Produce Safety ALLIANCE

Cornell University

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Module 7: How to Develop A Farm Food Safety Plan

Learning Objectives

- Name the essential parts of a Farm Food Safety Plan
- Describe why one qualified person should be designated as the person responsible for the Farm Food Safety Plan on every farm
- Conduct a risk assessment of the farm's practices and environment
- Describe management steps and practices to reduce risks
- List key steps involved in developing a traceability system including establishing lots and clean breaks
- Identify resources available to assist in developing a Farm Food Safety Plan

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Farm Food Safety Plans

- **The FSMA Produce Safety Rule does NOT require a written Farm Food Safety Plan**
- However, writing a Farm Food Safety Plan was identified by PSA Working Committees as a critical component to implementing produce safety practices effectively
- This module will outline considerations when writing a Farm Food Safety Plan by incorporating both GAPs and FSMA Produce Safety Rule requirements

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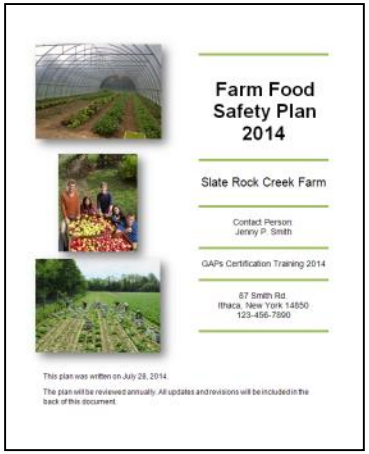
Reasons for a Farm Food Safety Plan

1. **Gets you organized and focused on food safety**
   - Describes risks you have identified and actions to address those risks
   - Defines your practices, policies, and SOPs
   - Efficient and effective use of your time and resources by prioritizing most important risk reduction steps
2. **Best way to be prepared!**
   - Buyer questions/requirements
   - Third party audits
   - Food safety regulations



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Food Safety Plan

- Policies: What to do
- Procedures: How
- Records: Proof of what and when

YOU Can Identify and Reduce Risks!

- **Each farm is unique**
  - Practices to reduce risks will be specific to your farm
  - Best done by someone who knows the farm and how it operates
- **Each commodity is different**
  - Grows on the ground or in trees
  - Harvest by hand or by machine
  - Single vs. multiple harvests

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Who Is YOUR Food Safety Person?

- Each farm should have one person to lead the development of the Farm Food Safety Plan
  - Will be supported by others on the farm
  - May need a back-up in case the person is unavailable
- Should have food safety training and experience to know how to assess risks and develop a plan
- Should have the authority to make necessary changes and invest in resources to reduce risks
- Must make sure the plan is implemented
- Should be willing to be the farm food safety contact

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Knowledge Is Your Friend!

- Writing a plan can be difficult – begin with information you know
  - Start with your general farm information and what you do
- Some basic food safety knowledge is key!
  - Assessing risks requires understanding risks and this requires knowledge and information
  - For many growers, preparing a detailed, written Farm Food Safety Plan may be a new practice

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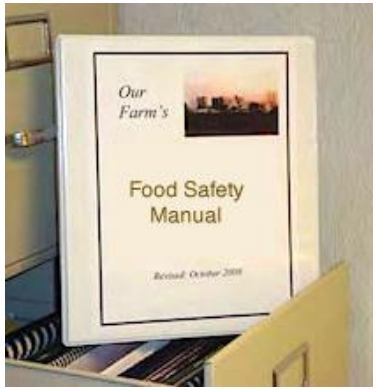
Farm Food Safety Plan Parts

- Farm name and address
- Farm description
  - Commodities grown, farm size, etc.
- Name and contact information for farm food safety manager
- Risk assessment of practices and environmental conditions on your farm that impact food safety
- Practices to reduce food safety risks
- Records that document practices



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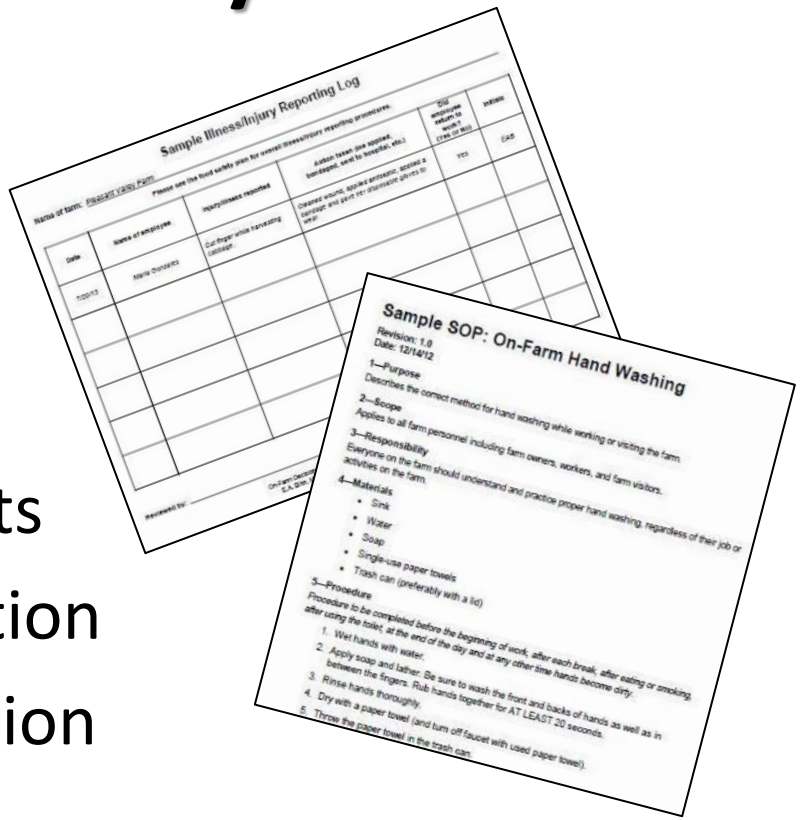
Other Items to Include In Your Farm Food Safety Plan

- Farm maps
- Farm policies
- SOPs
- Training records
- Agricultural water test results
- Emergency contact information
- Supplier and buyer information
- Traceability and recall plans
- Contact info for contracted services



