

**DEVELOPMENT OF A COMPREHENSIVE
FOOD SAFETY PROGRAM FOR ASPARAGUS
FY 2008**

The Washington asparagus industry is in the midst of a dramatic transition from being a largely processed to an almost exclusively fresh industry. The nature of current food safety concerns makes it imperative that asparagus growers and shipper/handlers facilitate the transition to Good Agriculture Practice and Good Handling Practice certification. This project enlisted a forum of stakeholders including asparagus buyers from large chain stores, the state department of agriculture, an attorney familiar with food safety lawsuits, industry handlers who were already certified and an academic expert on food safety certification to present a comprehensive educational program about GAP/GHP certification for the Washington asparagus industry. Following the forum, Washington Asparagus Commission personnel met onsite with over 80% of the state's asparagus growers and shipper/handlers and conducted mock third party audits. The industry response has been positive. Shipper/handlers representing at least 75% are now third party certified and at least one large shipper/handler has initiated the steps to have all of the growers that deliver to them become third party certified prior to the 2010 harvest. These growers represent one third of the asparagus industry in the state of Washington. Eighty percent of the industry's growers plan on being GAP certified prior to the 2010 harvest season.

Additional benefits of the grant include:

- 1) sharing of materials with the Michigan asparagus industry; and
- 2) an English-Spanish food safety educational meeting for Spanish-speaking growers and handlers and sharing of Spanish version GAP/GHP materials produced by the Washington Asparagus Commission.

FINAL REPORT

Contacts:

Jim Quigley
Agreement Administrator
Washington State Dept. of Agriculture
360-902-1833
jquigley@agr.wa.gov

Laurie Wishkoski
Assistant Director
Washington Asparagus Commission
509-226-4303
lwishkoski@centurytel.net



Washington State Department of Agriculture Federal State Marketing Improvement Program

Final Report Comprehensive Food Safety Program for Asparagus Cooperative Agreement No. 12-25-G-0683

January 28, 2010

Contacts

Project Contact:
Jim Quigley, WSDA Agreement Administrator
1111 Washington St. S.E.
PO Box 42560
Olympia, WA 98504-2560
(360) 902-1833
jqigley@agr.wa.gov

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Washington Asparagus Commission, Comprehensive Food Safety Program for Asparagus

Overview

Food safety concerns are driven by fatalities, illnesses, food recalls, lawsuits and media attention. Agricultural industries have to address these concerns in order to compete in a global market. The Washington asparagus industry is in the midst of a dramatic transition from being a largely processed to an almost exclusively fresh industry within a matter of very few years. The nature of current food safety concerns makes it imperative that both shipper/handlers and the growers of asparagus address this issue. It is with this in mind that the Washington State Department of Agriculture partnered with the Asparagus Commission and applied for and received funds to facilitate the transition to Good Agriculture Practice and Good Handling Practice certification for the growers and shipper/handlers in the Washington asparagus industry. The funds have had a substantial positive impact on our industry.

Recipient: Washington Asparagus Commission (WAC)

Project/Grant Name: Development of a Comprehensive Food Safety Program for Asparagus

Amount: \$55,740

Money Expended: \$55,717.27

Money Remaining: \$22.73

Activities Performed:

1. Create a forum of stakeholders in the asparagus food safety arena. Participants would include buyers of asparagus from large chain stores, WSDA participant, an attorney familiar with food safety lawsuits, handlers from the industry that have already been certified to give their perspective, a grower, and an expert on food safety certification from academia.

On February 4th we held our food safety forum. The forum itself took months of planning and many phone calls and emails to get forum speakers lined up and prepared for the meeting. In the end, the forum consisted of the following people:

- Allan Nerell from Gourmet Trading – this is a third party certified asparagus packing shed. Allan spoke on topics of food safety and certification from a handler's viewpoint.
- Randy Davidson from Whole Foods – Randy works in Quality Control and was able to speak to what buyers are looking for as far as third party certification is concerned, as well as making contact with growers for future purchasing and business related issues.
- Doug Muse – Doug is an asparagus grower who is third party certified for potatoes. He was able to speak in regard to the third party certification plan that the Washington State Potato Commission had implemented as well as giving a grower viewpoint on the ease of third party certification and record keeping.
- Karen Killinger-Mann from Washington State University – Karen spoke in regard to food safety and food borne pathogens from an academic standpoint, giving growers key knowledge on different facets of food safety and key points of vulnerability.
- Laurie Wishkoski from the Washington Asparagus Commission – Laurie spoke on behalf of the Washington Asparagus Commission, she explained in detail the program that the Commission is implementing to help growers become third party certified.
- Chuck Dragoo from the WSDA – Chuck spoke in regard to the services that the Washington State Department of Agriculture provides to help growers in food safety efforts. He was able to give growers contacts and resources for furthering their food safety practices.

All presenters were available for grower questions and comments; contact information is available at the Commission office and additional meeting materials have been advertised via mailings and on the Commission website. Also in attendance was Phil Schoening who runs a private consulting company which helps growers to prepare for third party certification. He was available to interact with growers and answer grower questions in regard to steps needed to reach third party certification.

2. Contact all handlers, growers and interested parties by media press releases and in direct mailings. All members of the industry that can be contacted by phone will be. Attendance to the forum will be highly promoted to ensure good attendance.

Media press releases went to state wide newspapers, radio stations, and television news stations. Several mailings were sent to all growers, handlers, and interested parties. Phone calls were made to all known growers prior to the food safety forum. Information on the forum was also placed on our Commission website.

3. Follow up contacts with the forum audience will be made to ascertain concerns and issues that may have arisen as a consequence of the information given at the forum.

Follow-up mailings were sent out to all growers and interested parties including all parties present at the food safety forum stating that if there were questions or lingering issues they should be directed to the Commission office. The phone number and e-mail address were included. We created a posting on the Commission website stating that the Commission food safety forum had gone well and that if anyone would like more information, regardless of whether they attended the forum, that all inquiries should be directed to Erin Gwinn at the Commission office.

4. A list of entities that are interested in pursuing preparation for food safety certification will be generated.

An interested parties list was generated following the food safety forum to give a starting point for the individual on site food safety instruction. All interested parties were contacted in regard to food safety instruction and were asked for recommendations of other growers who would be looking to participate. Handlers were also contacted in reference to using the program themselves as well as giving recommendations of growers who might benefit from food safety instruction.

5. On-site meetings will be made with as many growers and handlers as possible.

Laurie Wishkoski met onsite with growers and handlers in regard to the food safety presentations and the Commission provided food safety materials. Laurie met with growers and shipper /handlers throughout the asparagus growing region. Each entity was given a notebook containing checklists and detailed information regarding food safety practices for growers and shipper/handlers. The notebook contained guidelines, forms for record keeping, templates for signage and contact information for Commission assistance, third party assistance and additional sources of information that could prove beneficial. The growers and shipper/handlers contacted represented over 80% of Washington's asparagus industry.

6. Mock third party audits will be carried out on farms across the Washington industry. These audits will allow the growers and handlers to understand what practices may need to be changed in order to meet standards. These mock audits will also show growers and handlers what practices may already be in place at individual work places that would just need documentation to qualify for certification.

Mock third party audits were carried out on farms across the Washington industry. These audits allowed the growers and handlers to understand what practices needed to be changed in order to meet standards. These mock audits also showed growers and handlers what practices were already in place at individual work places that merely needed documentation to qualify for certification. Appointments were made for the mock audits prior to the season, during the season and after the season. The third party contractor met onsite with each entity to review the educational materials, address concerns and conduct the mock audit. Such audits or meetings were performed for approximately 80% of the asparagus grown in the state of Washington.

