resumed 231:19 298:7
retail 61:21 64:9 119:6 136:1 197:9 198:6 256:8
retailers $64: 4$
retained 330:9
retains 330:3
retired 71:22
return 86:4 109:5 201:1
204:7,12 205:10 375:4
returns 167:15 202:10 204:1,5
reveals 134:7
revelation 361:1
revenue 62:22 300:7 314:21 328:7 330:18
revenues 280:16
reverse 219:12
reversed 219:7,14 220:5
review 142:2 156:16 157:8 159:9 162:19 203:6 230:19 248:18 315:8,17
reviewed 140:5 144:16 152:17 225:4 236:18 285:9 286:14 300:9 320:4 333:12 337:17
reviewing 332:4
revisions 133:14
revoted 359:8
Ribera 134:20
rice 140:20
Richardson 146:16
rid 259:15
rider 67:18 80:15 94:4,8 94:13,14
riders 67:15
right 10:16 13:10 17:5 25:20 26:6 30:5 31:1 33:22 34:13 53:22 54:9 56:18 78:10 79:15 86:17,21 87:19 95:11 96:15 104:12 107:5 112:3,8 115:18 117:3 118:2 137:5 142:21 158:18 160:15 161:1,8 164:20 166:22 170:11 184:14 194:1,15 195:10 209:18 220:1 222:18 223:22 225:22 228:12 232:11,14 241:20 243:12 245:3 248:6 262:4,18 263:5 266:14 267:12 271:2 272:6 275:14 289:9 291:5 293:1,4,8 296:14 298:2,3 316:13 322:20 323:19 323:21 326:16 345:17 349:14 358:8 359:22 362:8 363:19 373:18 374:12 376:15
Rio 1:12
rise 212:13
rising 215:3,4
risk 113:11,17 146:12 146:14,18 183:7,22 186:10,13,18 207:21 208:17,18 213:19 215:9 216:3 248:5,7 269:20,21 366:3
risks 186:7 366:1
risky 28:8 113:9 170:19 182:18 184:5 214:4 215:13 218:21
river 40:14 114:3
rivers 32:15 40:10 44:9 60:20
road 1:13 346:17 347:6 347:8,11
Roads 74:4
roast 329:11
robust 207:8
rocks 259:16 344:8
rodeo 107:8

Rodriguez 297:16 role 35:22 72:2 248:14 249:6 340:4
room 1:12 2:5,10 290:4 291:17
root 40:15
roots 233:19
rootstock 41:22
rose 214:18
roughly 125:17 126:13
rounding 21:13
route 136:12
row 19:14 21:8 46:6 101:5,10,16 104:1,13
rows 42:1 102:18 343:1
Royalty 27:21
rule 79:3 277:16 278:19
rulemaking 5:8 15:1
rulemakings 14:19
run 58:3 92:4 207:22
271:19 343:6,20
344:7,10,13,16
347:18 366:2
runs 345:7 360:12
Rupa 2:8 10:18 12:17
rupa.chilukuri@ogc.... 2:12
rural 293:6
$\frac{S}{\text { S-A-L-O-P-E-K 280:9 }}$
S-E-S-S-I-O-N 232:1
Saba 74:4 330:15
sacks 82:5
safe 65:14 308:1,5
safety 141:21 143:2 149:1 246:15 248:1 256:20 303:1 306:18
Sahuarita 72:5 234:3 sale 240:5 373:15 sales 56:14 63:12,13 109:21 110:8 111:4,6 329:20
Salopek 3:4 72:13,13 279:14,17,22 280:3,8 286:13 287:6 288:1,2 288:5 294:15,18 295:18 296:1 297:11 297:12,15,18 322:20
salutation 374:14
Sammy 376:5,6
San 74:3 234:3 330:15 sat 295:5
satisfy 179:2
satisfying 135:13
save 173:19 344:21
saw 114:20 265:14 308:2 309:17 364:7
saying 104:19 117:20 174:10,15 177:3,4 184:8 191:1 194:12 252:8 275:9 316:14 319:9 349:18 363:20
says $73: 11$ 92:7 161:11 189:18 329:10
SBA 110:11
Scab 254:15
scenario 151:22 152:1 152:5,6,15,16 171:3,4 203:1,2 206:22 210:7 216:16 219:19 220:20 221:4,6,6,7,9,13,18 224:17,18 228:21
scenarios 144:12 148:7 152:7,10,12 166:11 184:5 218:2,11 219:10 220:19 226:12 230:17
schedule 31:12 54:21 376:2
scheduled 31:7
Schmaedick 2:21 78:12 78:14 81:9,15 86:18 87:4 89:6 91:7 92:10 92:19 162:7,9 165:11 165:16 171:5 172:1,4 172:13,19,22 173:22 176:7,15 179:16 192:4 243:15,15,18 262:18,21 272:17,18 274:15 276:9 287:22 287:22 288:3,6 294:13,16 295:17 306:14,15 308:18 326:1 338:19,20 347:13 355:22 360:2 373:1
Schmaedick's 193:18
Schumann 146:16
scientific 33:4,6 269:5 283:3
scientifically 38:21
Scientist 154:14 scope 302:12 309:5
Scott 72:11
screen 105:22 159:4,7
season 23:16 61:9 145:4,7 180:1,5 372:14
seasonal 56:3 103:9
seat 26:2 240:20,20 241:14,14 242:3,3,11
seated 9:21 116:19 208:9
seats 240:1,20
sec 189:12
second 16:9,11,13 21:8

26:3 29:1 40:6 41:6 100:6 125:19 157:11 161:10 167:12 179:4 197:20,22 216:7 224:16 225:1 226:15 261:18 283:9 328:11 330:5
secondary $123: 11$
seconds 261:18
Secretary 8:10 242:14 286:2 304:16 331:11 337:6 374:8,16
Secretary's 9:13
section 6:10 21:1 123:9 123:13,15,18,20 140:1 157:8 159:10 159:15 161:13 168:21 170:5,5,6 196:19 223:14 236:1,1 242:4 310:22 321:10,16 329:8 330:11
sections 61:1 123:9 356:3
sector 133:20 134:1
sectors 137:7
secure 333:8
sedimentary 344:17
see 8:20 16:2 25:16,17 48:8 53:4 58:5 66:19 71:11 84:8 89:14 99:11 102:18 103:6 105:21 110:22 113:12 113:18,21 115:7,20 115:21 116:1,21 121:10 134:5 137:5 146:15 166:10,17 168:8 170:22 172:8 177:15,17 178:2,7,9 180:5 184:7 189:8 190:9 197:11,12 202:10 203:8,18 208:6 214:21 218:14 219:4 225:1 226:4 227:4 231:10 244:11 245:1 248:14 263:14 282:19 291:22 292:2 292:4 297:16,17 307:15 308:8 309:21 311:6 312:2 335:10 348:11 366:5 371:16
seed-planted 124:18 seedling 19:3,11,16,22 20:20,22 22:12,21 23:2 40:4,6,9 42:21 43:4,14,20 44:8,15,17 45:1,4,7 58:18 59:3 59:17 60:8 90:11 93:14 124:7,16 127:7 129:1,3 136:7 147:20

148:3,13 150:8,19 151:3 192:17,18 215:4 224:9
seedlings 42:14 43:8 129:12 318:13
seeing 167:20 178:15 273:16 278:6 354:17
seen 50:9 114:6 115:2 116:5 131:2 136:22 139:9 188:11,13 190:10 237:19 289:11 300:22 310:14 316:15 317:15,19,19 360:21
sees 99:8
segments 67:21 70:5
70:17 74:1 79:14 135:2 190:11 276:16
seize $284: 14$
seldom 44:5
selected $41: 7$ 226:7
selection 45:21 76:12
self-evident 62:7
self-identify 109:18 110:5
sell 59:8 61:18 250:22 261:15 277:21 283:8 283:16 323:11 328:22 329:12 336:8 345:16 348:8 349:9,20 357:1 373:9,18
seller 239:15 251:4 303:20 335:4
sellers 55:10 62:13,15
selling 43:3 102:20 103:13 197:11 245:15 268:6 281:1,14 329:22 364:11
sells 346:1 349:6
send $9: 8,10$
senior 17:11
sense 163:11 214:22 217:1 254:6 284:6,13 290:20 309:9 347:20
sensitive 371:8
sensitivity 181:17,22 182:7
sent 85:21 159:8 331:9 361:4
sentence 161:9 224:6 330:5 373:5
separate 18:22 212:3,4 344:6,11,22 350:7
separated 259:8 260:13 344:3
separately 127:6 159:16
separates 344:19
separating 350:10
separation 344:18

