Hub Staff
Food Safety Support Webinar

"PRACTICAL FOOD SAFETY" FOR FARMERS AND HANDLERS
Then: Neptune Farms

Now: Jo Ann Baumgartner
Steve Warshawer
NGFN Food Safety Coordinator, La Montanita Co-op, Farmer
Introduction to the FHLFST Program

• Inspired by new pressures on smaller growers
  – FSMA
  – Buyer desire for certification

• Food Hubs
  – High trust relationship with growers
  – Market access
  – Grower community resource center
  – Most are continuing to build their supply
Food Safety “Thinking”

• Not training to a particular standard
• More like a liberal arts education:
  – The thinking behind keeping food safe
  – Practice at executing a plan
• For hub staff
  – Enough knowledge to support farmers:
    • to direct them to resources
    • not spread misinformation (not expert)
• For farmers
  – The tools, confidence and good start toward building a proper food safety plan for their farm
Introduction: Wallace Center

- Wallace Center at Winrock International
  - 501(c)3
  - Funded by philanthropy, government and businesses

- Wallace role in the FHLFST Program
Hubs & Local Food Safety Experts

• Hub - Local Source, Food Bank of Northeast Georgia (GA)
  • Beth Oleson, GA Fruit & Vegetable Growers Association
  • Erin Holliman, GA Fruit & Vegetable Growers Association

• Hub - LINC Foods (WA)
  • Tricia Kovacs, WA State D of Ag
  • Karen Ullman, WA State D of Ag

• Hub - Headwater Foods (NY)
  • Robert Hadad, Cornell Extension
Agenda and Handouts:

http://ngfn.org/foodsaftytraining
Your Starting Screen

Presentation

Control Panel
Active Participation is Important in this webinar
You can type questions

Type your question in the small box at the bottom of the Questions box.

Press “Send”!
Farmers are Food Handlers (As are Hub staff)

Center for Disease Control and Prevention (CDC)

- 48 M cases of food poisoning
  (1 in 6 Americans)
- 128,000 hospitalizations
- 3,000 deaths

You are Responsible for the Safety of your Product!
Types of produce Associated with Outbreaks, 1996-2009 (N=87)

- Berries: 3.4%
- Green onions: 10.3%
- Herbs: 6.9%
- Leafy greens: 17.2%
- Melons: 16.1%
- Tomatoes: 32.2%
- Others: 10.3%
- Unknown: 65.5%

Source Credit: FDA/CFSAN 2011
Food-Borne Illness Attributed to Produce

- Of the 46% of the illnesses documented by the CDC that were attributed to produce, the causes include the farm, processing, storage or shipping; handling by a store, or preparation in a restaurant or home.
Food-Borne Illness Attributed to Produce from the Farm

• CDC can only identify 40% of the causes. Of those identified:
  – From 1998-2008, 5% might come from the farm.
  – From 2009-2013, up to 2% might come from a farm or dairy.
Why Care About Food Safety?

- Wellness of Your Customers
- Farm Liability
- Quality and Shelf Life
- Market Position
- Public Perception of Local Food
- Legal Requirements
- Buyer’s Demands
- Farm Responsibility (GAP)

On-farm food safety and good postharvest practices protect farmers as much as they protect customers.
History: Good Agricultural Practices (GAPs) and Audits

1998 - FDA's Guide To Minimize Microbial Risks in Fruits and Vegetables (GAPs)

2000s – Over 12 different FS standards developed

2009 - Harmonized GAP Standards “one audit by any credible third party, acceptable to all buyers”
Food Safety Modernization Act - FSMA

- The FDA FSMA Act was signed into law on Jan, 4 2011

**PRODUCE RULE:** Requires FDA to establish science-based standards for the safe production and harvesting of fresh fruits and vegetables to minimize the risk of serious illnesses or death

- Produce Rule Deadline 10/31/15
- Virtually all fresh produce will be “covered”
- Primarily deals with biological hazards
- Not expected to require 3rd party certification or FSP.