7. Documentation procedures will be explained as part of the outreach/education process.

During Laurie Wishkoski's onsite grower meetings documentation was explained and Commission generated logs and forms were provided. These logs and forms are available to any member of the Washington asparagus industry as are the Washington Asparagus Commission's food safety materials, Good Agricultural Practices, and Good Handling Practices.

8. An evaluation form will be created and given to each participant at the end of the training session.

An evaluation was created and sent out to all food safety program participants along with a thank you letter for their involvement in the program. The evaluation asked participants to rate specific aspects of the program as well as the program overall. Participants were also allowed to give comments in order to better focus future food safety efforts and to give feedback on the notebook and materials provided, so that the Commission could evaluate whether this effort was worthwhile and where the Commission staff and contractor time was best spent. Very few evaluation forms were returned to the Commission office. Those that were returned showed highly favorable evaluations with all marks rating either good or excellent. The respondents were particularly supportive of Laurie Wishkoski's efforts. An evaluation form is included in this report.

9. Contact will be made at the end of the project to ascertain the number of participants that proceeded to request food safety audits from the WSDA and other entities.

Contact to determine the number of individuals who pursued third party certification was made through the Commission's program evaluation and with personal contacts. The response from the industry has been very positive. Shipper/handlers representing at least 75% are now third party certified and at least one very large shipper/handler has initiated the steps to have all of the growers that deliver to them become third party certified prior to the 2010 harvest. These growers represent one third of the asparagus industry in the state of Washington.

10. A presentation will be made to Michigan to communicate results to that state's asparagus industry. All educational materials will be provided to the Michigan Asparagus Advisory Board and other asparagus producing states. (March 2009)

Laurie Wishkoski attended the Michigan Asparagus Advisory Board's annual meeting in March of 2009. At this meeting she gave a presentation which detailed the steps that Washington's Asparagus industry was taking toward a higher standard of food safety, including an explanation and presentation of the Washington Asparagus Commission's Good Agricultural and Handling Practices. All materials generated by the Washington Asparagus Commission to educate and inform growers were provided to the Michigan Asparagus Advisory Board's membership in both written and electronic form. We developed materials in conjunction with Michigan to create a Michigan specific set of Standard Operating Procedures.

Additional Grant Work

English/Spanish Food Safety Forum

On September 23rd, 2009 the Washington Asparagus Commission held an English-Spanish food safety education meeting in Sunnyside, WA in an attempt to better reach some of the Spanish speaking growers and handlers. The location was chosen due to the fact that a majority of Spanish speaking growers and handlers are in the vicinity of Sunnyside. The meeting featured talks by Phil Schoening who is a private food safety consultant from AgriGAP

Management Services, Laurie Wishkoski, and Ryan Ivach who is an employee of the Yakima Health Department. The meeting was promoted through press releases, newspaper advertisements, and radio spots in both English speaking and Spanish speaking media. At the meeting Spanish-translated copies of the Washington Asparagus Commission's Good Agricultural and Good Handling Practices were made available to those who wanted the materials. Certificates of participation were created and sent to the attendees.

A the English-Spanish food safety forum was made possible due to the fact that at the initial forum during the February annual meeting, food safety was such a high priority topic for industry members that we were charged for neither speakers fee or travel and accommodations for any of the participants. This allowed extra money in the budget for a much needed and very beneficial English-Spanish food safety forum in the Sunnyside area.

Information and Signage packets

Information and signage packets are being generated and will be sent to all asparagus growers. The signs will demonstrate and encourage proper hygiene in the agricultural environment. Additionally, food safety rationale in the form of Spanish language food safety novellas will accompany the signage. This will give the growers and shipper/handlers an additional food safety teaching tool.

Lasting Outcomes

This Project has significantly improved the food safety outlook within the Washington asparagus industry. Eighty percent of the industry's growers plan on being GAP certified prior to the 2010 harvest season. That is a huge success story.

Additionally, WSDA and the Asparagus Commission now have food safety educational materials in both English and Spanish that are available to their growers and shipper/handlers.

Michigan asparagus growers have also benefited from this work having been visited by the Washington Asparagus Commission representative, Laurie Wishkoski, and also receiving the educational materials that were generated by the Washington Asparagus Commission. A crisis plan was generated for the Washington asparagus growers. It is the heartfelt hope of the Washington Asparagus Commission that the work done with this grant and the food safety impetus that was generated with render the crisis plan unnecessary. The Washington asparagus industry has taken huge steps forward in their food safety efforts. It is no small measure of the industry that even in an economic environment that is depressed, these growers and shipper/handlers are spending their time and money to better the safety of the consumer.

Contact:

Laurie Wishkoski, Assistant Director
Washington Asparagus Commission
(509) 226-4303 lwishkoski@centurytel.net

Analysis of Buyer Requirements for Asparagus Food Safety

Laurie Wishkoski and Alan Schreiber
Washington Asparagus Commission
Eltopia, Washington

Food safety concerns is one of the biggest issues in fresh produce.

- E. coli in leafy greens is the current driver.
- There have been many other food safety issues.
- Whether we like it or not, consumer and therefore, buyers will require assurances that the food they buy is safe.
- This assurance will come in the form of third party certification, insurance, GAPs, etc.

The Washington Asparagus Commission felt the time to act is now; better to jump than get pushed.

- We obtained a grant from WSDA.
- Matched it with funds from the Commission.
- Formed an advisory committee.
- Contacted asparagus buyers; wholesale, retail and brokers.
- This was a lot of work!
- There is a lot of information!

Third party certification is coming.

- We obtained results from 92 buyers from the U.S. and Canada; representing in excess of 95% of the asparagus purchased in North America.
- 30% of respondents either require or are in the process of requiring third party certification.
- This includes such buyers as Albertson's, Costco, Lowes, Publix, Schnucks, Sysco and Kroger.
- Another 20% will require it within 1 to 2 years.
- These include Ahold, Cooseman's, Hy-Vee, Sam's Wholesale, Sobeys West, Winn-Dixie and Western Grocers.
- Another 12% will require it in three to five years

A third party audit will not always be sufficient

- Of the 32 buyers that discussed their food safety requirements, 21 required more than certification.
- Many of the buyers have additional standards, requirements and training.
- Other requirements included handler purchase of insurance, meeting social accountability standards and attendance to their company's training courses on food safety or attendance of training courses they specify (e.g. Texas A & M University.)

It is not all bad news.

- Seventy-five out of 85 buyers responded that they buy Washington asparagus.
- A common theme was that during our window, nothing beats Washington asparagus, while there were few negatives about Washington asparagus; here was the most common one.
- Our season is too short; buyers want Washington asparagus for a longer period of time. They cannot get enough.

The future looks good; if we supply the product.

- 38 respondents could discuss future plans for purchases of Washington asparagus.
- 42% of respondents want to increase their purchases of our asparagus.
- 58% plan to keep at the same level.
- No buyer plans to buy less.

Asparagus Food Safety

- In a very short period of time, buyer perception of food safety has changed rather dramatically-buyers are very concerned.
- This concern is being passed on from consumer to buyer to handler to growers.
- Traceability will be a big issue, so growers and handlers will have to work together on this.
- There may not be a pay off for doing this, there will be a penalty for not doing it.
- Some buyers reported that they no longer buy from some handlers in Washington and in the Stockton area because of food safety concerns.
- Some handlers look at obtaining third party certification as a significant marketing advantage.