September 352:7
series 134:7 139:2,4,15 177:17 194:18 206:9 206:13 208:18 213:3 218:22
serve 15:16,22 137:13
service 17:14,21 23:21 47:7 175:16 195:4,9 329:2 330:12,22 335:9 348:5
services 146:5 349:2
sessions 7:15 74:6
set 17:16 29:21 62:12 98:15 99:2,3 260:1 341:16,17,20 356:16 367:4
setting 44:19 246:1 366:21
settled 241:19
seven 64:17 113:1 124:13 131:18 188:13 188:20 190:4 299:15
shackled 359:5
shake 328:19 342:22
shaker 341:18
share 63:18 137:3,6 139:2,4,10,16,17,21 150:16,20 176:19 177:18 196:4 228:2 229:2 249:11 289:18 289:19 335:17 339:6 339:9
shared 284:8
sharply 368:19
she'll 9:22 10:4
sheet 117:16 370:17
shelf 64:9 238:22
302:21 334:10 369:20
shell 18:7 32:8,14 58:13 61:8,17 62:17 126:4,9 126:14,14 164:2 234:7,14 236:22 239:22 240:12,22 241:3 246:11 278:9 278:11 285:12,13 300:12,13 318:21 320:10 329:11,15 333:15,16 336:3,6,12 368:1,3
shelled 329:15
sheller 63:3 68:3 71:18 71:21 72:7,8,16 73:13 75:4 83:2,2 89:17 90:20 91:2,16 107:13 107:22 108:20,21,22 109:2,14 234:15 235:6,11 240:1,10,14 240:19,20,20 241:5 241:21 242:10 245:10

247:11 249:7 250:5
250:21 252:12 253:21 258:7 259:11 263:10 264:5,20 275:13,16 277:18 278:8 330:16 330:18,21 333:20 334:4,6 336:11,15,22 363:9,11 367:21
368:21 369:17
sheller's 253:4
shellers 7:12 49:13
61:13,15,18 70:9
73:14 74:12 79:9
93:18,20 107:20
108:15 133:3 235:4,7
235:14,17 236:4 239:20 240:5 241:7
241:11,14,15 244:5 244:20 246:16 247:7 247:19 249:2,10 250:10,11,15,17,19 250:20,22 251:10,21 251:22 252:1,20,22 253:1,11,12 256:2,12 265:1,16,18,18 266:6 266:20 267:8 270:2 272:3 275:5,10,18 276:21 282:1,13,14 282:16,21 284:11 290:9,13 293:10 295:5 333:2 336:1,10 349:21 354:20 356:6 356:17 364:2 367:15 367:15,20 368:10,13 368:20 375:8
shelling 41:8 49:9 92:4 238:14 240:13 244:20 245:6,10 246:1 253:10 256:1,9 261:1 307:9 308:13 336:14 353:11 356:19 357:11
shells 63:4 109:2
shelves 316:16
shift 137:13 226:10
shifted 53:14
ship 256:17 329:12
shippers 119:6
shipping 238:20 284:19
302:19 321:19 334:8 369:19
shook 179:13
short 88:11 297:20
short-term 309:20
shorter 52:9 105:7,18 106:3
show 35:9,12 48:6 51:13 75:3 100:21 134:21 136:14 149:14 187:3 193:4 281:8

289:4
showed 135:4
showing 52:22 130:15 137:3
shown 38:10 123:4 126:2 127:19 131:20 132:10 136:11 138:11 140:14 147:18 149:22 149:22 353:5 370:10
shows 19:13,19,22 20:13,16,19 $21: 9$ 47:21 136:20 176:10 292:1,2,2
sibling 70:2
side 15:20 109:13 152:16 177:22 190:21 195:9 201:8 314:16
sides 261:5
sign 204:10
sign-up 117:16,18
signed 353:3 376:7
significant 42:22 48:21 59:4 65:6 75:12 79:21 86:7 302:10
significantly 204:11 250:9
silent 5:11
SIMETAR 146:13
similar 57:13 58:4 65:10 73:17 87:3 107:11 139:15 147:19 167:6 170:12 207:22 309:17 330:1,8
similarly 145:9 224:7 309:4
Simon 234:3
simple 51:9,19 57:10 134:6 152:20 282:3 355:12
simply 55:7 167:5 335:21 342:5 346:20
simulate 147:13 170:18 182:11 186:17 208:19
simulated 148:1 181:14 208:1 211:12,13
simulating 183:9 221:16
simulation 146:8,9,12 146:13 147:9,21 148:6 170:14 186:14 207:6 211:9
simulations 187:4 207:8 211:3,22
Sing 376:5,6
single 44:6 49:20 50:15 58:11 68:4 69:12 79:20 80:13,14 90:12 186:15 266:1 292:8 362:22
sir 25:5 53:16 54:8 80:8 89:4 118:12 122:10 142:11,15 157:6 231:12 233:10 279:10 305:11 312:10 315:7 315:10,16,19 317:4 317:17 321:3,14 322:2,12,22 323:3,8 324:20 325:1,4,6,18 337:16 374:10
sister 57:1
sit 252:20 295:6 358:15
site 91:20 216:7
site-specific $45: 15$
sitting 208:13 255:17
situation 40:1 60:21 114:9 341:5 342:7 375:1
situations 97:3 335:15
six 124:13 131:18 188:11,13,20 244:15 250:19,19 251:21 256:11 275:5
sizable 58:20 358:13
size 3:20 7:5 41:7 44:2 45:18 46:18 47:22 48:5 49:16 50:4 51:3 51:5,10,12 52:18 53:11 54:5 55:8,19 57:4 69:15 104:1 130:11 149:2,21 150:14 151:22 152:2 152:21,22 153:4,9,9 165:9 168:2 172:11 201:12 206:20 230:17 238:10,20 246:14 274:1 284:19 301:12 302:18 334:8 341:10 346:15 347:21 348:7 348:17 349:12,16 351:16 367:6 369:18 371:2
sized 261:2
sizer 348:2
sizes 49:3 50:12 64:6,7 129:16 130:5 149:18 150:11
sizing 347:15
skeptical 362:17
skipping 123:17
slides 372:3
slightly 174:14 340:9
slopes 134:8
Slyer 251:13
small 58:16 59:9 60:6 62:19 63:1 70:6,8,8 71:18 72:8,12 74:2 82:10,14 107:12,13 107:15,16,22,22

Neal R. Gross and Co., Inc.

108:9,11,16,18,21 109:10,14,14,18,19 110:3,6,10 111:1,3 116:8 145:22 150:4 152:4 154:10 171:22 187:11 203:17 205:1 228:21 234:16 239:14 240:5,18 241:5,11,14 241:21 247:19 250:21 250:22 255:8,12,21 264:5 265:18 266:6 276:20,21 280:14 296:2 300:4,6 301:19 303:19 306:21 314:9 314:19,20,22 315:1 315:21 320:16 328:5 328:6,8,14 330:16 335:3,20 336:8,16,18 343:6,16 346:5 367:14 368:21
smaller 38:14 80:3 154:21 168:4,4 189:21 191:7 194:2,4 194:10,13 239:12 240:16 303:17 335:1 341:15 347:2 348:6 368:13,17
smooth 48:8,9
snack 62:2
snacks 61:9 64:8
so-called 32:14,21
society 310:1,1
software 146:14
soil 114:3
soils 44:10 280:22
sold 18:9 32:5 40:7 61:19 62:14 63:7 124:10 261:16 277:15 277:17 278:11 363:12
solely 332:16
solutions 282:17
somebody 106:21 107:3 170:8 215:15 227:14,22,22 249:20 320:21 349:2,9
somewhat 46:17 49:4 79:17 202:11
sorghum 140:20
sorry 12:15 40:12 93:3 94:8 97:20 105:11 141:18 143:8 159:13 160:18 165:2 189:11 197:4 206:3 212:9 219:8 223:19 224:21 246:21 258:9 263:15 294:22 310:5 316:2 318:7 324:14 347:4
sort 172:5 182:6 202:21 206:9 209:1 222:19

290:20 292:15 349:12
sorting 347:19 350:9
soul 295:2
sound 320:19
sounds 111:3 115:22 319:1
source 17:20 106:4 195:2,6 267:12
sources 103:19 123:11
south 1:7 2:5 6:20 36:22 71:20 125:22 125:22 128:12 255:11 351:21
Southeast 32:15 254:15 277:11 291:20
southeastern 74:10 289:22 292:1 293:12 355:14
southern 6:21 124:2 233:20 361:15
Southwest 32:15
soybeans 140:20
space 238:22 302:21
334:10 369:20 374:21
spaced 44:10
spacing 42:1
Spalding 2:16
span 134:14 370:9
Spanish 32:7
speak 10:5 46:17 55:22 64:14 78:20 80:5 84:12 85:13 270:17 325:21 326:6 354:12 356:5 366:7
speakers 85:7
speaking 75:21 77:2 348:13 354:15
speaks 40:15 103:10
specialist 118:22
specific 31:17 76:10 85:3 92:17 93:11 176:12 185:16 241:6 321:4 352:14
specifically 98:1 112:16 138:13 148:22 236:20 237:15 241:13 285:10 300:11 302:13 333:14 365:17
specifics 222:1
spectacular 295:15
speed 134:9
spell 233:6
spelled 13:20 15:12 17:10 26:16 118:14 280:9 299:6 313:17 327:10
spelling 326:8
spend 57:18 92:5 179:20 200:19 281:3