**WILL REQUIRE RECORD KEEPING AND TESTING**

Bottom Line: Many buyers will expect FSPs and Audits
Exempt Farms
Less than $25,000 (produce) per year over past 3 years
“Qualified Exemption”
- If the produce will undergo a kill step
- If previous 3 years, average less than $500,000 (food) per year and the majority of sales are direct to a “qualified end use” – a consumer, restaurant or store located in the same state OR within 275 miles of farm

Qualified Exempt farms are subject to 3 parts of the Rule

General Provisions
   Packaging, label, placard indicate farm name/address

Compliance and enforcement
   It is illegal to sell adulterated food
   The proposed standards state that failing to comply with the Produce rule is a “prohibited act”

Withdrawal of exemption
   In the even of an active investigation linked to a farm
   If FDA determines that it is necessary to protect the public health . . . based on conduct or conditions
Step 1. Map all production fields or greenhouses, and assign numbers to identify specific growing areas.

Step 2. Using a labeling gun, mark all produce packages with the date and location of harvest.

Tomatoes
L & J Farms
1 Bumpy Rd, Honolulu 96822
808-000-0000
Grown in Hawaii, USA

031109-2

TOTAL NET WT 16 oz (1 lb)

Step 3. Put the harvest date and location I.D. on each invoice.
Sources Of Food Borne Illness

1. Physical: such as glass, metal, stones, plastic, bone, or bullets

2. Chemical: such as pesticides, lubricants, or cleaners

3. Biological: such as bacteria, viruses, fungi, or parasites

The most significant carriers of biological contaminants are soil, water and fecal matter.
Pathogens of Concern in Produce

• Bacterial Pathogens
  – Shiga toxin-producing *Escherichia coli*
  – *Salmonella* spp.
  – *Campylobacter* spp.
  – *Listeria* spp.

• Protozoan Pathogens
  – *Cryptosporidium* spp.

• Pathogens with Antimicrobial Resistance
Pathogen Routes to the Farm

- Waterborne
- Airborne Dust
- Wildlife
- Livestock
- People
Pathogens Are Present On All Farms

1. Potential Sources: Perform a risk assessment
   – Create maps and descriptions
   – Identify potential sources
   – Reduce survival of pathogens at source

2. Prevent Transfer
   – Prevent pathogens from getting on produce
   – Prevent pathogens on produce from spreading to other produce

3. Reproduction
   – Prevent reproduction of pathogens

Contamination From Microorganisms Can Happen At Every Stage of the Produce Handling Process.
Jensen Farms Listeria Case

- 33 + 10 dead
- 1 miscarriage
- 147 infected

A truck used to haul culled cantaloupe to a cattle operation was parked adjacent to the packing facility.

Six misdemeanor counts of introducing adulterated food into interstate commerce.

Where - How it got there - How it transferred - How it survived
Jensen Farms Facility Design

- Pooling of water on packing facility floor adjacent to grading stations and employee walkway
- Packing facility floor not easily cleanable;
- Packing equipment not easily cleaned and sanitized
- No equipment to remove field heat before placing in cold storage.
- Conviction based on “strict liability” no need to prove intent to harm
- Primus gave Jensen Farms - 96% a “superior” rating

- Potato packing equipment allowed water to pool
- No sanitizer was used in the wash water
RISK ASSESSMENT

- Land Use
- Water Quality
- Wild and Domestic Animals
- Worker Health & Hygiene
- Worker Training
- Harvest/Packing/Transport

Specific places in the process to assess and intervene to prevent a potential food safety hazard
Start Where You Are: Self-Assessment

1. Evaluate current management strengths & weaknesses to identify potential food safety risks.

2. Develop strategies in management and production practices that can reduce risks.

3. Develop action plans to improve the food safety of produce grown/packed on your farm.

Physical – Chemical – Biological
Identify the risks on the farm and how they are being addressed
Differences Between a Food Safety Action Plan, a Plan, an Audit, and an Inspection

• Food Safety Action Plans (FSAP) help farmers identify potential risks and develop cost-effective, and scale-appropriate strategies for THEIR farm.

• Creating a culture of food safety.