What are we doing about it.

- This survey was the first step.
- Applied for a second grant from WSDA.
- Develop GAP SOPs for asparagus growers.
- Develop GHP SOPs for asparagus handlers.
- Develop a crisis communication plan for the Washington asparagus industry.

Asparagus Food Safety Plans (cont.)

- Get SOPs in the hands of growers and handlers by the beginning of this season.
- This is a starting point-get everyone familiar with what is expected.
- Develop educational programs before the 2009 season.
- Encourage all growers and handlers to become certified if they so desire by the 2009 growing season.

New Packaging is in our future.

- 44% of respondents buy asparagus in bags or microwavable containers.
- This number will increase in the near future.
- For some buyers, buying asparagus in bagged containers helps to address food safety concerns, for some buyers it causes additional concerns.
- Some buyers will require additional safety measures for asparagus in bagged or microwavable containers.



Why Food Safety Is Important to the Washington Asparagus Industry

Dr. Karen Killinger
Washington State University

Why are you here today?

Why am I here today?

Understand what you want to prevent

- The better we understand how pathogens function, the better we can prevent their survival and growth in our food and water



Food Microbiology

- Microorganisms are present everywhere
- All raw foods contain microorganisms
- In foods, microorganisms can be
 - beneficial
 - cause spoilage
 - cause disease (pathogens)

There isn't a direct relationship between pathogens and spoilage

- Spoiled foods may not contain pathogens
 - You don't want to eat spoiled foods due to off-odors, off-flavors, etc.
- Foods that appear “safe” to eat may contain pathogens!

Why is food a good vehicle for pathogens?

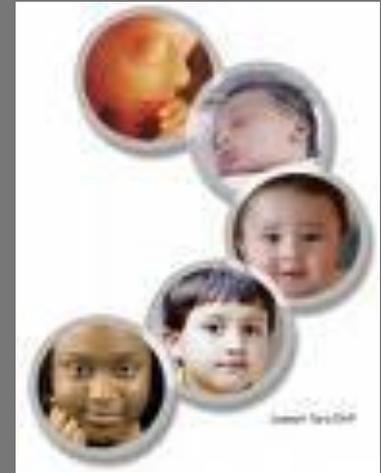
- Foods are nutritious for microorganisms too!
- Pathogens are present at low levels in the environment and can be transferred to raw foods
- Food handling from farm to table can increase levels of contamination
- Foodborne pathogens do not discriminate based scale of production or management practices

Frequency of Foodborne Illness (FBI) in the United States per year

- Total FBI 76 million
- Hospitalizations 325,000
- Deaths 5,000

Most Susceptible Populations

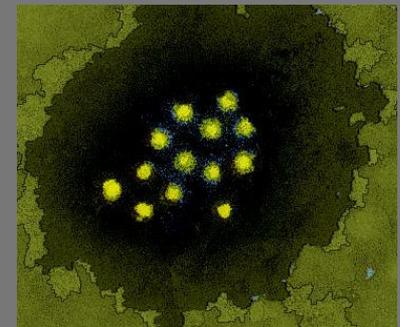
- Very Young
- Very Old
- Immunosuppressed
- Pregnant Women



Foodborne Illness Misconceptions

MythBusters: There is NO Stomach Flu!

If you think you have the “stomach flu”...
You likely have a Foodborne Illness!



Foodborne Disease: General Characteristics

- Symptoms:
 - Initial symptoms flu-like: Fever, Malaise/Fatigue, Headache, Muscle aches
 - GI symptoms: Nausea, Vomiting, Abdominal Cramps and Pain, Diarrhea
- Duration: 24 hrs – 3 days

Audience Participation Time!

Can you guess which organisms
cause the most illnesses in the US
each year?

Most Frequent Causes of Foodborne Illness in the United States

Pathogen	# of foodborne illnesses / year
Norovirus	9.2 million
<i>Campylobacter</i> spp.	1.9 million
<i>Salmonella</i> , non-typhoidal	1.3 million
<i>Clostridium perfringens</i>	248,000
<i>Giardia lamblia</i>	200,000

Mead et al., 1999

Most deadly Foodborne Illnesses in the United States

Pathogen	# of deaths / year
<i>Salmonella</i> , nontyphoidal	553
<i>Listeria monocytogenes</i>	499
<i>Toxoplasma gondii</i>	375
<i>Campylobacter</i> spp.	99
<i>E. coli</i> O157:H7	52

Mead et al., 1999

Why has addressing food safety on the farm become an area of focus?

Foodborne Pathogens & Produce

- Produce outbreaks have increased over the last 30 years
- Possibilities
 - More sophisticated detection methods
 - Increased communication of foodborne illness information among public health labs
 - Emerging pathogens



Food Safety for Raw Produce

- Most control measures reduce pathogen levels but no thermal “kill” step involved
- Steps to reduce risk from farm-to-table are available
- Every segment of the food chain must address food safety to reduce risk

Which products have been linked with the most outbreaks?

- 88% of produce-related outbreaks (Anderberg, 2007)
 - Lettuce & Leafy Greens
 - Tomatoes
 - Sprouts
 - Green Onions
 - Melons
- Crops where product touches the soil or irrigation water



Foodborne Pathogens and Produce

- Most common pathogens associated with foodborne outbreaks in produce:
 - *E. coli* O157:H7
 - Norovirus
 - *Salmonella*

Natural Habitat for Pathogens of Concern

- *E. coli* O157:H7
 - GI tract of animals and man
 - Particularly ruminant animals
- Norovirus
 - Infected humans
 - Vehicles contaminated with human feces
- *Salmonella*
 - GI tract of warm and cold blooded animals

Why is E. coli O157:H7 such a challenge?

- Low infectious dose: 1 – 10 cells



- The mere presence of the organism represents a high risk of illness

On-Farm Food Safety

Potential Sources of Contamination on the farm can include:

- Contaminated Irrigation Water
- Raw or uncomposted manure
- Wild or domestic animals
- Infected workers
- Equipment
- Improper Storage
- Once produce is contaminated, difficult to remove

Spread of Contamination

- 1 gram of fecal material could contain 1,000,000 cells of *E. coli* O157:H7
- 1 gram of fecal material distributed evenly in water could contaminate 1,000 to 100,000 pieces of produce!

OSU, 2006

Risk Management

Risk Management

- There is no “silver bullet”
 - With almost any activity – there is a risk involved
 - Can’t provide “guarantees”
 - There is no “zero risk”
- All raw foods contain microorganisms
 - There is a possibility pathogens will be present
- Focus on reducing risk and managing risk

Why is Risk Management Important?