319:9 342:3 354:1 359:16
spending 86:5 327:15 341:5
spent 73:6 75:10 86:11
91:12 267:11 288:9
spikes 283:21
spiral 66:2
spite 52:8 133:14
split 150:8 250:18
spoke 80:10,18 114:14 317:8
spoken 74:10 235:5
sponsor 85:16,20
spreading 153:14
Springs 1:13 299:9
stability 113:15 238:15 301:17
stabilize 36:12 66:11
stable 113:14,14 114:8 132:11 375:6
stacked 219:12
stacking 219:13
staff 74:9,16 88:6 92:2 94:19
stage 9:21
stagnant 49:1 127:11 178:16
stake 355:7
stakeholders 35:18,21 36:4 69:7 73:3,7 74:7 123:16 220:13
stalls 116:4
stand 13:15 26:11 118:7 232:22 279:20 298:19 312:16 326:21
standalone 160:14
standard 107:18 184:3 212:19 214:7 215:20 216:8,11 342:15 347:7 349:20 366:14 366:21 367:4
standards 62:12 69:16 107:14 138:1 148:18 149:5 256:13 303:2 306:18 366:12
standpoint 246:3,16 309:22
staple 32:16
start 157:21 161:2 162:11 178:10 202:10 203:16 211:7 212:17 223:3 249:20 268:6 268:14 269:8,10 270:7,10 298:3 342:20 364:6 365:3
started 103:5 177:2 214:14 284:5 314:3 342:8 353:2 361:10

365:2
starting 177:6 179:11 209:14 211:20 244:11 256:10
starts 177:5 214:22
260:6 277:11,12 278:7 331:22
state 13:17 14:8 18:21 20:8,9 21:5,19 22:7 22:16,22 26:13 58:3,4 65:8 68:5,7 73:14 84:15,20 85:2,11 88:13 101:19 123:10 233:5 264:7 280:17
stated 80:3 117:16 155:17 191:22 209:10 236:5 289:15 363:3 363:19,20
statement 4:20,22 9:3,4 9:5,11 16:3,15,21
17:8 23:22 24:6 25:6 26:21 101:3 120:9 172:14 174:1,4 189:9 189:18 190:1,6,7,22 191:12 193:19 201:8 233:11 242:21 272:20 289:16 299:2 305:3 305:14,15 309:3 324:19,22 338:3 351:3
statements $8: 13$
states 1:1 5:15 6:6,10 6:21 11:15,16 20:4,14 20:17,19 $21: 20$ 22:1,2 22:19 23:3 35:18 36:21,22 37:6 38:10 38:10 58:12 61:15 65:9 71:14 80:1,7,12 80:17 81:4,8,10,11,13 81:14 84:21 91:9 92:13 104:14 124:3 128:3,15 163:13 177:19 178:19 254:15 254:22 256:20 257:19 331:10 334:11 337:6 349:22 353:20 361:15 361:18 366:16 369:21
stating 21:14
station 42:9 82:17
118:16 368:2
Statistical 267:8,9 statistics 17:21 47:7 52:4 146:5 200:3 273:10 274:11
stats 267:17
status 69:6 135:11,14 statute 88:2 89:1,1
stay 174:18 219:1 steadily 238:5 301:7
steady 113:7
stenciled-on 368:11
step 221:22 248:3
stepped 271:11
steps 333:7
stick 90:4 259:19,22
260:15 344:14
sticks 259:16 308:12 344:8
stimulate 149:3
stimulates 45:19 140:11 317:2
stimulating 134:3 148:17
stochastic 152:18 209:18 215:11,12 216:2,10 217:5 218:21
stocks 133:3,7
Stockton 59:14
stole 369:14
stoplight 166:19 167:7 169:7
stopped 222:21
storage 246:5,6,8 261:12 269:13 283:2 293:6
store 82:8 83:21 197:12 336:9
stores 240:6 316:16
story $35: 14$ 44:8 57:13 139:14 251:17 361:21 365:4
straight 27:7 376:13,16 strategic 35:22 53:10
strategically 55:2
strategies 136:7
strategy 43:9
strawberries 140:20
stream 61:4,20 82:18 329:16
streams 60:20
Street 2:16
strict 256:13
strong 252:2 254:9 255:4 283:18
stronger 131:2 134:17
strongly 248:2 363:14
structure 31:17 46:9 138:4 174:12 187:12 227:15 235:12 309:9 356:5 357:16,17,21 367:10
structures 225:10
struggle 45:14
stuck 143:9 259:21 372:5
studied 235:9
studies 138:10,14,20

140:7 141:8,10 144:8 144:10,11 152:17 199:11 202:20,22 210:20 225:7,20 226:3,5 309:20
study 38:22 86:2 141:22 143:3 151:21 163:18 164:5 175:9 193:3 204:4,10,20 263:11 302:3,7 363:5
stuff 170:10
subcategory 61:16
subject 7:7
subjective 269:4
submit 9:2,8 17:16
submitted 6:15 8:14 175:22 375:12
subsequent 159:19
substance 117:13
substandard 90:14
258:13,15,16,20
259:4,8 262:2,5,9,13
substantial 56:17 245:22
substantially 263:13,17 264:8
substantive 117:21 successfully 255:1
suggest 135:9
suggested 370:14
suggestions 91:2
suit 27:6
sum 151:1,11 266:18
summarizes 159:15 166:6
summary 69:8 123:1,17 123:18 156:22 157:8 158:20 159:14 165:8 236:19 285:10 286:14 286:18 300:10 302:6 315:12 316:20 333:13 337:18,18
sunlight 45:19
Sunnyland 72:15
sunset 359:7,19
superimpose 53:1
superimposes 54:20
superior 41:7
supermajority 235:21 252:4,5 275:3,7
supermarkets $256: 8$
supplemental 60:14
supply 3:21 23:20 48:10 49:11,12 52:19 54:16,17 57:11,13,14 58:22 59:21 65:19 66:1,13 67:4 95:1,2 95:13 98:2,4 113:15 113:18 123:21 125:9

125:14 131:10 156:15 161:9,14 178:18 188:15,21 284:1 374:22 375:2
supply's 188:10
support 72:19 75:3 120:12 121:17 242:13 253:16 285:22 295:15 304:14 331:11 337:4 338:4 374:18 375:11
supported 86:6
supports 375:3
supposed 356:10
sure 10:3,6 78:21 87:7 98:5 100:11 104:18 105:6 106:2 107:2,4 142:8 159:6 161:1,4 162:2 169:13 179:7,7 179:15 190:18 195:21 199:16 200:5 207:11 208:22 210:10 211:4 215:12 217:11,19 223:11,21 241:10,14 273:11 279:7 297:5 308:1 312:6 317:10 320:17 342:11 344:14 351:13,15 352:1,3 355:10 359:14 362:4 362:7,10
surprised 265:14
sustainable 58:1 67:3 336:19
sustained 56:10 114:19
SW 2:5,10
sway 252:7
Swear 232:14
sweep 343:1
sweeper 341:19
swing 48:10
swings $45: 14$ 49:12 50:12
sworn 4:20 13:14 26:10 118:6 232:21 279:19 298:18 305:14 312:15 326:20
synonymous 93:21 373:11
system 14:12 175:11,15
systems 40:15

| T |
| :---: |
| T 2:3 |
| T-H-O-M-A-S $313: 17$ |
| table 3:1 $19: 1,2,3,7,9$ |
| 19:13,19,22 20:13,16 |
| 20:18 $21: 6,22$ 22:17 |
| 23:1,12,15,19,19,20 |
| 25:9 103:18,22 104:9 |
| 104:11,16 105:4,16 |

105:17 123:3 140:14
140:21 145:21 147:18
148:14,14,15 149:22
149:22 154:20,22
155:1 179:21,21
180:7,10 211:2
220:18,21 226:16,21
227:3,10 228:19
table's 16:17
tables 3:12 15:15 16:12 16:13,14,22 17:16,18 18:2,3,6,19,20,22
19:8,10,15 20:4,6,8 20:10 21:4,9 22:6,9
22:11,13,14,20 23:4 23:10,12 24:1,12,12 103:22 104:9 105:1 145:3 149:19 208:6 tail 213:17 218:10
tailing 278:7
tails 214:16 217:14,16 217:18 218:7
take 15:20 26:2 27:4 29:13,18 66:18 77:14 82:16 92:4 113:11,16 116:3 136:13 145:15 159:20 176:7 181:4 181:11,13 200:13 202:9 216:20 227:11 228:21,22 229:2 246:7 258:5 259:12 260:21 270:8,21 272:9 273:21 288:19 289:8 296:12 309:17 323:21 324:21 329:1 339:12 340:7 343:3 343:15,20 344:7 345:14 348:21,22 360:16
take-away 83:14
taken 38:5 72:2 73:21
82:7 89:8 102:20 129:19 140:14 $247: 12$ 247:13 333:7
takes 61:5 64:17 112:19 112:21,22 113:2 125:21 128:3 132:4 346:1 349:5 366:1
talk 36:18 56:20 94:4,9 117:20 212:13 247:14
247:18 250:4 254:5 258:2,20 270:1 273:7 309:6 310:7 312:1 333:3 351:14 360:10 360:16
talked 94:3 97:15 100:4 235:6 248:17 250:1 257:17 282:13 290:6 293:5 297:5 348:1