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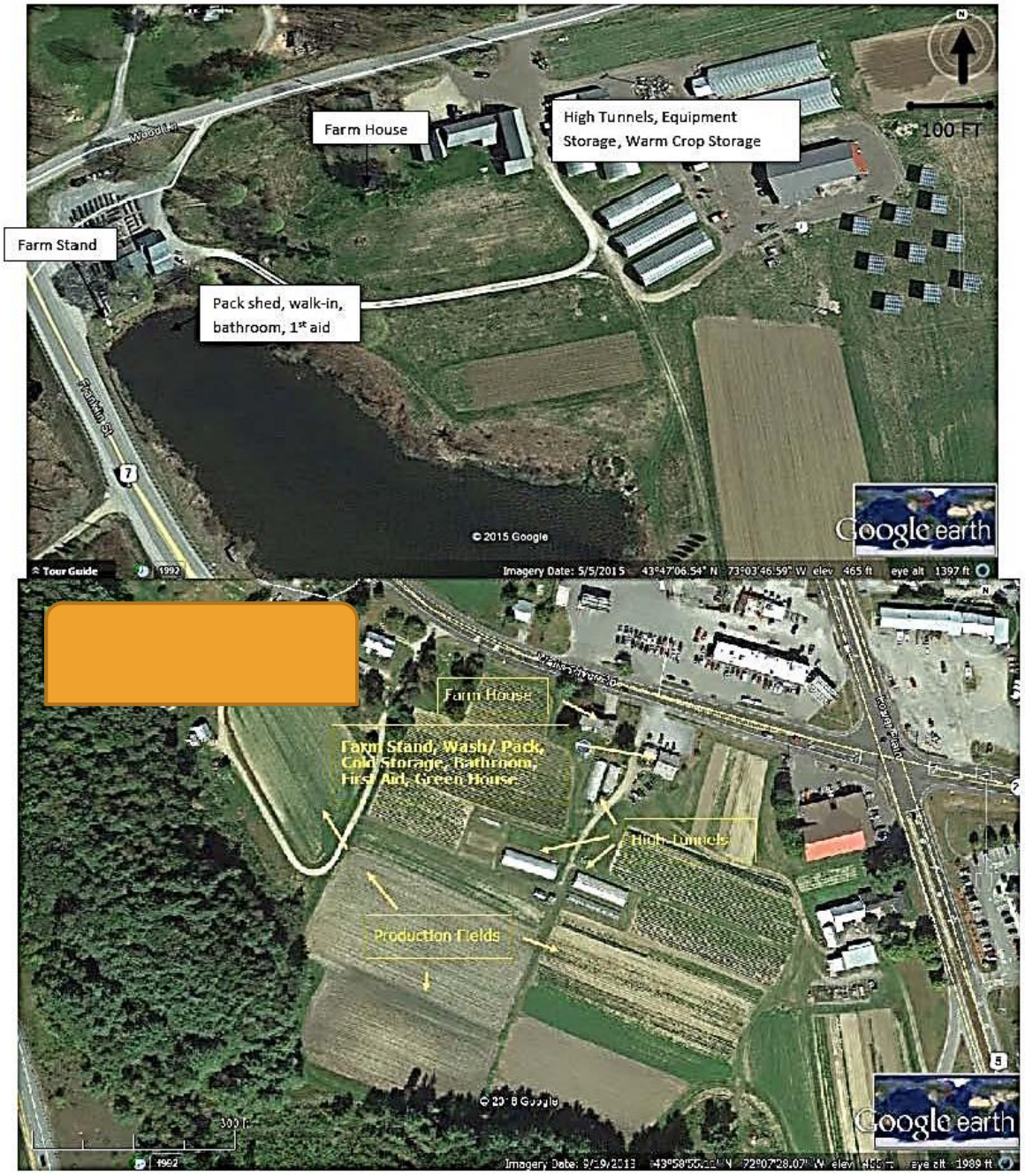
Farm Mapping

Main farm site and one for each non-contiguous field site

Be sure to locate and identify on the map:

- production areas (labeled according to traceback scheme)
- field packing, and staging areas
- field sanitation units
- active wells
- surface water sources
- regular or recent flooding areas
- manure or compost or chemical fertilizer storage sites
- septic systems
- any important residential/commercial/
  other facilities adjacent to farm, such as sewage treatment sites, landfills, dairy or animal farms, etc.


NEW LANE
WOOD FIELD
BLUE BELLS
HAZELS
ORCHIDS
SAWDUST POND
LIMES
PRICKETS
BARN
WILD CHERRIES
HORSE POND
HAZELS
FITCHES FIELD
BARN FIELD
MEADOW
BUTLERS
PEARTREE COTTS
BARN
FOOT PATH
BRIDLE WAY
WEBBERS FIELD
GREAT FIELD
STABLE FIELD
POPLAR
ELMS
ELMS


Farm House
High Tunnels, Equipment Storage, Warm Crop Storage
100 FT
Farm Stand
Pack shed, walk-in, bathroom, 1st aid
Franklin St
7
© 2015 Google
Google earth
Tour Guide
1992
Imagery Date: 5/5/2015 43°47'06.54" N 73°03'46.59" W elev 465 ft eye alt 1397 ft
Farm House
Farm Stand, Wash/ Pack, Cold Storage, Bathroom, First Aid, Green House
High Tunnels
Production Fields
Google earth
1992

Step 1: Assessing Risks

- Review all farm operations to identify practices that contribute to or increase produce safety risks
- Review the farm environment and adjacent land
- Focus on microbial, chemical, and physical risks
- Identify risks that are most likely to occur, noting the ones that could happen often
  - Because time and money are limited, prioritize which risks to address first

Ranking Your Risks

- Risks that can lead to whole crop contamination
- Risks that have caused previous outbreaks
  - e.g., Contamination from postharvest water, wildlife fecal contamination
- New or modified farm production practices that may increase risks
  - e.g., Hiring new people, changing processes, retrofitting equipment, changing suppliers