- If a food product makes someone sick –
Strict Liability will likely apply
 - you are automatically liable for that illness
 - NO IF's, THEN's or BUT's

- If negligence can be proven – failure to exercise reasonable care
 - punitive damages can be awarded

Marler-Clark, 2007

Messages for Consumers

- What should we tell consumers?
 - Wash produce under running water prior to preparation or serving
 - Pathogens are present at low levels in produce
 - High risk populations are at greater risk of illness from fresh produce products

The Good News

- Low pathogen prevalence on most foods
- For the most part, foodborne illness is preventable!
- Factors can be controlled or used to prevent microbial growth in foods!
- Preventative efforts will increase food safety

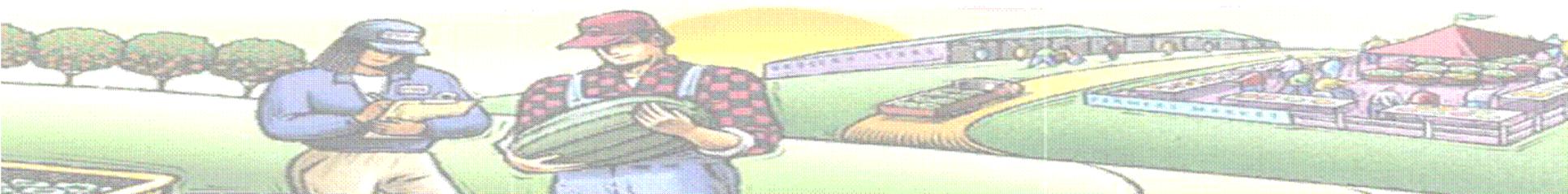
Must work together to address food safety issues!

- Producers
- Buyers
- Food Safety Experts
- Regulators
- Extension
- Consumers



Agricultural Marketing Service
Fruit and Vegetable Programs

Good Agricultural Practices & Good Handling Practices Audit Verification Program

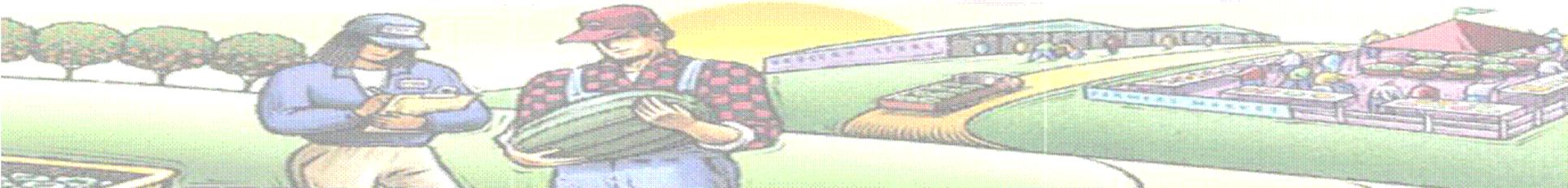


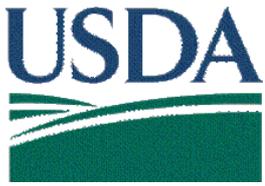


Agricultural Marketing Service
Fruit and Vegetable Programs

What is the USDA GAP & GHP Audit Program?

- Established at industry request
 - Retailers began requiring suppliers to meet FDA's GAP & GHP, and Good Manufacturing Practices (GMP). Suppliers requested USDA to develop an audit program
- Voluntary, competitively priced user fee
- Verifies participant's efforts to minimize microbial hazards in fresh fruits and vegetables

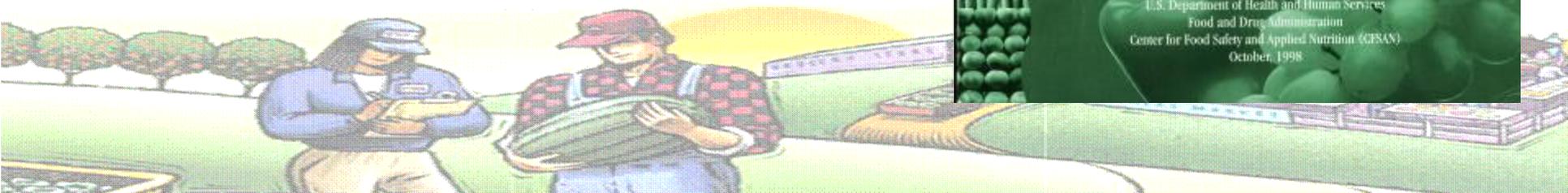
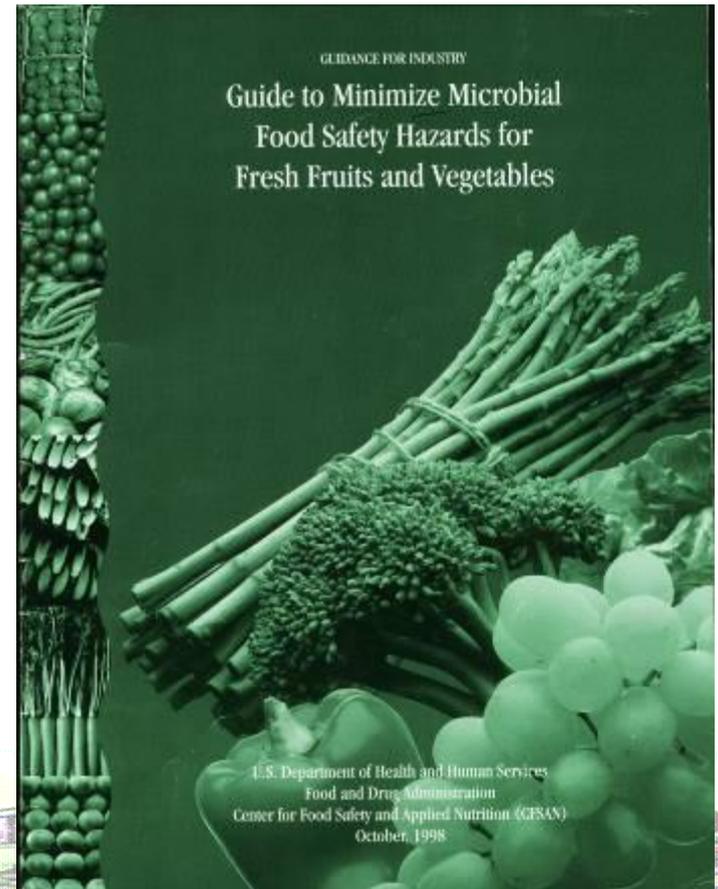


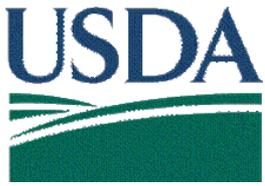


Agricultural Marketing Service
Fruit and Vegetable Programs

GAP & GHP Audit Program

- USDA's Audit program is based on established scientific principles and utilizes the Food Drug Administration's (FDA) guidance document
- Published in October 1998



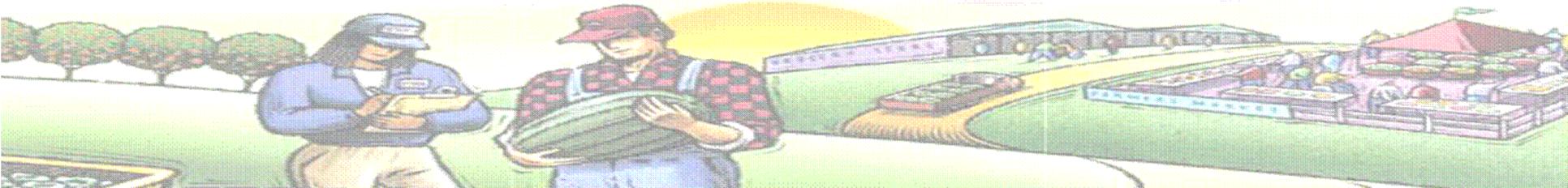


Agricultural Marketing Service
Fruit and Vegetable Programs

Additional FDA Guidance Documents

- Fresh Cut Fruits & Vegetables
 - Lettuce & Leafy Greens
 - Melons
 - Fresh Tomatoes
-
- To obtain copies of FDA guidance documents:

<http://www.fda.gov>

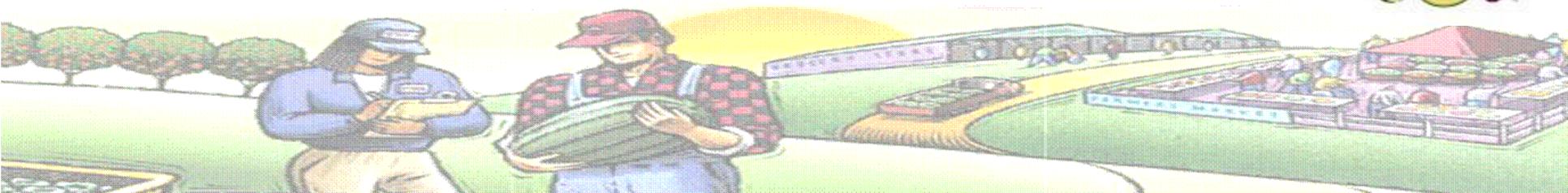




Agricultural Marketing Service
Fruit and Vegetable Programs

GAP & GHP Audit Program

- USDA works closely with:
 - Other USDA Programs such as the Agricultural Research Service
 - Academia; specifically the National GAPs Program
<http://www.gaps.cornell.edu>
 - AFVISA(Association of Fruit &Vegetable Inspection and Standardization Agencies)
 - AFDO(Association of Food and Drug Officials)

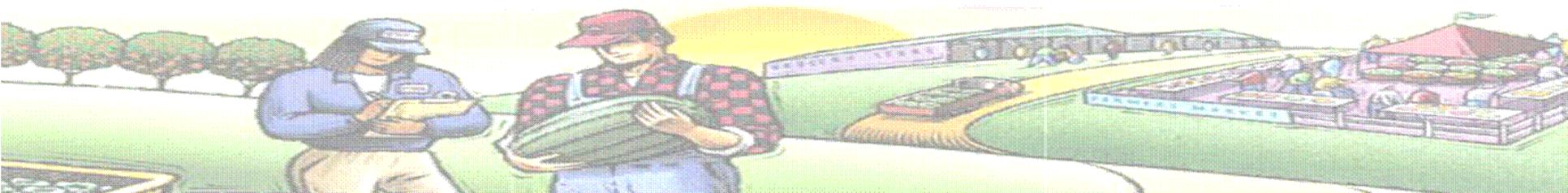




Agricultural Marketing Service
Fruit and Vegetable Programs

GAP & GHP Program

- Effective July 2007, GAP & GHP are a requirement for all fresh fruit and vegetable purchases by the USDA AMS Commodity Procurement Branch

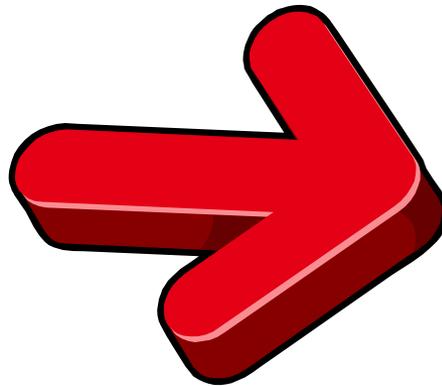




Agricultural Marketing Service
Fruit and Vegetable Programs

GAP & GHP Program

- General Questions thru Parts 6-A covers entire production chain “farm to fork”.
- Part-7 Preventative Food Security Procedures.





Agricultural Marketing Service
Fruit and Vegetable Programs

General Questions

- Mandatory component of all audits
- Covers employee & visitor hygienic practices
- Training of employees
- Sanitation of farm/facility





Agricultural Marketing Service
Fruit and Vegetable Programs

Good Agricultural Practices Scopes

- **Part 1 - Farm Review**
 - Water
 - Manure
 - Animal/Wildlife
 - Land Use





Agricultural Marketing Service
Fruit and Vegetable Programs

Good Agricultural Practices Scopes

- **Part 2 - Field Harvest and Field Packing**
 - Field Sanitation
 - Field Harvesting and Transportation





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Good Handling Practices Scopes

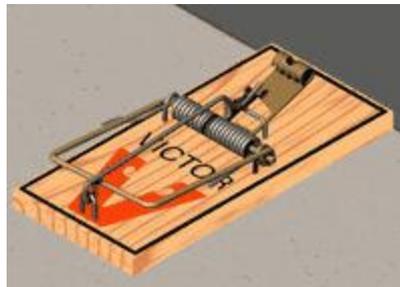
- **Part 3 - House Packing Facility**
 - Water use
 - Packing Line Operation
 - General Sanitation





Good Handling Practices Scopes

- **Part 4 - Storage and Transportation**
 - Containers and Pallets
 - Pest Control
 - Temperature Control
 - Transportation/Loading





Agricultural Marketing Service
Fruit and Vegetable Programs

Traceback

- **Part 5 - Traceback**
- **Part 6a - Traceback for Wholesale Distribution Center**
 - Track produce containers from the farm, to the packer, distributor, and retailer
 - Should indicate date of harvest, farm identification, and who handled the produce

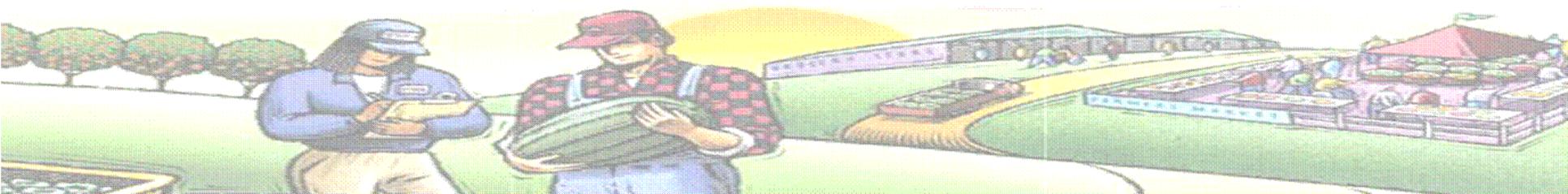


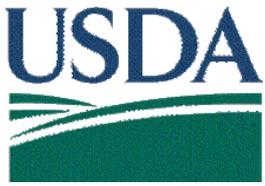


Agricultural Marketing Service
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Good Handling Practices Scopes

- **Part 6 - Wholesale Distribution Center/Terminal Warehouses**





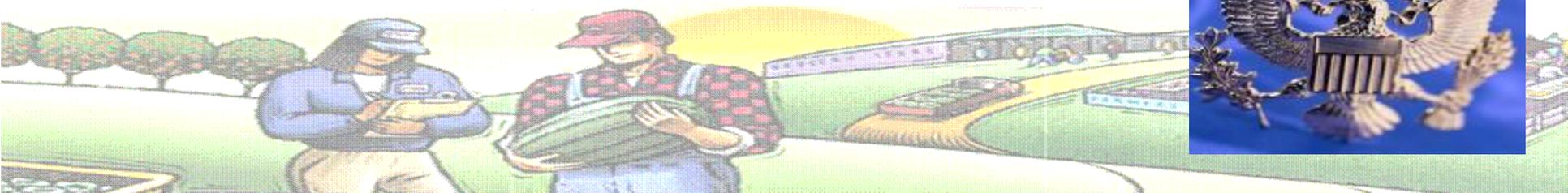
Agricultural Marketing Service
Fruit and Vegetable Programs