352:8 362:14
talking 29:15 47:1
58:11 78:3 88:21 97:4 97:21 104:4,19 105:9 105:15 107:1,5,6 161:16 166:22 213:1 215:2 247:15 249:13 254:19 265:15 266:3 270:15 273:4 281:22 283:1 288:20 292:22 294:20 341:22 342:1 343:7 344:2 349:1 350:9 351:18 362:6 365:16
talks 172:8 270:19
$\tan$ 27:6
tandem 248:15
target 135:2 249:5
targeted 136:6
targets 43:10
taste 35:15 56:5
taxes 339:10 355:12
teacher 14:11
team 295:8
tear 102:1,2
technical 119:3 318:8
technically 159:10 289:5
techniques 308:5
tell 14:4 35:14 90:18 101:7 112:14 214:3 218:20 289:7 293:3 293:19 295:12 296:10 309:11 313:15,21 314:14 317:22 322:13 345:8,9 357:6 364:21 368:8 370:10
telling 100:6 187:5 204:22 361:20 365:3
tells 203:7
ten 65:18 76:1 86:2 253:6 289:16 294:6 298:1,2 340:16 342:2
ten-member 74:21
tend 28:15 32:20 261:15
tendency 135:12
tender 28:16 30:22
33:11 37:13 40:17
48:12 50:19 52:13
53:16,20 70:21 71:1 76:18,19 77:13 78:8 119:15 120:11,17 156:21 157:12,14 232:10 242:21 280:2 287:7 299:3 305:2,13 306:5 313:4 324:8 337:11 338:1
tendered 34:9 39:6
tendering 122:5 141:13 142:6 286:8
tends 195:4 213:16
tenfold 292:5
term 51:6 54:7 87:6 88:14 93:8 96:19,21 97:6 100:12 107:12 192:16 217:15 329:19 356:7 357:17
terminology 18:11
terms 20:19 62:4 67:9 68:8 85:8 88:18 91:4 93:21 103:13 109:18 110:6 129:5 149:1 162:19 168:15 175:19 176:14 178:13 182:17 183:19 184:3,8 185:2 187:15 188:15 190:17 192:1 203:14 216:14 222:3 228:9,9,14 308:7 357:22 363:19 371:17
terrible 310:18
terrific 284:15
test 207:6
testified 13:16 26:12 95:4 118:8 $233: 1$ 279:21 296:2 298:20 312:17 326:22
testify $8: 16,2010: 7$ 27:17 31:8,22 61:3 67:11 116:22 117:17 323:1
testifying 9:4 10:4 86:15
testimony $3: 114: 2,17$ 4:18,19,21 8:13,22 9:17,20 10:2 17:15 26:22 29:2,3,10 30:7 32:2 46:13 68:12 72:17 78:16 82:1 84:4 93:6 95:18 99:17 118:11 157:13 159:8 161:8,11,19,20 164:10 165:8,12 172:3 175:6 176:17 176:21 179:18 180:4 189:8,13 192:15 223:14 232:8,10 233:9 243:19,20 255:16 280:1 287:8 288:4,8 292:16 302:16 305:3,14 306:16,17 310:21 312:21,22 313:6 315:6 324:7,9,10 327:13 331:13 333:11 338:21 343:22 363:3 364:18 369:16 375:16
testing 139:20
Texas 1:7 7:18 20:14,20 27:15,19,22 28:2,3 31:20 37:2 38:2,9 43:21 58:3 59:18 68:6 74:4,15 84:7,11,15,18 84:19 85:9,13,14,16 85:18,19,22 86:3,12 88:15,15,22,22 92:14 99:13 118:16,20 128:8,16 129:1 141:6 144:2 181:18 184:16 203:11,12,18 204:9 204:22 215:17 255:13 265:19 268:15 289:4 290:2 291:21 332:19
text 12:13
thank 6:4 12:14,20 25:12 30:8 76:8 78:4 78:15 79:22 81:3 83:4 84:2,10 86:18 87:4 89:5,6 92:10,19 93:6 94:3,21 96:4 97:8 102:8 103:15 106:15 107:9 109:16 112:1,3 115:16 118:10 144:4 156:16 157:11,20 160:17 162:8 164:3 165:17 171:6 175:5 175:17 176:16 179:17 184:6 185:22 189:6 192:5,6,19 193:8 194:16,17 195:15 196:16,17 199:4,9 205:13,14 206:7 209:8 210:5 212:6 215:10 217:10 219:1 220:18 221:12 224:12 224:13 226:15 229:10 231:5,17 243:19 249:6 252:11 253:18 255:15 262:18 264:11 266:7 270:14 272:14 274:15 278:21 279:4 279:11 280:7 287:6 288:3 292:14 294:13 294:16,18 295:17,18 297:11,12,18 298:5 306:15 308:18 310:20 311:14,22 312:9,19 314:19 315:20 317:13 319:20 321:2,22 322:8 323:9 324:6 325:15,18 326:5,9,10 326:11 338:20 340:1 346:4 350:22 355:22 360:2,3 365:6,12 366:5 367:12 369:9 372:15 374:3 375:15

Thanksgiving 342:21
theme 292:16
themes 253:18
thereof 329:18
They'd 275:15
thicker 259:5
thing 5:8 51:21 56:2
65:19 91:20 93:15
97:2 109:12 113:19
117:6 245:20 251:20
259:15 270:12 276:9 279:8 290:8 317:11 348:3 352:17 354:16 355:17 358:8 367:3 369:22 370:7
things 27:6 48:8,9
83:12 99:5 114:22 174:18 182:21 192:9 195:5 202:16 217:4 225:18 250:8 256:9 256:22 259:5,17 264:1 269:2 272:5 281:17 312:2 316:5 321:19 343:12 353:4 356:7,22 359:1 360:21 370:19
think 29:6,17 30:8,19 34:10 37:8 41:10 53:18 67:5,6,7 68:20
71:11 78:1,6 79:11,15 79:16,19 80:2 81:1 83:18 84:6,7 85:6 87:3,14 89:14 91:20 92:15 95:1,4,10,11 96:14,16 97:2 100:4 112:17 113:10,17,19 114:6 115:4,7,11 120:5 159:2 163:9 165:10 172:2 173:8 176:1,12,13,18 185:3 187:21,21 189:3 192:4 196:3 198:20 198:22 201:7 204:17 204:20 206:18 207:3 207:6 213:9 214:1 215:13 216:17 218:17 220:16 222:16 224:4 225:21 227:7 228:8 229:5 230:15 231:11 231:12 234:18 235:12 235:19 236:15 237:16 238:18 239:2 242:10 244:14,17 245:1,20 248:19 255:5,6,20 256:14,18 257:10 265:12 266:7,15 267:2,3 269:19 270:6 270:12,20 271:14,17 271:22 272:10 273:2

273:4,14,17 274:9
276:19 278:2 281:12
284:4,17 285:17
288:22 290:17 293:14
302:17 308:15 311:2
319:11 320:11,13,19
321:1 331:19 333:6
334:6 335:19 343:21
344:2 346:7,8,10
351:5 352:16,19,22
354:7,8,10,15,17
355:2,4,8 356:11,13
356:15,16 357:13,17
357:21 358:6,11
359:17 361:22 362:3
364:1,17 366:6,9
369:17 370:19,21
371:14 374:3 375:14
thinking 30:11 245:9 278:5
thinning 45:16
third 15:2 98:18 283:10 299:19 330:14
third-party 102:21
thirds 339:8
Thirteen 14:17
Thomas 3:5 86:13
312:5,13 313:16
thought 30:14 53:19
80:3 103:5 108:13
120:3 162:3 204:18
205:20 206:3 251:7
251:14 263:20 264:1
264:2 281:13 282:5
282:15 295:6 340:19
thoughts 255:19
thousands 33:2 76:4,5 82:14 102:22
three 16:14 18:3 19:8 20:13,16,19 21:3,7
22:17 31:3 36:20
43:18 68:3 70:10 74:5
89:14 128:4,5,13,15
128:19 137:16 143:10
150:3 155:11 182:4,8 184:9 189:5 216:9 219:6,13 245:6 251:22 252:1 264:6 269:7 270:9 274:12 290:13 295:4 299:22 327:17 328:3 331:20 337:16 354:5 363:12 364:4
threshold 110:7 164:5 171:18 174:2 175:1 239:9,11,13 240:9,22 247:10 266:9 285:6 303:14,16,18 334:20 334:22 335:2 336:5
thresholds 44:20 247:6 285:8
thunder 369:15
Thursday 3:9 11:7
tie 27:8
tier 361:17
Tifton 7:20 76:14 86:15 87:1
tights 259:19,22 260:15 344:14
timber 28:11
time 53:6,12 54:17 57:10 74:22 75:16,18 75:22 76:3 77:18 78:7 89:13 92:5 111:19 114:15 120:14 122:5 126:11 134:6 142:6 153:13 156:5 157:15 160:20 176:8 179:20 202:9 222:13 231:15 243:6 244:15 267:11 270:8 272:15 277:17 278:11 281:11,21 296:14 299:22 306:9 313:4 317:8 320:21 327:15 335:10 340:22 341:6,7 346:16,17 348:10 354:1 355:9 355:16 356:22 360:16
timeframe 105:7,18 106:3
timely 156:3,10 343:16 343:17 372:7
times 14:21 15:2 51:10 52:19 53:12 54:5
80:21 87:7 150:13 151:5,8 164:4 183:9 281:3 283:10 291:19 342:1 345:20 349:3 350:7 354:5
timing 46:3 79:15 268:4
tiny 256:2,2,2
title 17:18 189:14 329:1 348:21
titled 179:22 302:4
today 6:5 7:16 27:10 31:6 42:15 43:2 64:4 76:9 121:19 156:2 182:22 188:7,7,9,12 188:17 233:10 255:1 312:21 323:1 341:21 351:4 354:1,2 376:3,8
token 352:22
told 27:7 215:19 297:7
Tom 72:13 362:12
tomorrow 31:7 222:22 376:22
tonnage 341:11 345:9 tools 122:20
top 20:13,19 51:4 52:20 53:1,1 170:6 218:12 219:16 220:2 224:5 247:21 350:13
topics 31:19 372:20 topography 44:11 topworked 19:6 total 3:16 19:17 21:15 47:8 126:13,22 127:17 128:17 129:6 129:11 130:22 137:4 137:9 139:2,5,16 150:12,15,18 151:1,4 151:5,10 180:11 196:7 227:4 229:1 302:4 327:22
touch 261:8 265:4 372:20
touched 164:4 189:7 266:21
tour 89:18
tow 82:5
toxic 306:22,22
track 272:11 314:7
tract 44:6
trade 119:7 125:15 126:3 133:9 135:5
training 28:4
traits 41:7
trans-shipments 163:22
transactions 190:17
transcript 10:2,10 106:21 169:4 170:9
transfer 333:21
transfers 330:4
transitioned 233:21
translates 140:12
translation 39:17
transmit 9:13
transport 328:20 329:12
trash 344:6
travel 75:21
traveled 265:22
treated 230:20
tree 3:15,19 32:5 33:14 34:21 35:4,10 38:22 39:3 40:16 42:1 44:15 45:18 47:17 55:20 56:17 57:1,16 64:16 66:19 70:3 83:5,18 98:13 99:1 101:15,16 101:17 103:8 124:1 124:12 128:22 130:3 134:8 136:18 137:11 137:14 138:13 139:3 139:10,16 140:22 141:5 144:11 178:22