• Food Safety Action Plans tap into and organize farmer’s can do style of planning

• FSAP can function as FSPs
Differences Between a Food Safety Action Plan, a Plan, an Audit, and an Inspection

• A Food Safety Plan (FSP) is a written plan for how growers will manage food safety on their farm. A FSP includes the name and contact information of the designated FS person, maps, fs policies, supplier / buyer information, records, SOPS, test results

• FSPs should only include what is being done on the farm
Differences Between a Food Safety Action Plan, a Plan, an Audit, and an Inspection

• FSPs are required for 3rd party audits and certification programs.
• If 3rd party audits are planned, Food Safety Plans should be written to the audit.
• An audit uses a set of food safety GAPs to compare the food safety plan to what is actually occurring on the farm.
Differences Between a Food Safety Action Plan, a Plan, an Audit, and an Inspection

• An inspection is carried out by a FDA or State health enforcement officer to check that the grower is complying with food safety regulations.
"A Food Safety Manual for You"
Templates and Log Sheets

This is YOUR Manual and Must Fit YOUR Farm

Wash tank water is changed [how often] and water sanitizer [product] levels are maintained at [insert levels], and tested [testing method and how often] and documented on the Water Sanitizer Log.

http://safety.cfans.umn.edu/
On-Farm Food Safety Plan Tool Is Based on Harmonized GAP Standards

A Completed On-Farm Food Safety Manual is the first step to becoming Food Safety Certified!

OnFarmFoodSafety.org
Sample Question

Is there a person(s) at your farm who has responsibility and authority for food safety?  
- Yes
- No

Best practice information will appear in your food safety plan as a useful resource. It is recommended that you read the best practice information provided throughout a series of questions. Each best practice link will provide you helpful information that can help you complete your plan and help you to improve your food safety practices.

Extra Info, Links to resources, and recommendations are provided.
What if the answer is no?

Tool notifies when “NO” may be unacceptable.

Provided Links to Best Practices to Address Issues
**Checklist with links provided:**

**Food Safety Plan Actions and Documentation Checklist**

**Name of Operation:** Lily Baker  
**Prepared By:** Lily Baker  
**Date:** June 3, 2013

<table>
<thead>
<tr>
<th>SECTION</th>
<th>SUBSECTION</th>
<th>ACTION TYPE</th>
<th>ACTION</th>
<th>COMPLETE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>1.4 Traceback</td>
<td>Form</td>
<td>Print and complete <a href="#">Example Traceback Log</a>, Attach to the end of your manual.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.5 Recall</td>
<td>Area Of Development</td>
<td>Conduct an annual recall exercise to ensure records and systems are sufficient to all recall of products.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.5 Recall</td>
<td>Form</td>
<td>Print and complete <a href="#">Recall Information Form</a>. Attach to the end of your manual.</td>
<td></td>
</tr>
</tbody>
</table>

**What kind of action is needed?**

*Easy to keep track of what you've accomplished!*
<table>
<thead>
<tr>
<th>Questions</th>
<th>Points</th>
<th>Yes</th>
<th>NO</th>
<th>N/A</th>
<th>Doc</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-3 Potable water is available to all workers.</td>
<td>10</td>
<td></td>
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<td>R</td>
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<tr>
<td>G-4 All employees and all visitors to the location are required to follow proper sanitation and hygiene practices.</td>
<td>10</td>
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<td>P</td>
</tr>
<tr>
<td>G-5 Training on proper sanitation and hygiene practices is provided to all staff.</td>
<td>15</td>
<td></td>
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</tr>
<tr>
<td>G-6 Employees and visitors are following good hygiene/sanitation practices.</td>
<td>15</td>
<td></td>
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</tr>
<tr>
<td>G-7 Employees who handle or package produce are washing their hands before beginning or returning to work.</td>
<td>15</td>
<td></td>
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</tr>
<tr>
<td>G-8 Readily understandable signs are posted to instruct employees to wash their hands before beginning or returning to work.</td>
<td>10</td>
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</tr>
<tr>
<td>G-9 All toilet/restroom/field sanitation facilities are clean. They are properly supplied with single use towels, toilet paper, hand soap or anti-</td>
<td>15</td>
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</tbody>
</table>
Break-out 5 min

What food safety demands are your buyers making of your hub’s farms?

- Is an implemented Food Safety Action Plan a good strategy to encourage and support?