Part-7

Preventive Food Defense Procedures

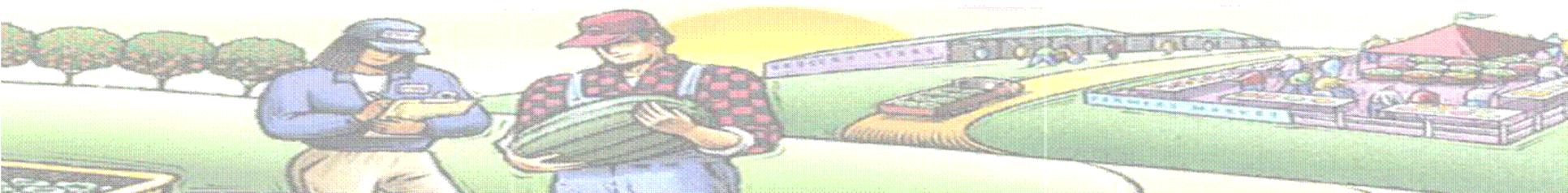
- Based on the U.S. FDA's Food Producers, Processors, and Transporters: Food Security Preventive Measures Guidance for Industry
- Audit-based
 - Included as part of GAP & GHP audit; or Food Defense section only





Passing Score

- Must achieve a minimum passing score of 80% in order to “pass” the audit.
- Five automatic unsatisfactory “catch-alls”
 - Immediate food safety risk is present when product is grown, processed, packed, or held under conditions that promote or cause the product to become contaminated
 - Presence or evidence of rodents, excessive amount of insects or other pests in the produce during packing, processing, or storage



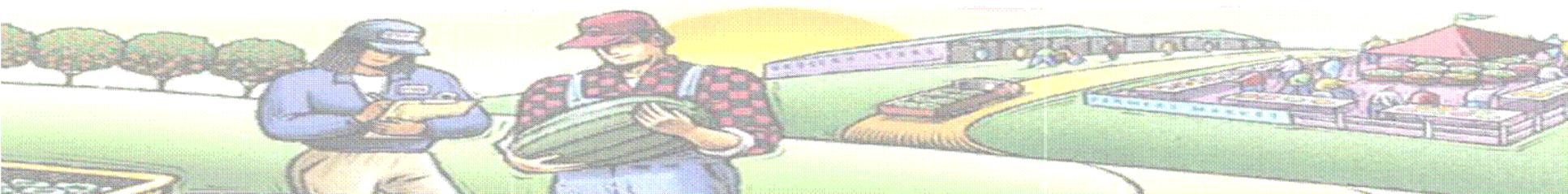


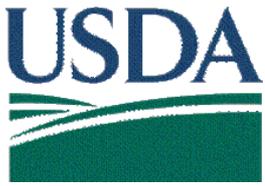
Agricultural Marketing Service
Fruit and Vegetable Programs

Passing Score

Automatic Unsatisfactory Cont'd

- Observation of employee practices that jeopardize or may jeopardize the safety of the produce
- Falsification of records
- Answering General Questions 1 or 2 “no”

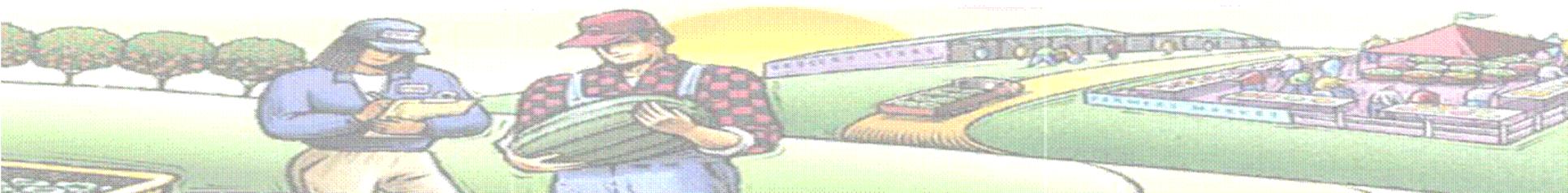




Agricultural Marketing Service
Fruit and Vegetable Programs

Changes to Program FY 08

- Effective October 1, 2007 an unannounced audit policy was implemented to verify continued conformance to GAP/GHPs.
 - 1 announced yearly audit as close to beginning of season as practical.
 - At least 1 unannounced audit performed sometime during the remainder of 12 month cycle.





Changes to Program FY 08

- Corrective Actions
 - Any audit that does not meet minimum score or has an automatic unsatisfactory must file corrective action report before being re-audited.
 - Short term
 - Root cause





Agricultural Marketing Service
Fruit and Vegetable Programs

Website

AMS at USDA, Fruit and Vegetable Programs, Fresh Product Standards and Quality Certification - Microsoft Internet Explorer prov

http://www.ams.usda.gov/fv/fpbgapghp.htm

AMS
USDA

Fruit and Vegetable Programs

AMS USDA SEARCH

Fresh Product Grading and Quality Certification

Fresh Produce Audit Verification Program

State departments of agriculture, with USDA's assistance, are developing an audit-based program that is helping the U.S. produce industry verify voluntary adherence to the U.S. Food and Drug Administration's [Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables](#).

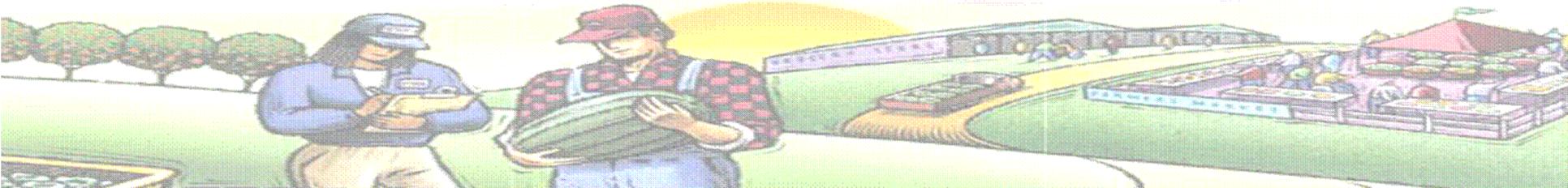
Under the program, Federal-State Inspection Service (FSIS) personnel review a participating company's facility and agronomic practices, along with its documented procedures, to help determine if "Good Agricultural Practices" and/or "Good Handling Practices" are maintained.

Program Changes Effective October 1, 2007 -- view "[Notice to Trade](#)" [in Adobe Acrobat]

- [Program Informational Brochure](#) [in Adobe Acrobat]
- [Contacts](#)
- [USDA Audit Checklist](#) [In Adobe Acrobat] [[Printable](#)]
- [USDA Audit Score Sheet](#) [In Adobe Acrobat] [[Printable](#)]
- [Audit Checklist for Client Suppliers](#) [In Adobe Acrobat] [[Printable](#)]
- [Audit Score Sheet for Client Suppliers](#) [In Adobe Acrobat]

Website has general information, updates to the program, & most current checklist listed...