202:18 223:15 238:22 248:6 254:10 257:11 267:10 268:12 283:14 284:21 302:21 307:18 334:10 342:18
tree's 45:10 99:7
tree-nut 130:22 134:5 136:19
trees 32:13,20 33:4,7,7 33:9 40:8,14 41:22 44:13,14 45:2 49:15 58:17,17,21 59:4,5,5 59:11,15,20 60:1,2,5 60:6,9 65:1,5,7,13,15 81:18,19 83:7 84:2,8 95:3 97:13,16 98:13 98:15,16,20 102:19 102:19,22 103:14 124:10,15,18,20,21 125:7 130:1 131:17 133:1 188:12,19,19 190:4 234:8 239:16 273:19 297:1 299:14 303:20 314:7 328:19 335:4 340:20 341:9
tremendous 35:17 274:9
trend 3:21 52:22 103:3 103:5 114:21 127:8 130:20 132:13 134:6 139:11,20 177:6 244:9
trends 127:18 133:11 133:12 134:20 136:17 193:5
Tri-State 268:10
tried 91:20 92:1 93:19 208:15,16 276:22 289:6 351:13,14 352:2 354:5
trimmed 100:16
trimming 100:14
trouble 109:9 110:2,18 111:21
true 11:8 100:3 261:9 261:10 277:5
truly $38: 17,19$
try 72:20 78:18 118:1 127:21 202:20 244:21 248:20 259:21 277:4 277:6 341:7 362:4,5 362:10 368:1 370:22 trying 106:16 163:11 171:7 178:20 185:3 195:21 207:16 214:4 218:18 223:21 245:5 271:13 275:18 296:8 309:8 341:12 343:14 350:10 352:1 357:1

362:14
Tucson 233:15
turn 5:11 26:3 83:2 209:8 240:17 248:20 277:20 336:18
turned 372:8
turns 349:6
TV 317:20
Twelve 116:10
twigs 344:8
two 15:5 16:12,22 18:22 22:8,13 31:5,10 40:4 56:16,18 61:5 68:5 73:18 75:9 76:2 84:21 87:14 88:12 89:13 91:12 103:3,3,19 114:20 123:8 137:20 138:5 156:21 166:6 187:3 195:14 234:3 234:11 240:19 244:6 249:4,22 252:19 253:15,18 255:10 260:17,18 268:21
269:19 275:5,11
281:22 282:20 299:13 319:4 332:22 339:7 340:16 345:5 354:5
two-thirds 235:21 339:12
two-year 48:6
twofold 202:2
twos 345:1,4 366:11
type 90:4 129:15 135:20 136:10 166:15,19 173:16 184:5 201:21 207:22 211:18 214:2 217:22 227:15 251:1 310:8 314:14 352:17 368:15
typed 305:6
types 62:5 103:19 184:10,12 200:2 204:18 205:9 206:19 212:20 230:17 267:3
typical 107:17 109:20 111:6 155:2 198:10 198:16 $201: 9$ 203:2,7 213:17 220:4,7,16 227:13
typically 40:10 166:18 203:22 216:9 219:17 220:11 244:4 260:2,3 260:15 277:15 278:10 366:14
typo 302:1
Tyson 72:1 257:8,9
U

U-K-U-R-I 12:18
U.S 2:4,9 3:20 5:6 8:18 17:14 18:22 19:13,18 19:21 20:2,15,17,21 21:7 22:18 23:1 39:20 42:13 47:6,8 49:7,21 50:6 52:10 53:8 57:4 65:17 78:14 86:10 104:1,13 125:13,17 126:4,8,14,15,20 127:2,5 128:3 131:1 132:5 133:10,11,14 133:19 136:20 139:3 145:7 146:5 155:9 163:3,3,16 166:2,9 167:22 179:22 250:13 255:5,9,22 265:1 268:13 281:9,19 366:12
unable 66:3
unchanged 171:2
underfunded 204:11
underneath 266:10,12
understand 10:6,15 40:3 53:3 85:14 88:19 97:4 98:6,16 101:14 106:8 108:3 110:15 118:11 142:8 175:17 195:21 207:4 208:22 210:11 211:4 217:11 237:13 239:4,20 263:21 279:22 284:22 303:2,9 307:10 312:20 319:15 334:12 334:14 336:1 341:17 358:1,2,10
understanding 88:13 171:8 199:17 219:3 253:14 254:19 262:1 271:7,8 284:7,13 349:11 356:10,12
understood 10:9 95:17 97:7 99:17 164:6 176:21 209:20 222:14 undertake 277:4
unduly 237:5 285:18 300:18 334:1
unequivocal 138:15 unfairly 230:20
unfavorable 167:12 169:16 219:16
Unfortunately 39:19 167:5 171:6
unified 67:10
uniform 36:2 42:1 62:9 62:12 69:15
unify 290:14
unique 244:3
unit 58:11 196:9 200:20

200:20 203:21,22
210:17 344:18
United 1:1 5:15 6:10,21 35:18 36:20 61:15 81:8,10,11,14 124:3 126:16 163:13 254:15 254:22 256:20 257:19 331:10 334:11 337:6 349:22 353:20 361:15 361:18 366:16 369:21
units 18:4,5
unity 284:14 289:9 290:17,19 291:14
universities 42:8
University 14:8,12 28:2 118:17,20 154:14 280:18
unknown 366:18
unprofitable 153:10
unselfish 75:15
unstable 113:5 283:10 unusual 64:17
up-trending 52:11
upcoming 205:14 276:18 283:4
upscale 64:12
urgencies 100:5
usage 88:19
USDA 2:20,21,22 7:11 7:14 14:16 17:21 23:21 42:8 74:7 88:6 96:7,8 97:11 101:2 103:18,22 115:17 117:8,21 123:12 155:18 156:8 160:6 162:9 193:10 223:9 229:18 231:6 243:2 243:16 249:20 264:12 264:19 269:13 271:11 272:18 274:18 287:10 288:1 295:7,19 297:21 306:15 308:21 338:20 362:19,22 365:9,11 372:18
USDA's 52:3
USDA/AMS 74:9,16
use 60:19 87:11 88:13 96:20 101:13 102:6 106:17,17 107:14 131:11,12 133:8 142:2 146:22 154:9 159:19 167:4 168:16 170:16 180:16,18 182:4,13 192:11 195:17 196:19 198:20 201:4,12 202:1 205:3 205:7 208:18,22 212:17 214:2 215:13 225:7,14 226:4