- Is a 3<sup>rd</sup> party audit required by the hubs buyers

- Can you negotiate with your buyers to accept a Food Safety Action Plan or Food Safety Plan instead of a 3<sup>rd</sup> party audit?
- Human Health
- Personal Hygiene
- Worker Training
Majority Of Food Borne Illness Is Transferred By Humans

Workers can carry Shigella, Hepatitis A, Norovirus, Salmonella, E coli . . . and more

- Hands
- Feces
- Human Fluids
- Clothing
- Footwear
- Illness
- Injury
Many fruits and vegetables are eaten raw. Pathogens introduced by workers can cause illness.
POTABLE WATER MUST BE AVAILABLE FOR HUMAN HYGIENE

- No detectible E. coli -

TEST FOR GENERIC COLIFORMS & E. COLI

FSMA

Ground: 4 times a year base, then once a year
Municipal: Request municipal records?

• Test close to end use
• Keep records of results.
**Human Health and Hygiene Action Plan**
State clearly what you plan to do and create accountability

<table>
<thead>
<tr>
<th>Area of Food Safety Action</th>
<th>Action</th>
<th>Who</th>
<th>When is this done?</th>
<th>SOP</th>
<th>Training</th>
<th>Record</th>
<th>Rank 1-5</th>
<th>Check-in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable Water</td>
<td>Policies, Practices, Systems To Reduce Risk</td>
<td>Who is required to do this?</td>
<td></td>
<td>Is there a SOP, written on this?</td>
<td>What training is done, who, and when?</td>
<td>What record keeping system is kept for this action?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilet and Hand Washing Facility and Sanitation</td>
<td>Policies, Practices, Systems To Reduce Risk</td>
<td>Who is required to do this?</td>
<td></td>
<td>Is there a SOP, written on this?</td>
<td>What training is done, who, and when?</td>
<td>What record keeping system is kept for this action?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand Washing</td>
<td>Everyone is required and trained to use proper hand-washing techniques.</td>
<td>Everyone on the farm must understand and practice proper hand washing, regardless of their job or activities on the farm. This includes farm owners and family members, workers, volunteers, and visitors.</td>
<td></td>
<td>Yes</td>
<td>Everyone who works on the farm is trained in proper hand washing techniques when they begin working, at the start of</td>
<td>Records are kept of training on hand washing</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

- How does your food hub ensure the water used at the hub is potable?
Corrective Action

Corrective action is evidence of a working system and a “food safety culture”, all farm “participants” need sufficient understanding of on farm food safety, risks and hazards, that they can see if there is something “wrong”, and report on it to the appropriate person.

1. IAR — “Immediate Action Required”
There is an immediate risk that it may make someone sick.

2. CAN — “Corrective Action Needed”
There is a problem with the system that needs attention. It is not an immediate food safety risk.

3. C — “Compliant”
How do we know that, why do we believe/trust that determination?
1. Who Is Responsible For Food Safety On Your Farm?
   - 24 hour contact information

2. Who Is The Alternate Person?
   - 24 hour contact information
Write a Standard Operating Procedures (SOP) to Minimize Potential Risks

SOPs should include:
• Title, Date, and Author: Descriptive title, date written and updated, and who wrote it
• Responsibility: Who does it and who makes sure it gets done
• When: When and how often the procedure is performed
• Materials: A list of the items needed to accomplish the task
• Detailed Procedure: Step-by-step, in order, list of what one must do

Additional information that is often included:
• Policy: Rules on practices on your farm to minimize risks
• Purpose: “Description” or “Why we do this”
• Records: What records will be kept of the action

Suggestions for easy to follow SOPs
• Keep SOPs Focused On Action
• Start with a verb (action word) when possible
• Break steps into numbered tasks
• Be concise
• Be specific

Don’t SOP Your Employees To Death!
BREAK-OUT 5 min

Local Food Safety Experts:
- Provide information on where people can get water testing.
- Check in if participants have questions about filling out the Action Plan.
All people who work or visit the farm must receive adequate training

At a minimum . . . EVERYONE is trained on Farm policies on
- Human health
- Personal hygiene

Additional training
- Based on assigned duties
Worker Sanitation

• Toilets and hand washing facilities should be within a quarter-mile of the work site (or vehicle provided)
“Adequate hand washing by food handlers could have prevented 34% of E. coli 0157:H7 infections in the study population” (Mead et al., 1997)

Proper hand washing is the most effective way to prevent food borne illness.
Sanitizers can be used but **ARE NOT** a substitute for hand washing.