<http://www.ams.usda.gov/gapghp>

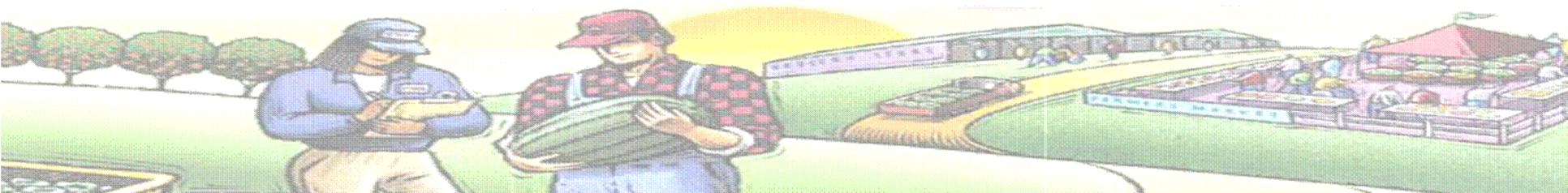




Agricultural Marketing Service
Fruit and Vegetable Programs

Website Posting

- New policy effective October 1, 2007-
Auditee must pass all scopes requested in
order to be posted to USDA website.



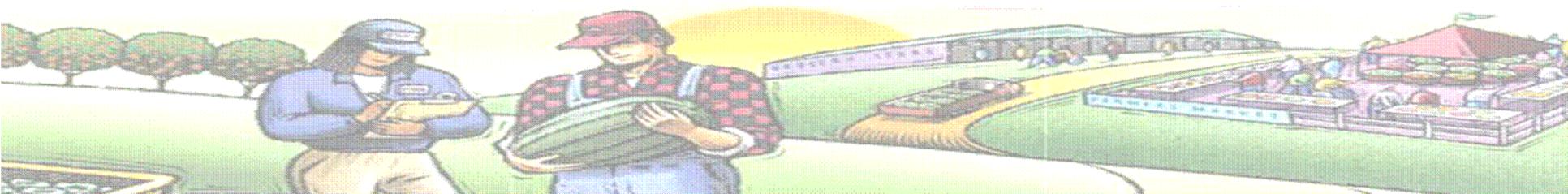


Agricultural Marketing Service
Fruit and Vegetable Programs



Audits

- Audits are performed by Federal and/or Federal – State Cooperators from the inspection offices throughout the country.
- Over 250 auditors available throughout the country.





Agricultural Marketing Service
Fruit and Vegetable Programs

Requesting an Audit or information

Contact your state inspection office

Jim Quigley, Program Manager

(360) 902-1833



jquigley@agr.wa.gov

www.agr.wa.gov

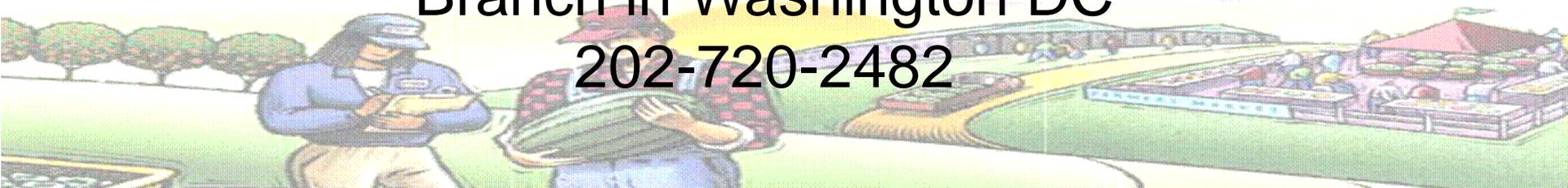
Go to Fruit & Vegetable inspection

If your state does not offer GAP&GHP

audits call USDA Fresh Products

Branch in Washington DC

202-720-2482





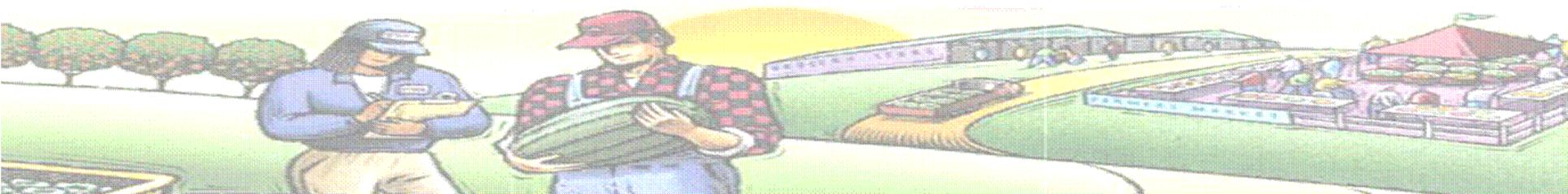
Agricultural Marketing Service
Fruit and Vegetable Programs



Thank you!

Questions?

www.ams.usda.gov/fv



Go Cougs!

Dr. Karen Killinger
Assistant Professor
Washington State University
PO Box 646376
Pullman, WA 99164-6376
(509) 335-2970
karen_killinger@wsu.edu

Food Safety Plan for Asparagus

Laurie Wishkoski and Alan Schreiber
Washington Asparagus Commission
Eltopia, Washington

The Washington Asparagus Commission surveyed of asparagus buyers

- We contacted 111 buyers of asparagus in U.S. and Canada in 2007.
- 30% said they have food safety requirements in place or will have by the end of the year for asparagus.
- Another 20% will have requirements in place in the next 1 to 2 years; more will have requirements eventually.
- These buyers tended to be larger than average and represented about two thirds of asparagus purchased in North America.
- Three handlers and no growers were third party certified for food safety purposes.

The WAC successfully sought grant funds to help our industry prepare for coming food safety requirements.

- First thing we did was survey buyers to ascertain what was coming.
- Second, we developed asparagus specific good agricultural practices (GAPs) and good handler practices (GHPs).
- Third, we are in the process of offering educational and technical assistance to all Washington growers and handlers in order for them to become certified.
- Fourth, we are providing the Michigan asparagus industry the same educational materials on asparagus food safety as we are Washington growers.

Frequency of Foodborne Illness (FBI) in the United States per year

- Total FBI 76 million
- Hospitalizations 325,000
- Deaths 5,000

Most Frequent Causes of Foodborne Illness in the United States

Pathogen	# of foodborne illnesses / year
Norovirus	9.2 million
<i>Campylobacter</i> spp.	1.9 million
<i>Salmonella</i> , non-typhoidal	1.3 million
<i>Clostridium perfringens</i>	248,000
<i>Giardia lamblia</i>	200,000

Most deadly foodborne illnesses in the United States

Pathogen	# of deaths / year
<i>Salmonella</i> , nontyphoidal	553
<i>Listeria monocytogenes</i>	499
<i>Toxoplasma gondii</i>	375
<i>Campylobacter</i> spp.	99
<i>E. coli</i> O157:H7	52

Why has addressing food safety on the farm become an area of focus?

Food borne Pathogens & Produce

- Produce outbreaks have increased over the last 30 years



- Possibilities
 - More sophisticated detection methods
 - Increased communication of foodborne illness information among public health labs
 - Emerging pathogens

Which products have been linked with the most outbreaks?

- 88% of produce-related outbreaks
 - Lettuce & Leafy Greens
 - Tomatoes
 - Sprouts
 - Green Onions
 - Melons
- Crops where product touches the soil or irrigation water

Foodborne Pathogens and Produce

- Most common pathogens associated with foodborne outbreaks in produce:
 - *E. coli* O157:H7
 - Norovirus
 - *Salmonella*

On-Farm Food Safety

Potential sources of contamination on the farm can include:

- Contaminated Irrigation Water
- Raw or uncomposted manure
- Wild or domestic animals
- Infected workers
- Equipment
- Improper Storage
- Once produce is contaminated, difficult to remove

Spread of Contamination

- 1 gram of fecal material could contain 1,000,000 cells of *E. coli* O157:H7
- 1 gram of fecal material distributed evenly in water could contaminate 1,000 to 100,000 pieces of produce!