227:15 228:1,4
267:13 268:1 269:11 269:18 270:11 332:1
users 61:22 62:2 uses 64:1 87:12 166:8 196:7
usually 64:5 125:2 133:4 216:10 222:20 259:8 342:15,20 344:12 366:20 368:17
utilization 23:20 132:21
utilize 273:13 274:6 utilized 18:6,8,13,14,16
$\overline{\mathrm{V}}$
valley 59:13 72:4,6 233:16,18 234:2 313:19 327:11 340:12 340:13 342:16
valuation 147:20
value 3:12,22,22 16:17 17:19 18:16,21 19:9 20:10 32:18 51:7,9,13 51:18 52:6,9,10,11,18 52:20 54:2,4,18 90:6 90:15 104:15,17,21 104:22 105:13,16,18 106:5,5,17,17 109:5 136:19,21 137:1,4,10 137:17 139:3,10,16 139:17,21 144:22 170:20 177:18 178:3 178:14 182:10 183:12 185:16,19 186:18 187:5 212:22 215:22 216:19 217:7 218:6 222:2 225:2
value-added 62:1
valued 32:16
values 18:4 170:17 181:15 182:9 183:5 185:20 216:18,22 217:1,9
Van 59:14
vantage 330:20
Varela 2:22 97:11,11
98:1,7,9 100:9,11 223:9,9,12,21 224:5 224:11 264:12,12,14 264:18,19 272:14 308:20,20 309:2 311:13 365:10,10,19 369:9,14
variable 64:20 212:22 213:20 215:18,22 216:6
variables 146:10 170:19 182:19 183:5 185:5 186:18 216:10
variation 97:14,18,21 98:11 127:22 170:16 182:22 216:5 237:20 237:21 301:2
varies 45:5 98:4,8 129:8 234:11
varieties 19:1,2,3,6,10 19:11,12,16,17 22:7 22:16,19,22 23:3 40:7 42:3,6,7,10,19 43:3,7 43:17,18,19 45:21 60:7 80:11 104:14 124:5,7,8,16,17,20 127:6,7,7,9,10,12 128:20 129:7,10,18 129:20 130:1 131:8 135:20 145:1,9 148:4 148:11,13 150:7,18 151:2,3,7,11,12 155:5 155:7,12,13 258:22 328:3 333:17
variety 3:19 19:7,19 20:18 22:8,10 23:17 40:5 41:6 43:2 46:10 58:16 59:10 60:5 129:14 131:17 136:1 138:15 140:10 150:16 151:9 180:22 201:13 226:19 259:2 299:19 301:1
various 67:21 80:19 108:7 149:17 370:18 vary 44:2 49:16 99:12 184:10 185:7 213:11
vast 61:10 63:1
vegetable 17:13 133:10
vegetables 133:13 134:22 135:7
vehicle 36:8 293:14
vein 308:4
vendors 75:5 293:6
Vernon 35:5,9
version 189:12
versus 107:17,17 110:7 236:22 250:14 285:12 300:13 333:16 354:1
vertical 139:6 176:22 177:22 244:9
vertically 244:7 245:16
vested 73:3 291:1,3
vetted 89:11
viable 47:14 62:15 63:6 109:9 153:6,20 164:7 164:17 240:15 336:16 348:4
Vietnam 126:9,12
view 222:1
viewed 49:18
views 251:6

Vilsack 374:16
Virginia 14:1
virtually 43:18 46:4 171:2
vis 70:2,2
vis-a-vis 108:21
vision 113:9
vitae 3:14 4:3 119:20 242:22 305:15 338:4 voice 252:2,9 276:16
voices 241:9 250:1,2,21 276:17
Vol 3:8
volatility 66:12
volume 4:7 343:14
voluntarily 156:5
volunteer 283:5
volunteered 74:22
volunteers 75:17 279:3
vote 236:5 239:8 242:3
275:16,16 285:4 303:13 320:5 334:18 335:16,21 336:3 359:10,21
voted 282:9 359:22
votes 220:11 275:20
voting 235:18,21 295:3
W
wafer 90:3
wait 141:17 263:4
walk 217:14
walks 99:8
wall 354:8
walls 290:10
walnut 32:9 57:21
139:5,10 141:15
142:16 177:2 179:5,8
273:6 361:3
walnuts $57: 1,12,16$
64:8 134:12 137:2,17
139:7 140:21 141:5
141:20 176:20 177:5
177:20 178:12
Walton 233:20
want 8:5,19 9:18 10:9 12:5 18:8 35:21 46:17 52:13 64:14 66:9 72:20 76:8 91:16 99:20 101:2 103:18 105:6 107:1 116:21 117:6,20 179:3,6 181:5 184:7 189:6,17 193:17 197:16 199:16 205:3 208:21 210:10 211:4 212:12,16 213:5 217:13 219:2 223:12 240:19 241:8 253:19 258:5 263:22

291:17 292:3 294:7 294:20 295:10 307:15 328:22 345:13,16 352:18 356:2 357:6,6 358:2 363:10 364:16 369:21 370:22 376:8
wanted 86:22 91:10 96:10 159:17 162:1 176:8 179:12 188:16 202:3,11 203:4 204:15 224:11 241:8 248:20 264:19 265:2 265:6 310:20 370:6
wanting 291:3
warehouse 329:11
warehousing 329:22
Washington 2:6,11 9:11 10:13 35:4,10
wasn't 34:12 179:14 290:5 295:13
watch 340:21
water 45:22 46:4,7 60:13,18,21 101:5,14 101:19 102:5,6 184:21 239:18 280:22 304:1 335:7 339:10
watering 153:14
watermelons 140:21 347:12
Watts 71:19
way 6:22 18:15 19:8 37:6 56:6 69:21,22 75:17 82:9,18 92:8 115:8,9 154:2 163:1 169:16 181:16 191:17 194:4 198:11,14 201:9 202:12 207:18 213:11 215:7 219:11 220:4,16 252:8,10 261:6 267:22 270:2,2 270:3 277:10 281:20 283:7 291:18 296:16 329:14 339:8 340:11 342:3 347:22 348:20 354:16 356:15 366:2 367:20 372:1
ways $46: 161: 582: 5$ 201:6 245:13 272:2 310:14 362:1
we'll 30:13 50:19 53:19 110:5 116:12 117:2 120:16 159:20 231:15 271:21 273:2,17 298:3 342:14,22 345:2 367:10 374:12
we're 6:4 29:15 42:18 47:1 51:13,14 58:11 66:11 68:8 71:13 97:4 97:4 104:19,19 106:2

141:12 142:5 145:16 160:8,13 163:9
167:20 183:6,6,8 191:15 201:19 203:2 208:7 210:2,3 213:3,4 215:1 232:5 238:21 244:10 245:14 246:4 256:10 259:9 260:7 268:14 269:9 273:2,3 273:15 275:1 276:3,4 278:1 280:2 290:15 294:19 295:14 309:13 346:3 347:17,19,19 349:19 350:15,15 353:8,18 354:10 355:6,11 357:13 376:1
we've 31:6 37:8 43:5 55:18 68:22 76:6 85:19,22 89:13 91:13 91:17,20 92:1,5 100:4 102:17,20 114:6 115:2 165:22 167:17 172:5 193:12 264:22 265:22 266:1 269:5 291:5 295:1 296:11 314:13 342:9 348:1 348:21 353:6 355:3,7 360:21
wear 110:20
weather 97:16 231:2
Web 91:19
Wednesday 7:17
week 268:16 274:12
weekend 341:5
weekends 341:3
weeks 253:7,15 265:15 268:18,21
weigh $214: 16$
weight 90:1 217:14,15 217:18 260:4,8 261:11
weights 213:16 218:7,9 370:12
Welch 140:14 151:21 152:17 201:11 202:19
welcome 283:22 288:5
well-established 144:17
well-funded 53:10 54:15 57:22
well-know 57:22
well-organized 53:9
well-represented 74:16
Wells 61:1 154:13
went $91: 1$ 116:14,15 222:3 231:19 253:9 298:7 340:22 357:1 weren't 368:6 372:7

Neal R. Gross and Co., Inc.
west 21:5,10 60:7,11,14 60:14 80:10 129:13 130:8 172:9 251:13 259:4 274:7 277:12 281:4 282:9 289:17 289:18 291:20 292:5 314:16
western 37:4 59:12 60:3 65:12 74:13 128:5 130:14 183:3 251:13 254:22 255:13 282:9 289:21 291:22 304:7 314:16 331:4 331:15 337:3 351:11 358:12 366:15,16
wheat 140:21
white 169:5,12 219:5
wholesale 119:6
Wichita 251:13
wide 45:14 48:10 49:12 50:12 98:10 140:10 170:15 182:22 183:9 201:15 237:21 249:2 269:15 271:16 300:22 301:2 350:4
wide-ranging 88:18
widely 38:22 44:3 45:5 56:11 146:18
wife 35:8
wife's 281:21
Williams 140:14 151:20 152:17 201:11 202:19
willing 113:11 135:6,21
Willson 72:15
win 343:1
win-win 67:5
wind $35: 6,11$
winter 32:12 61:8
Wisconsin 14:12
wishes 349:13
witness 3:1 8:17 9:18 13:3,13,15,19 14:6 15:18 16:15 17:9 25:8 26:1,9,11,15 27:1 29:19 30:15 31:2 33:13 34:21 38:1,8 39:15 40:13 41:5,12 41:21 48:4,21 51:2,9 52:1,3,6,17 54:4,8,14 71:11 76:18 77:13,18 77:20 78:2,9 81:12 87:2,10 88:3 89:2,4 89:12 91:11 92:14 93:10 94:14 96:3 97:1 97:18 98:5,12 100:3 100:16,20 101:7,13 102:12,16 105:9 106:1,7,12 107:7,19 107:21 108:3 109:17