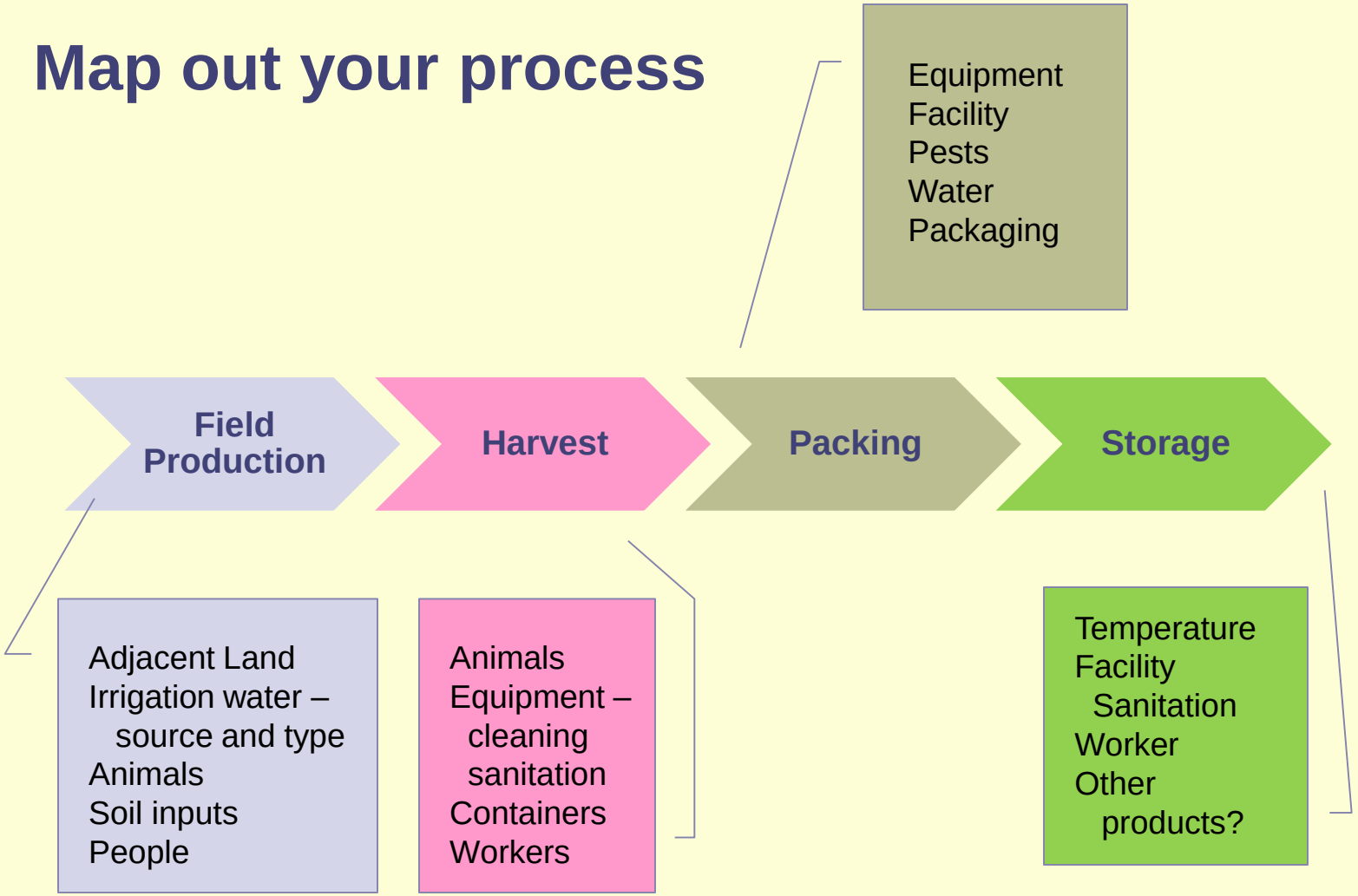
Step 2: Develop Practices to Reduce Risks

- Develop practices that will reduce identified risks
  - Use resources and ask for help if you are not sure!
- Know what resources are required to successfully implement practices
  - Human resources (time and/or people)
  - Equipment or infrastructure (may require changes/upgrades)
  - Disposables (hand soap, paper towels, etc.)
- Create a list of tasks/steps that need to be done
- Designate a person(s) to be in charge of each task

Risk Assessment

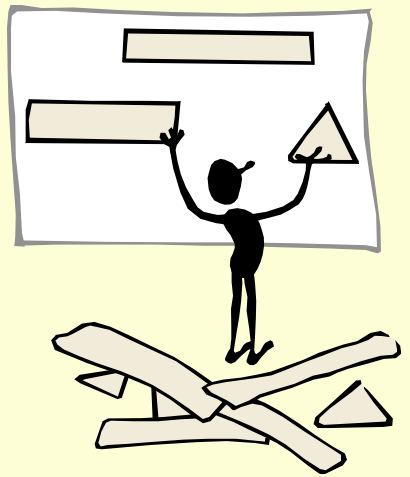
Adapted from presentation by Jim Gormy 3/2014 workshop: "Local Grower Food Safety"

Map out your process



Risk Assessment: Lay out a plan

- Questions to ask:
  - Are there potential sources of pathogens?
  - Could they get on or in your fruits or vegetables?
  - What can you do to help manage or prevent these risks?
- Good risk assessment leads to good risk management!



Adapted from presentation by Jim Gormy 3/2014 workshop: "Local Grower Food Safety"

Risk Assessment:
What should you be considering?

- Risk/Hazard
- Type of Contamination (e.g. bacteria type)
- Significance – Is it high or low?
- Risk Management Practices – what are you going to do to minimize risk
- How are you going to measure the practice and how often?
- Verify and record
- Anything new? Field? Commodity? Equipment?