USDA - AMS, in conjunction
with state departments of
ag.....

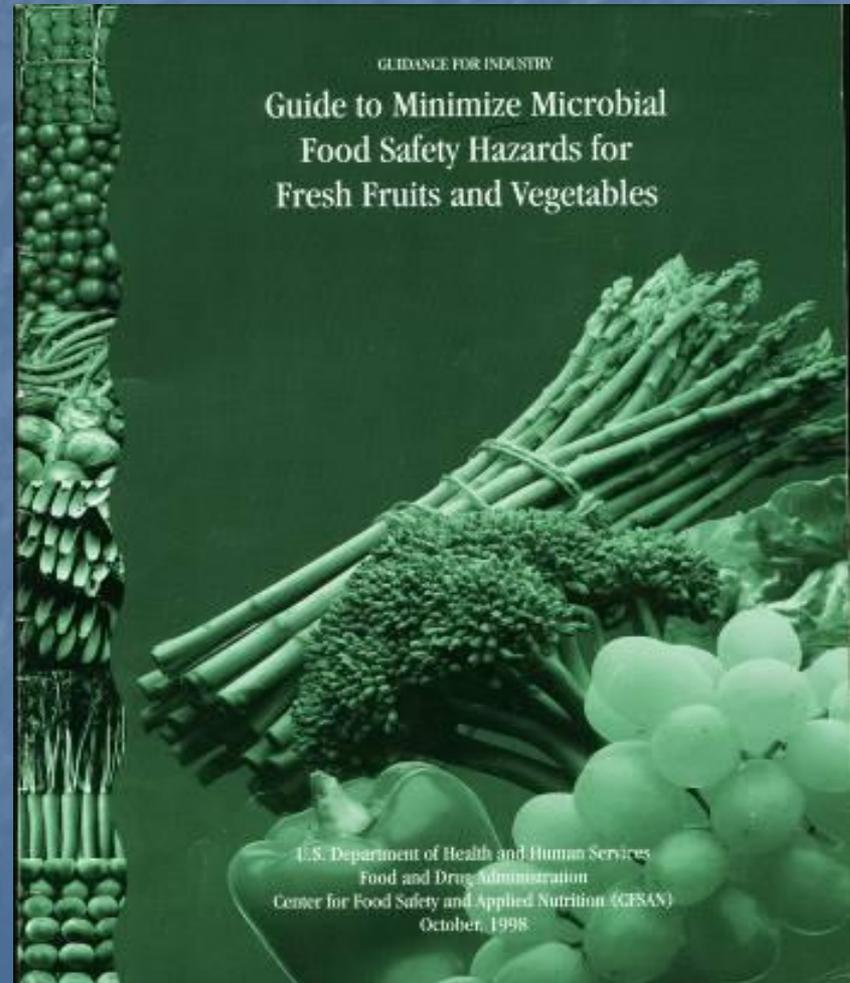
Good Agricultural Practices &
Good Handling Practices
Audit Verification Program

What is the USDA GAP & GHP Audit Program?

- Established at industry request
 - Retailers began requiring suppliers to meet FDA's
 - GAP & GHP, and Good Manufacturing Practices (GMP). Suppliers requested USDA to develop an audit program
- Voluntary, competitively priced user fee
- Verifies participant's efforts to minimize microbial hazards in fresh fruits and vegetables

GAP & GHP Audit Program

- USDA's Audit program is based on established scientific principles and utilizes the Food Drug Administration's (FDA) guidance document
- Published in October 1998



GAP & GHP Program

Effective July 2007, GAP & GHP are a requirement for all fresh fruit and vegetable purchases by the USDA AMS Commodity Procurement Branch

In the future this may apply to USDA purchases of processed produce including asparagus.

GAP & GHP Program

- General Questions thru Parts 6-A covers entire production chain “farm to fork”.
- Part-7 Preventative Food Security Procedures.



General Questions

- Mandatory component of all audits
- Covers employee & visitor hygienic practices
- Training of employees
- Sanitation of farm/facility



Good Agricultural Practices Scopes

■ Part 1 - Farm Review

- Water
- Manure
- Animal/Wildlife
- Land Use



Good Agricultural Practices Scopes

- **Part 2** - Field Harvest and Field Packing
 - Field Sanitation
 - Field Harvesting and Transportation



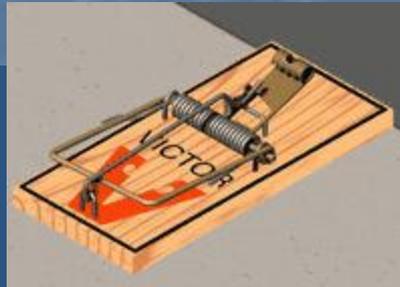
Good Handling Practices Scopes

- **Part 3 - House Packing Facility**
 - Water use
 - Packing Line Operation
 - General Sanitation



Good Handling Practices Scopes

- **Part 4 - Storage and Transportation**
 - Containers and Pallets
 - Pest Control
 - Temperature Control
 - Transportation/Loading



Traceback

- **Part 5 - Traceback**
- **Part 6a - Traceback for Wholesale Distribution Center**
 - Track produce containers from the farm, to the packer, distributor, and retailer
 - Should indicate date of harvest, farm identification, and who handled the produce



Good Handling Practices Scopes

- **Part 6 - Wholesale Distribution Center/Terminal Warehouses**



Part-7

Preventive Food Defense Procedures



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Passing Score, cont.

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To: Participants in WAC Asparagus Food Safety Program
From: Jessica Welch, Assistant Director, Washington Asparagus Commission
Date: 2/12/2010
Re: Evaluation of WAC Asparagus Food Safety Training Program

Thank you for participating in the Commission's Food Safety Program.

We kicked off the Food Safety Program, which was co-sponsored by the Washington State Department of Agriculture through the United States department of Agriculture, with a set of food safety presentations at the Asparagus Commission's annual meeting in February. This was followed up by contacting growers personally and scheduling one-on-one meetings with Laurie Wishkoski, the Commission's food safety consultant. This week the Commission hosted a Spanish language food safety training session in Sunnyside.

The grant period is coming to an end and it is time to look back on what we have accomplished and evaluate how the program went in order to guide future efforts.

Attached you will find a food safety evaluation. Please fill out the evaluation form and return it to the commission office. The evaluation can be used to evaluate not only Laurie's meeting and the food safety notebooks, but also the quality and content of the annual meeting food safety presentations.

Any evaluation and comment you can give would be greatly appreciated and we look forward to hearing your opinion.



Food Safety Training Evaluation

We welcome your comments about the training you received from us. Please complete the following details so that we can continue to offer the best service possible. Please place a check mark in the appropriate box for your answer.

	Poor	Average	Good	Excellent	I did not participate
How easy was the training to understand?					
Were the materials included in the notebook useful?					
Was the time spent during personal training beneficial?					
Were topics covered in sufficient detail?					
Overall Rating					

Do you have any recommendations or comments for future food safety training?

What made the biggest impression on you?

If you are not ready to undergo a GAP or GHP audit now, do you think that the materials and outreach will be of use?