110:1,5,13,16,20
111:11,14,16,20 112:3,17 114:14 116:22 118:5,7,13 121:10 122:10,19 142:4 143:22 144:5 157:6,10,19 158:13 160:3 161:6,21 162:4 165:14 167:1 169:8 169:13,17,19 170:1,7 170:11 173:7 176:10 179:9,15 192:6,12 193:14 206:11 210:1 210:6 223:5,11,19 224:2,4,10,13,20 225:3 226:2 228:12 228:19 229:8 232:4,6 232:15,20,22 265:11 279:13,18,20 280:7 298:10,13,17,19 312:14,16 326:15,19 326:21 365:7
witnesses 8:14 9:17,20 25:18 30:9 31:7 50:17 86:19 159:19 244:13 376:2
wonderful 289:2,2 295:8,9
wonderfully 70:17
wondering 175:21 227:1 255:18
Wood 131:3
word 18:8 39:18 57:16 96:20 196:19,20 201:4 215:11 216:2
words 10:8 25:17 113:6 145:18 173:18 214:9 326:8 347:7
work 28:14 75:21 78:14 78:18 81:2 $214: 9$ 248:15 254:14 277:11 283:15 284:14 290:8 291:12 303:1 306:18 307:5,12 317:15,16 327:11 329:3 331:18 335:9 341:1 355:3,19 356:10 359:6,20 368:6
worked 14:8 27:10 119:11 221:14 257:12 283:14 328:4
workers 235:3 303:6 307:11,16,21 308:3 308:16,17,17
working 76:2 256:8 280:18 282:19 290:21 292:15 295:7 308:8 359:9,11
workings 92:17
works 277:21 317:17 359:5
world 32:7,11 56:4 124:6 125:12,16,18 125:20 126:5 127:3 132:5 161:9 162:17 162:19 234:2,13 254:2,4 281:18 361:12
world's 125:14
worldwide 268:20
worried 359:4
wouldn't 168:18 174:12 188:17 295:13
write 90:13 113:6
writing 366:16 374:18
writing's 354:8
written 4:22 8:9 9:3,4 9:11 10:2 69:4 73:11 76:19 83:22 157:13 233:11 242:21 311:11 324:8 327:4 338:2 359:2 374:6
wrong 104:20 105:11 311:12
wrote 91:1 369:16

| X | 99:10,11 103:3,4 |
| :---: | :---: |
| X 182:2 277:19 | 108:6 112:14 113:1,3 |
|  | 114:21 124:13,14,15 |
| Y | 125:9,10 127:8,21 |
| Y 182:3 | 128:1 131:10,16,18 |
| yard 47:17 58:21 59:4,6 | 132:3,12 133:4 |
| 59:20 60:2,9 81:18,19 | 134:14,15,17 153:6 |
| 82:16 83:5,7,18 84:2 | 153:20 155:11 188:11 |
| 84:8 94:22 95:3 97:13 | 188:13,20 190:4 |
| 98:2,20 99:7,10,14,15 | 202:7 203:11 208:4 |
| 165:19,20 296:17 | 211:13 234:10 237:19 |
| yea 257:9 266:14 | 238:7 239:7 244:15 |
| 273:13 316:15 318:5 | 245:15 250:1 267:7 |
| 324:20 | 269:7 270:9 281:7,22 |
| yeah 261:21 262:20 | 282:20 283:22 285:4 |
| 263:17 276:1,3,19 | 289:16 290:16 291:9 |
| 277:10 317:18 319:1 | 291:9 292:6,9 299:15 |
| 319:14 347:9 349:19 | 299:22 300:22 301:9 |
| 351:5 352:15 356:11 | 303:12 309:14,15,17 |
| 364:22 | 314:8,8 320:11 322:7 |
| year 32:21,21 49:7,17 | 327:15,16,20,21 |
| 49:17,20 50:3,6,11,12 | 328:8,9 332:18 |
| 50:15 62:18,18 63:5 | 334:18 340:14 342:9 |
| 98:14,17,18,18 99:13 | 355:2 358:16 359:9 |
| 99:15 102:1,7 109:20 | 360:1,21 365:2 |
| 110:8 111:4,6 125:2,3 | 370:15,15 |
| 125:4,4 126:7 127:1 | yellow 167:7 169:10,12 |
| 127:13 132:7,9 | 169:20,22 170:5 |
| 136:21 137:9,11 | 219:4 |
| 139:6 145:2 147:6 | yield 4:9 125:2,3 131:16 |
| 153:22 154:4 165:13 | $\begin{aligned} & 150: 2,3154: 9,11 \\ & 168: 3,4188: 18 \end{aligned}$ |

228:11,13 251:11,11
258:21 259:3
yielding 132:8
yields 127:22 141:13 142:9 153:9 173:21
York 71:17,17
Young 71:19
younger 28:12 355:5
$\frac{1}{\frac{Z}{z e r o ~ 185: 19}}$
$\frac{0}{0144: 10219: 11 ~ 228: 2}$
$0.45132: 9175: 8$
$0.5148: 6210: 7221: 7$
$224: 17226: 8$
$\frac{0.93155: 10}{\frac{1}{13}}$

1 3:8 4:8 11:5,21 12:6 13:5 18:20,20 19:3
23:4 62:16,17 63:4
64:6 104:10,11 105:1
105:4,4,17 130:22
155:12 171:4 180:22
192:10 194:11 219:10
221:6 231:11 234:19
236:1 239:21 240:11
240:20 242:3 247:15
258:7,10 266:8,10
287:1 315:5 321:6
339:15 350:1 356:4
373:3
1-1/2 318:12
1,000 346:9
1,200 280:11
1.03 155:13 185:19
1.08 155:11
1.2 145:8 180:17
1.3 214:18 217:16
1.4 145:8 147:13 180:17
1.5 144:13 147:2 150:21 181:1 200:17 209:14 209:21 210:3,11,12 211:7,14 212:17 214:14,17,22 220:20
221:1,8,13,15 226:9
$1.6145: 12$
1.7 145:12 194:8

1/2 62:22
1/3 63:10
10 3:17 $21: 22$ 22:11 37:10,14,18,20 40:11 58:21 59:21 64:6,19 81:20 95:1,4,18,18,20 98:8 99:18 103:4 123:21 124:15 132:10

10-1/2 234:6
10:18 116:3,11,15
10:31 116:12,13
10:33 116:16,18
100 49:6 50:2 145:17 188:3 219:11 235:6
1000 18:5 65:12
1000s 65:14
102,000 299:12
11 3:18 21:6 22:7,11 40:12,17,22 41:2 103:4 194:20,21 195:7
11/13 3:8,9,10,10
11:1 86:4
116,000 302:7
118 3:3
1180 2:16
119/121 4:3
12 3:19 22:9, 14 41:13 41:17,19 124:15 133:6 176:17 194:20 235:22 267:15 275:7 281:10
12-minute 116:9
12.5 240:21 241:19

12:59 231:19
120 75:22
122/122 4:4
127 3:8
13 3:2,20 14:10 22:17 48:2,3,4,12,16,18 51:22 116:11 133:6 135:22 309:15
14 3:21 22:20 50:21 51:1,2,22 53:18,19,20 54:10,12 62:19 68:4 103:16,17 106:13 133:17 176:10 299:10
1400 2:5,10
143/143 4:7,11,12
15 3:22 6:6 11:14,16 22:10 37:6 38:10 52:15 53:17,20 54:10 54:12 58:12 64:19 71:14 80:1,7,12,17 81:4,13 91:9 105:13 105:14,16,20 106:11 106:12 107:2 113:2,2 128:3 134:5 173:3 179:17 223:13 224:3 224:4,6 340:16 361:8
15-0139AO-FV 6:11
150 327:22 346:10
157/158 4:14,17
16 4:1 20:1 22:11 30:2 71:1,7,9 129:12 136:20 177:15
1603 13:22