Adapted from presentation by Jim Gormy 3/2014 workshop: "Local Grower Food Safety

Risk Management Scheme:
Soil amendment Use

Risk/Hazard:	Compost Use
Contamination:	E. coli 0157:H7, Salmonella
Significance:	High
Practice:	1) Purchase from vendors with validated process
	2) Validate own process if on-farm (turns, temperature etc.)
	3) Storage so no recontamination
What needed?	1) Certificate of Analysis each lot and log
	2a) Temperature/Time over process and log
	2b) Pathogen testing and log
	3) Inspect piles and log

Adapted from presentation by Jim Gormy 3/2014 workshop: "Local Grower Food Safety

Risk Management Scheme:
Domestic Animals

Risk/Hazard: Domestic animals

Contamination: E.Coli 0157:H7, Salmonella

Significance: High

Practice:

1) Fences
2) Location down from produce
3) Ditch to prevent run off
4) Buffer zones
5) Do they have to be there

What needed? Visual inspection – weekly and log
Testing when needed

Risk Management Scheme:
Workers and Hygiene

Risk/Hazard: Restroom

Contamination: Cross-contamination with E.Coli 0157:H7, Salmonella, viruses

Significance: High

Practice:

1) Worker Training
2) Sanitation procedures
3) Location
4) Paper towels/toilet paper
5) Soap, water

What needed? Visual inspection – daily, 3 times a day, logs

Adapted from presentation by Jim Gormy 3/2014 workshop: "Local Grower Food Safety

Step 3: Document and Revise

- Write a plan to guide implementation of practices
- SOPs and policies will outline what needs to be done for those who are responsible for completing the task
- Build recordkeeping into the logical flow of activities
- Revise your plan if it is not working or when practices change
- Review and update your plan at least annually, or whenever practices, personnel, or equipment changes

Educational Resources

- There are many educational resources available to help you write a Farm Food Safety Plan
- Resources are available through:
  - Land grant institutions and extension programs
  - Industry or commodity specific guidance
  - Produce trade associations
  - Federal guidance
  - Independent organizations
- A list of educational resources are provided in your training materials

Food Safety Plan Writing Resources:

Be sure to make them your own!

- There are many available resources, including templates – pick which one works best for you
- Tailor templates to meet **YOUR** needs
- Template plans, recordkeeping logs, and SOPs give you someplace to start and are easier than building the plan from scratch
- Be sure to make it your own, so you know what is in the plan and that it will work for you

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A Few Thoughts About Your Plan…

- Only include practices you are doing on YOUR farm
- Do NOT include things you *wish* you were doing
- Does not need to be long or complicated
- Pick practices and schedules you know you can do
- Focus on risk reduction!

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Food Safety Plan

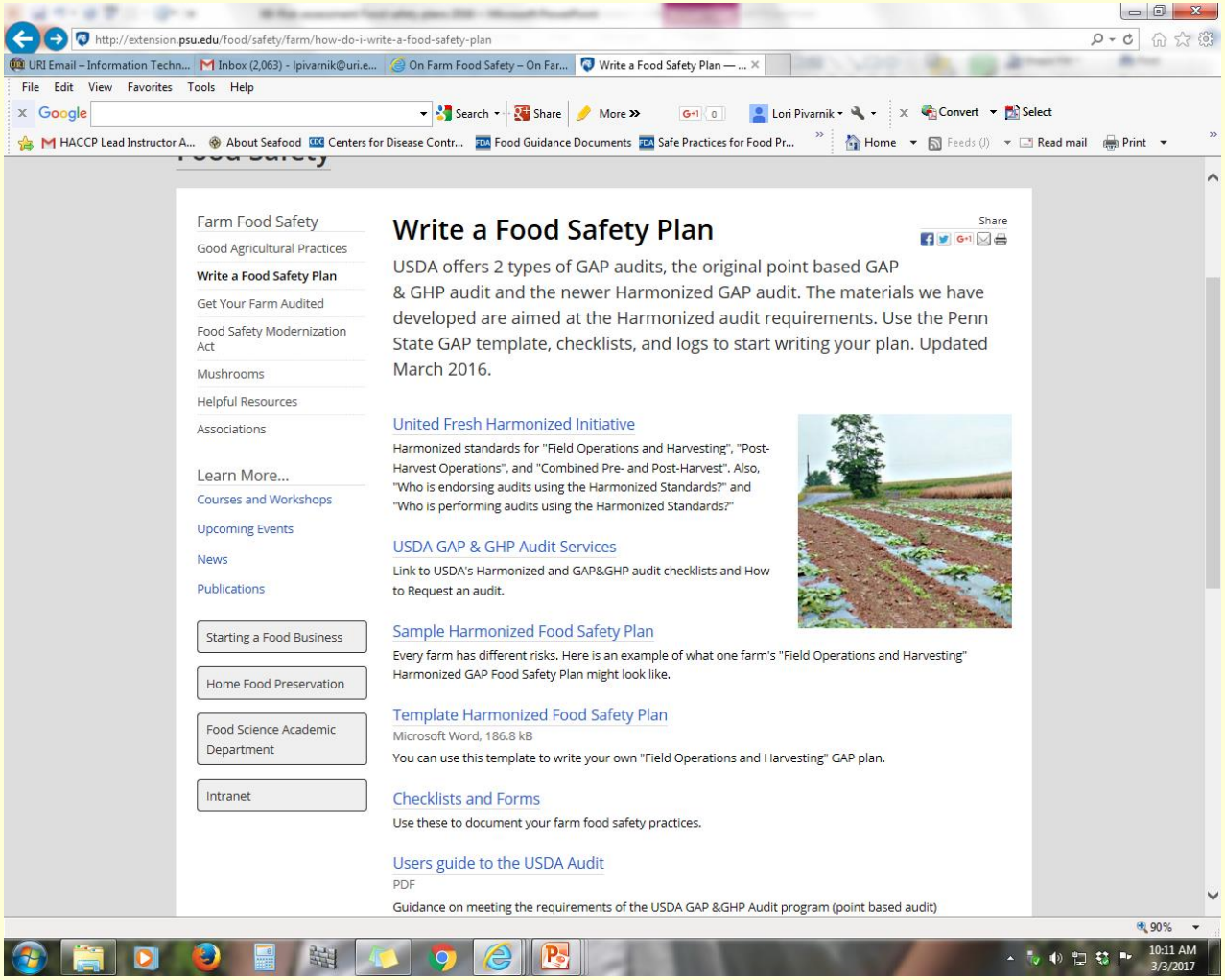
- **Your grower information**
  - Who are **you**?
  - Crops you grown, and site location
  - Person(s) responsible at your farm
  - Water source for your farm
  - Type of soil amendments/handling/storage that you use
  - Facilities available for your operation