1. Wet hands with clean water, apply soap, and work up a lather
2. Clean hands at least 20 seconds
   - Wash the front and backs of hands
   - Clean under the nails and between the fingers
   - Rub fingertips of each hand in suds on palm of opposite hand
3. Rinse under clean, running water
4. Dry with paper towel, and turn off faucet with used towel
5. Throw the paper towel in the trash

**Sanitizers can be used but **ARE NOT** a substitute for hand washing.**
39% of Americans don't always dry their hands completely after washing them.

Damp hands can spread up to 1000 times more bacteria than dry ones.
Minimize Risk at all Levels

Not Ok!
Pathogens can hide under nails and rings.

Better!

Not Required!
Best if contamination risk is elevated.

If gloves are used – the operation should have a glove use policy.
SAMPLE SOP: HAND WASHING

Version:
Date:
Written by:

RESPONSIBILITY

Everyone on the farm must understand and practice proper hand washing, regardless of their job or activities on the farm. This includes farm owners and family members, workers, volunteers, and visitors.

WHEN

People are require to wash their hands:

Before:
• Beginning work
• Putting hands in wash water
• Before handling fresh produce

After:
• Breaks
• Using the restroom
• Smoking
## Document Worker Training

<table>
<thead>
<tr>
<th>Training</th>
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<th>Signature: I received training and questions answered in a language I understand</th>
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<tbody>
<tr>
<td>General Health and Hygiene</td>
<td>4.1.1.12</td>
<td>Mariia Fast Worker 4.1.12</td>
</tr>
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<td>Hand Washing</td>
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<td>Cleaning Produce Contact Surfaces</td>
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<td>Hand Washing</td>
<td>6.8.1.12</td>
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### When To Train
- Upon hiring
- Start of season
- As needed to refresh
POLICY: SICK PEOPLE DON’T WORK WITH FOOD

If someone has any of these symptoms:
- Nausea
- Vomiting
- Diarrhea
- Stomach cramps or pain
- Fever, chills
- Skin infections, wounds or sores containing pus
- A cold, runny nose, frequent coughing or sneezing

- They should not pick, pack, or handle fruits or vegetables.
- They should not prepare food for others.

- Train employees to identify illness
- Document illnesses on Illness/Injury Report Form
• Provide accessible well stocked first-aid kits
• Check and update supplies routinely
• Train all employees how to handle minor injuries
• Report injuries to a supervisor
• Cover hand cuts with glove to protect produce
If Blood And Other Body Fluids Come In Contact With Produce And/Or Food Contact Surfaces

In Field
- Mark the area
- Inspect the area for contamination
- All contaminated surfaces will be removed to a plastic bag and placed in trash can
- Notify field supervisor or food safety person

In The Packinghouse
- Inspect the area for contamination
- All affected produce as well as all packing materials will be removed to a plastic bag and placed in trash can
- Food contact surfaces will be cleaned and sanitized before using them again
- All actions will be documented by email addressed to the farm manager
All visitors are required, and are following, proper hygiene and sanitation practices.

<table>
<thead>
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<th>Date of Visit</th>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
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Designated Worker Possessions, Break, and Eating Area
Reinforce Food Safety Habits

Can Your Hub Support Farmers By Providing Signs?

- Posters and Signs
- Review Trainings As Needed
- Model Desired Behavior
SOPs For Training

SAMPLE SOP: HAND WASHING

Version:
Date:
Written by:

RESPONSIBILITY

Everyone on the farm must understand and practice proper hand washing, regardless of their activities on the farm. This includes farm owners and family members, workers, volunteers, and others who come in contact with the farm environment.

WHEN

People are required to wash their hands:

Before:
• Beginning work
• Putting hands in wash water
• Before handling fresh produce

After
• Breaks
• Using the restroom
• Smoking
• Eating
• Or otherwise compromising the sanitary nature of hands
### When To Train

- Upon hiring
- Start of season
- As needed to refresh

### Training Log

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