162 3:3 57:5
1666.67 150:1

1667 154:9
17 4:2 7:12 23:9 76:19 76:22 77:8,10 139:1,4 176:18,19 178:21
275:4,7
17/24 3:11,12
175 108:11,20 150:1 314:9
18 4:3 119:14,16,18,19 120:19 121:5,7
128:17 139:14 178:21 245:4
180 346:10
1880s 124:10
19 4:4 22:11 122:3,5,7 122:14,17 123:4 159:12,22 160:2,4,14 165:12 166:5 167:1,2 169:5,6 173:3 176:18 176:21 179:19 194:19 194:20 206:8 209:9 212:10 219:2,11 220:21 224:16,22 225:6 230:4
1900s 124:11
1920 299:20
1937 6:9 36:11 83:14
1948 233:19
1960 3:20 53:8 57:5
1960s 42:13 50:1
1963 49:1,2,4
1965 233:21
1975 234:13
1987 213:9 280:18
1994 16:18 22:4
1994-2014 3:13 17:19
1995 22:4
1997 146:7 147:7
1999 50:6

| 2 |
| :--- |

2 3:9,9 6:13 11:7,8
18:20 19:1 57:5 126:2
130:22 180:20,22
231:15 240:20 242:3
305:4
2-1/2 318:12,20 319:9
319:12
2,000 234:8
2,500 235:16
2.08 152:15 206:21
2.5 150:17 151:16 180:21 200:11 201:3
206:16,22 209:2
211:18 215:19 237:1
285:13 300:13 333:16
2.7 148:11
2.8 212:13 214:18 215:2 216:13,13 217:13 221:15,20
2:11 231:20 232:2
20 1:10 4:7 22:14 44:13 58:17,22 59:12,21
81:20 95:1,3,4,8,18 95:19,20 98:8 99:19 127:16 130:1 137:8 141:10,13,18,19 142:8 143:6,14,17 170:12,22 178:4 189:8,11 193:18,19 194:19,21 225:21,22 226:1 290:16 302:8 310:15 340:16 361:7
200 328:2 339:1,4,16,16 373:8,22
2000 44:7 136:22 137:9
177:18 178:5
2002 128:14 177:9
2003 35:3 177:10
2005 139:19
2007 177:1,3,6 179:11
2008 132:7
2009 126:7,11,19 127:14 134:17
2010 52:7 56:8 64:21 65:4 127:2 131:21 208:10
2010/2011 114:15,17
2011 52:7 56:9 64:21 131:21 208:10
2012 47:5 106:13 114:20 129:9 132:7 145:5,10 155:4,8 223:16 227:8 267:18 273:21
2013 22:5 39:1 73:9 75:20 87:15 88:6 106:13 126:7,11,19 127:14 134:21 145:6 145:11 155:4,8 213:10 302:2 305:8 2014 3:21 16:18 19:13 19:20,22 20:5,15 21:9 21:15 23:4,6,8 52:9 65:4 74:6 127:2 128:15 134:18 137:11 145:6,11 146:7 147:7 155:5,8,19 178:6 208:14 223:17 302:1 302:1 305:6
2015 1:10 3:9 6:13 11:7 23:7,13 35:6 105:10 304:8
2016 131:22
2018 131:22

Neal R. Gross and Co., Inc.

202-690-4299 2:7,12
202-720-4982 2:11
202-720-9237 2:6
20250 2:6,11
20th 7:16 131:7
21 4:11 141:14,17,18,19 141:20 142:12,15 143:6,15,17 225:22 226:1
$21.8220: 1$
21st 7:16
22 4:12 22:15 128:17 141:11,20 143:1,6,15 143:17 150:7,20 225:22 226:1,19 229:3
222 19:20
22303 14:1
227,500 150:15 151:7
22nd 7:17
23 4:14 22:17 130:13 157:2,5,22 158:3,7,19 158:22 159:3 160:2 160:16 179:19 229:5 230:4 236:19 286:16 315:15 316:20 318:9 319:4 337:19
23.7 126:7

232 3:4
232/243 4:18
2325 2:5
2331-C 2:10
235 127:13
23rd 7:19
24 4:17 7:19 22:20
120:20 157:14,18
158:4,11,15 161:7,17 172:6 173:3 176:5,20 189:9 224:3 230:4
243 3:4
25 4:18 22:20 232:9,13 242:21 243:5,8 246:10 322:7
250 44:7 61:15 235:17 265:9,18
2500 47:10
25th 7:20
26 3:3 4:19 16:13 18:1 23:1,4 73:6 280:2,6 287:13,16
265 19:14 21:15 255:6
27 4:20 23:12 219:20 226:21 227:2,3,3 228:16 229:7,8 305:13,17,22 306:3
273 268:13,22
279 3:4
27th 7:21
28 4:21 21:17 23:15

130:13 195:16,17
313:9 324:11 325:11
325:13
28/34 3:14
280 278:3,6
280/281 4:19
287 3:4
288.5 132:6

29 4:22 23:19 195:20 209:9,9 211:3 338:1,7 338:11 374:5
291,667 150:15 229:1
298 3:5
29th 7:21

| 3 |
| :--- |

3 3:10 11:10 18:20 19:2
19:9 20:13 105:1
144:10 148:7 163:1
180:20 210:8 212:9
220:20 221:8,9,13
224:18 226:9,21
227:3 306:17 309:4
311:5 369:16
3,000 245:5
3.02 152:15
3.12 206:21
3.6 148:2,12 215:4

3:22 298:3,7
3:31 298:8
3:32 298:3
30 47:11 59:14 60:5 108:6 125:20 130:10 149:22 154:10 161:12 162:3 164:16 165:1,4 165:5,9,12,14,17,19 165:20 167:2 169:6 171:17 172:7,7,10,20 197:2,7,17,21 198:1,2 198:20,21,22 209:9 212:7,10 217:12 219:1 220:21 228:21 239:5 246:10 285:1 293:20 296:3 302:6 303:10 320:9,18 334:15 340:16
30/34 3:15
30/37 3:17
30/39 3:16
30/41 3:18,19
30/48 3:20
30/54 3:21,22
300 50:5 124:13 299:13
30309-3521 2:17
305/306 4:20
306 3:5
30th 7:22
31 196:18 197:17 327:15

312 3:5
313/325 4:21
32 128:16 265:17
324 3:5
326 3:6
327 268:17 269:1
33 53:12 197:20,22
338 3:6 4:22
34 21:17
35 50:15 161:11,21 162:1 265:17
35:1 203:12 205:2
350 278:3 327:18
36 309:14
360,00 65:4
365 49:5
37 21:17
38 199:10,11
38021 6:14
38032 6:14
$\frac{4}{431011: 13.2113: 5}$

4 3:10 11:13,21 13:5 19:9,10,13 20:13,16 148:9 160:3 161:4 201:22
4-year-old 27:4
4.2 148:11

4:56 377:2
40 58:17 59:12 73:11
75:19 95:3,8 129:6
197:3,7,17 198:2,20
198:22 199:5 226:22
227:5 309:15
400 42:5 50:6 281:2
400,000 314:13
404-572-4604 2:17
404-572-5133 2:18
4100 1:13
44 20:1 73:11 130:13
45 327:20
48 35:1 259:2 260:12
486 47:9
49 260:11
499 130:9 172:10
$\frac{5}{53: 1116: 22 ~ 17: 3 ~ 19: 10}$ 19:15,19 20:16,18 24:1,2,5,10,14 137:10 178:5 255:7
5.87 126:9

5:1 149:16
50 42:14 44:14 48:5 49:2 50:2 51:3,5 59:15 60:6 62:15,19 109:6 112:14 121:3 126:22 130:1,7,9

164:5,7,11 165:2,11
172:9,15,17 173:6 251:10 260:12
50-year 3:21,22 104:21 105:5
50,000 47:12 108:5 153:21 154:3 165:13 165:14 167:14 239:6 285:2 293:21 296:3 303:11 320:9,19 334:16
500 130:12 147:9 150:1 170:18 183:9 187:4 208:1 211:11
5000 44:4
5005 313:19
51.5 127:15

5210 118:15
54 350:4
543 47:9
55 4:8 250:12 350:1,11 367:5,8
57 194:7,9
57.5 155:2 193:22
57.7 126:18

58 194:9 199:4
59 125:18
5904 13:22
$\overline{6}$

6 3:12 17:1,3 19:10,15 19:22 20:18 21:3 24:2 24:11,18,21 104:4,10 127:19 130:19 132:16 144:8 171:4 219:10 224:16,20
6,800 234:5
6.3 147:16 148:10 151:8 191:18 209:10 211:8 211:10,17 214:22 215:3 236:21 285:12 300:12 318:21 319:10 319:11 333:15
60 109:6 129:10 197:21 198:1,21 199:2 226:21 227:5 251:12 310:17
600 274:2
601-674 6:10
64,167 150:19
65 250:12 314:3 327:19 66.67 228:22
$\frac{7}{73.146 .918 .221 .3 .4}$
7 3:14 6:9 18:2 21:3,4 21:22 22:6 28:17,19 28:20 34:4,14,15,17 128:5 164:14 172:3

| ```173:3 206:8 208:21 211:2 226:16 7,000 233:21 7.47 126:10 70 44:13 129:2 130:6 164:11 172:14,17 7000 44:5 71/71 4:1 75 20:15 21:10 353:9 76/77 4:2 77845 118:16 78 3:3 150:6,16 226:18 229:2``` |
| :---: |
| 8 |
| $\begin{aligned} & 83: 1521: 422: 930: 2 \\ & 33: 12,1334: 1,4,7 \\ & 131: 2165: 9175: 6 \\ & 176: 6206: 8220: 18 \\ & 220: 21 \text { 376:21 } \\ & 8: 001: 12 \\ & 8: 015: 2 \\ & 803: 86: 13125: 14 \\ & 299: 10353: 9 \\ & 80 \mathrm{~s} 342: 9 \\ & 8242: 16 \\ & 83 \text { 20:17 42:17 } \\ & 8419: 21 \\ & 85327: 21 \\ & 8820: 21 \\ & 88 \end{aligned}$ |
| 9 |
|  |

Neal R. Gross and Co., Inc.
Washington DC

This is to certify that the foregoing transcript

In the matter of: Proposed Marketing Order and Agreement for Pecans

Before: USDA

Date: 07-20-2015

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