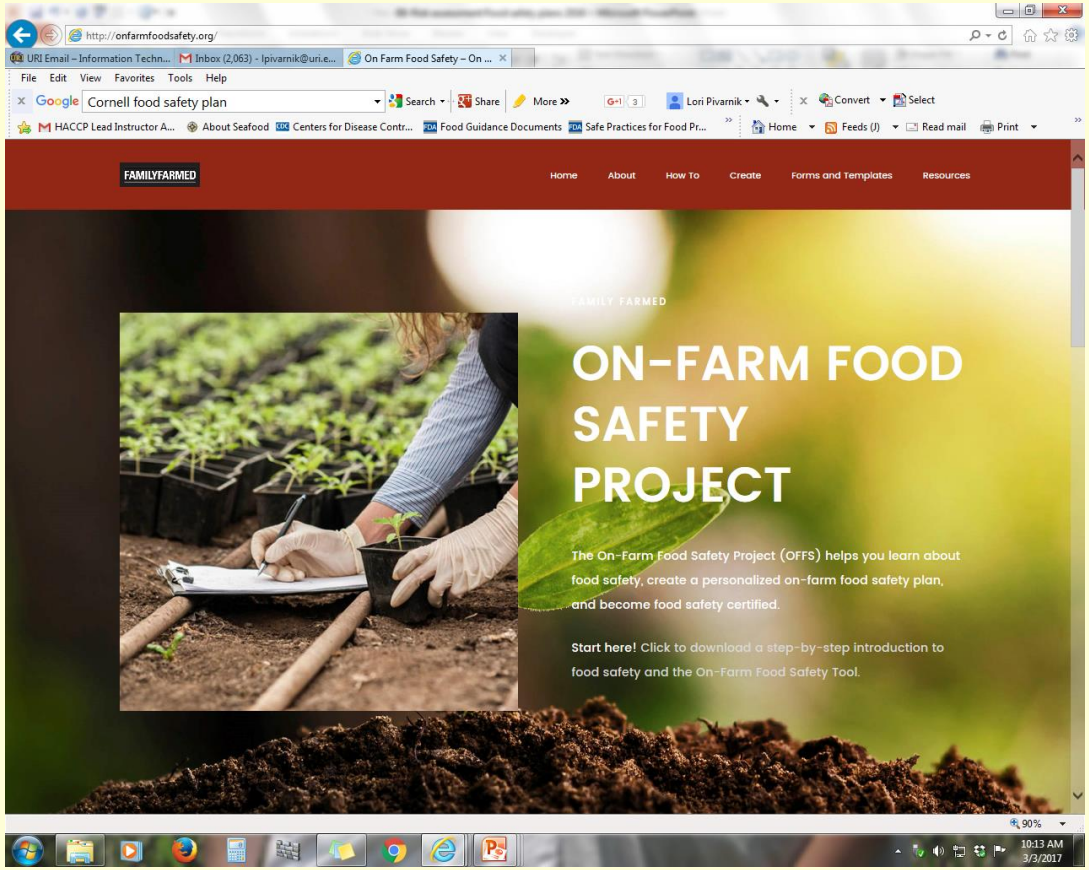
Food Safety Plan

- **What are you going to do? What is your policy?**
- **How are you going to do it?**
  - Analysis
  - Training
  - Treatments
- **How often are you going to do it?**
- **What records are you keeping?**

Penn State:

http://extension.psu.edu/food/safety/farm/how-do-i-write-a-food-safety-plan





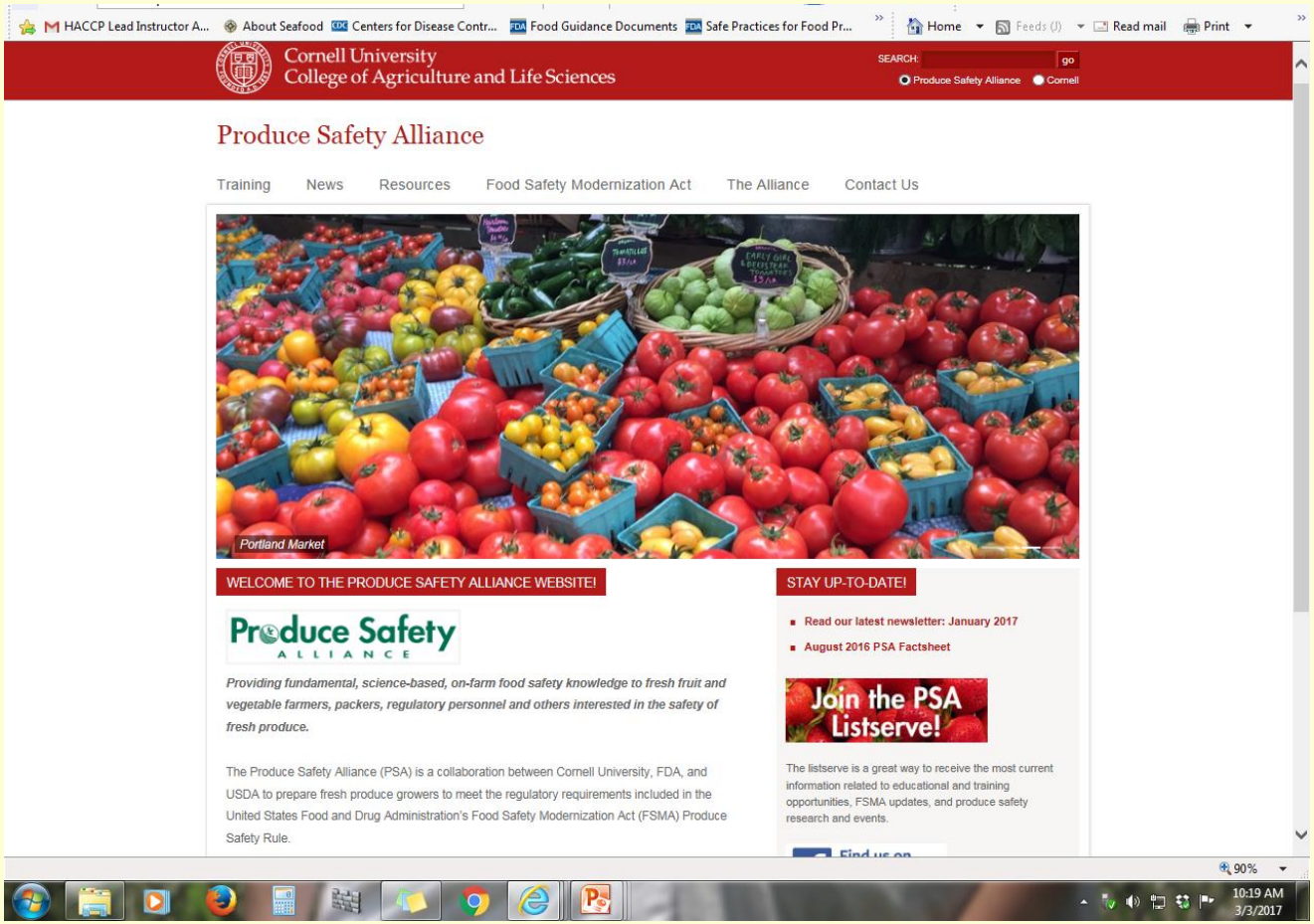
Coalition of industry, non-profit and government stakeholders, USDA created free on-line tool to help farmers create a customized food safety plan.

Reducing foodborne risks whether or not under FSMA

http://onfarmfoodsafety.org

Cornell:

https://producesafetyalliance.cornell.edu/resources/farm-food-safety-plan-writing-resources



Final Steps

You have written your plan, your practices are in place, records are being kept, and delicious, high quality, safe produce is being grown and packed.

So now what?

TRACEABILITY

Farm

Buyer

Consumer

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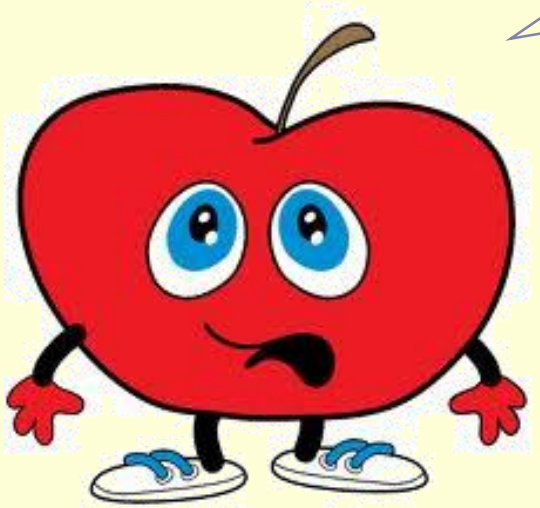
Who am I?
Where do I belong?
Where have I been?
Where have I gone?



Traceability

PRODUCT IDENTIFICATION

Traceability: ability to follow movement of food through production, processing and distribution

Traceback

- Ability to track food through the food system back to their source and forward to the next destination
- DOES NOT prevent a foodborne outbreak
- CAN quickly identify the source of a product and speed an investigation
- CAN limit damage to the consumer
- CAN prevent damage to the innocent grower

The Value of Traceability

- **Following quality**
  - Identifying boxes that have quality issues
- **Keeping track of amount sold**
  - Knowing what sold well and how much money you should be making
- **Minimizing foodborne illness impacts**
  - Recalling a contaminated load/lot/bin
  - Knowing how much was sold and in the marketplace
  - Knowing who may have purchased/consumed it

Product Tracing: One Step Forward, One Step Back

- Traceability means identifying where the produce came from including inputs (one step back) and where it went (one step forward)
- For growers, this means knowing the field where it was grown (step back) and the buyer (step forward)
- This does not mean you are responsible for the entire system, especially if there are multiple steps to the consumer

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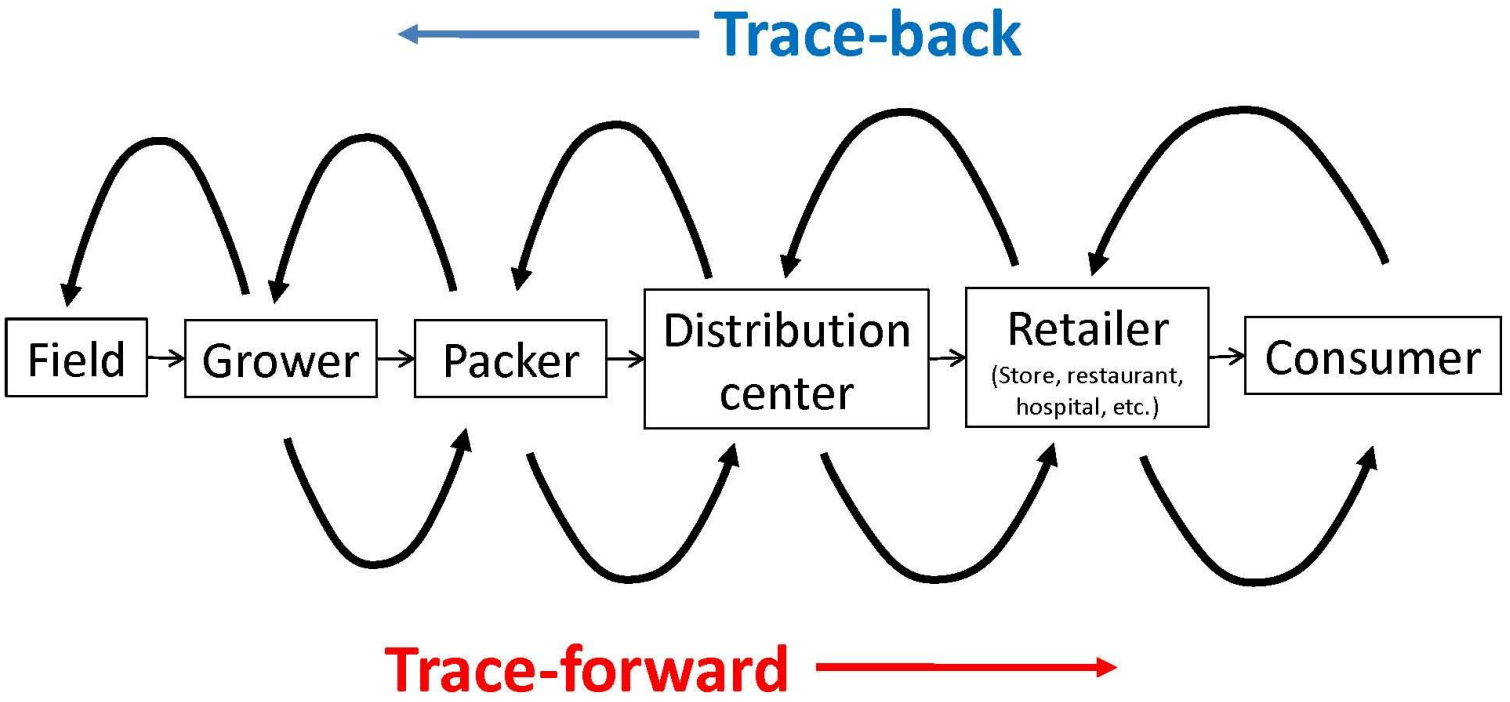
Two-way information flow



Understanding a "Lot"

- Product tracing requires defining and following a distinct portion of the crop. This is called a lot.
- A lot is a distinct and limited portion of a crop
  - e.g., all of the same commodity harvested on the same day from the same field
  - It may require establishing a 'clean break'
- Difficult issue: How big should the lot be?
  - If there is a problem, the whole lot will be recalled, so the bigger the lot, the bigger the recall

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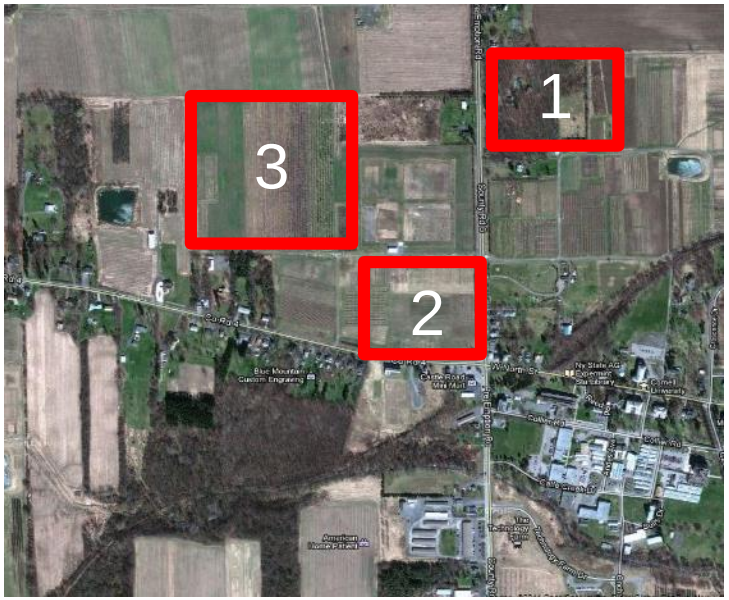
Developing a Lot Code

- Can be numbers or letters, or a combination of both (alpha-numeric)
- Should identify specific details about the lot
  - Farm, field of origin, harvest date, and more
- Should be unique to a specific lot
- Should follow the lot
  - Attached with a label, stamp, or sticker to the sellable container (such as a box)

Steps to Developing a Lot Code

- **To begin developing a lot code, growers should identify:**
  - Field locations
  - Commodities and varieties grown
  - A method for indicating harvest and/or pack date
  - Harvest/packing crews



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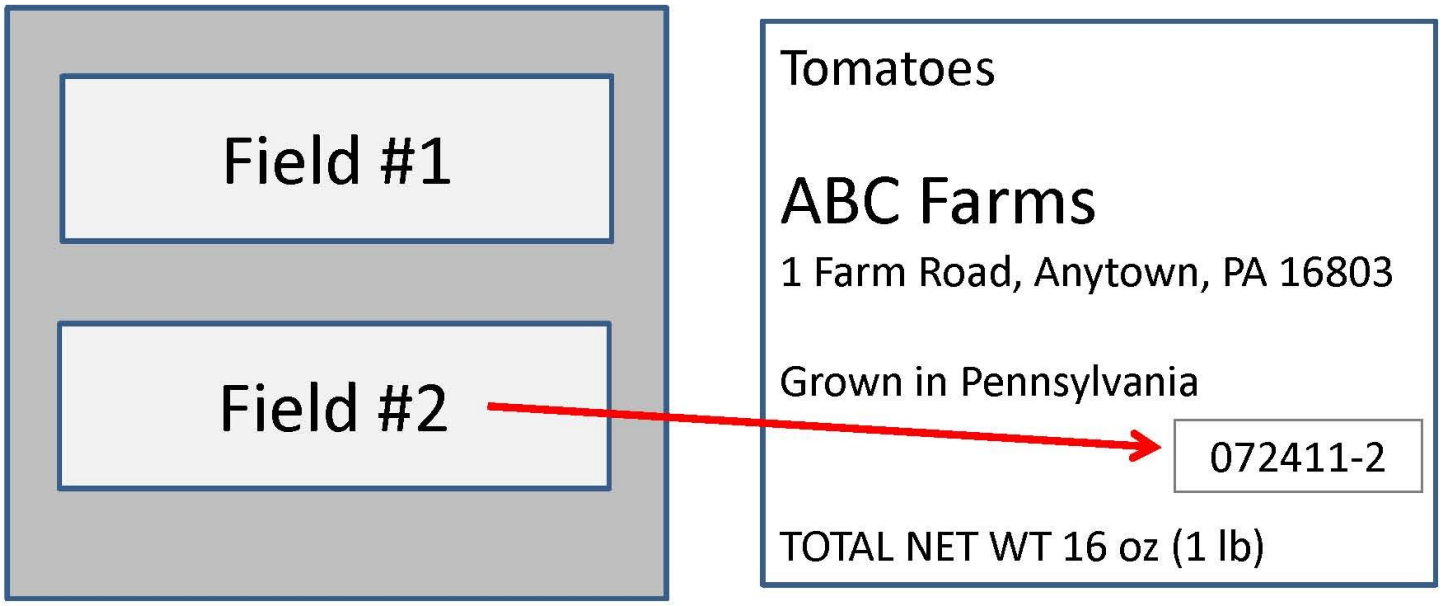
How to make your products traceable

Step 1 - Map field production areas

Field #1

Field #2

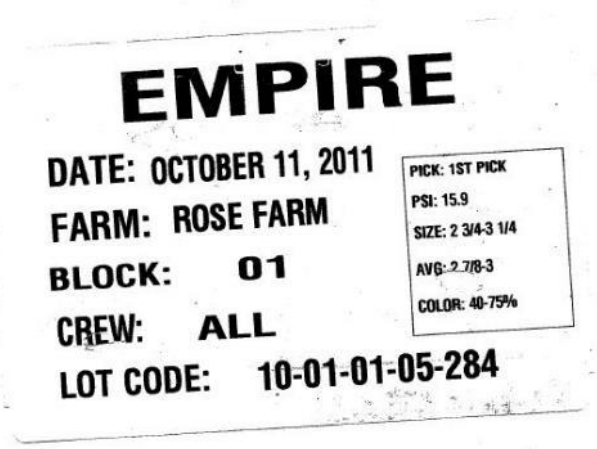
Step 2 – Label all produce containers with the date and location of harvest



072411-2 Means the tomatoes were harvested on July 24, 2011 from field #2

A Lot Code Could Identify

- Commodity including type (e.g., Empire apples)
- Farm/field/block of origin
- Agricultural inputs applied
- Harvest date
- Harvest crew
- Packinghouse used (if any)
- Packing date (if different from harvest date)
- Packing crew (if different from harvest crew)



Traceability Example

EMPIRE

DATE: OCTOBER 11, 2011

FARM: ROSE FARM

BLOCK: 01

CREW: ALL

LOT CODE: 10-01-01-05-284

PICK: 1ST PICK

PSI: 15.9

SIZE: 2 3/4-3 1/4

AVG: 2 7/8-3

COLOR: 40-75%

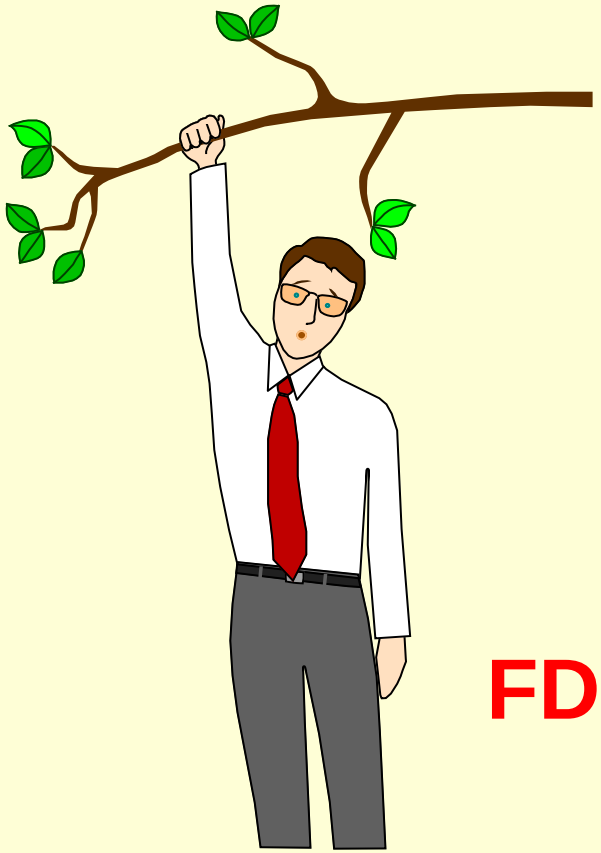
Farm Location: 10 (Rose Farm)
Block: 01
Fruit Type: 01 (Apples)
Variety: 05 (Empire)
Harvest Date: 284 (Julian date)

Traceback: Finding the Source

- Traceback is the ability to identify the source of a product—important if a foodborne disease outbreak occurs and you need to find out where the food came from
- A good traceback system can:
  - Protect you from false association with an outbreak
  - Minimize consumer anxiety and bad publicity
  - Give you a competitive advantage

Traceback: Summary

- At the minimum, you should identify your product with
  - Date of harvest and/or date of packing
  - Farm identification
- Document your handling chain from the farm to your distributor/customer
- Document all aspects of your packinghouse operations
- Get help from industry trade groups for information on coding, labeling and tools available to make the job easier
- Write an SOP



RECALL PROGRAM

BE PREPARED

FDA Recalls are Mandatory

Class I: Reasonable public health hazard for illness or death
Class II: Remote probability of adverse health consequences
Class III: Will not cause adverse health consequence

Importance of Recall

The ability to successfully recall a product can:

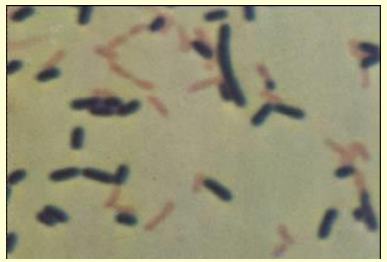
- Prevent unnecessary consumer health effects such as illnesses or deaths
- Minimize negative publicity and the impact on the firm's reputation
- **Minimize the potential for civil and criminal lawsuits.**

PENNSTATE

Causes of a Recall

A number of product issues:

- Allergens or other undeclared ingredients
- Pathogenic microorganisms
- Foreign objects
- Chemical contamination
- Packaging defects
- Nutritional or content different from label



Labeling

- Each container/lot leaving the farm should be identifiable
- Attaching the lot code to the lot
  - Many ways to get it done
  - Stickers, stamps, bar codes
  - Boxes, clamshells, or individual pieces
- Determine the best system for your farm
  - Size, markets, costs, infrastructure
  - Electronic or paper

Labeling: FSMA Modified Requirements for Growers Who May Be Exempt

"Must prominently and conspicuously display, at the point of purchase, the name and complete business address of the farm where the produce was grown, on a label, poster, sign, placard…"

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Testing Your Traceability System: Conducting a Mock Recall

- **Steps in a mock recall**
  1. Select a lot code for produce that has been sold
  2. Call a buyer that received some or all of the lot
  3. Tell them you are conducting a MOCK recall
  4. Ask how much of the product is in stock and how much has been sold. Document the response.
  5. Trace the lot in your records (e.g., field of origin, harvest crew, spray records)
  6. Can you trace it backward and forward? *Yes, good! No, figure out the problem. Either way, document it!*

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Summary

- The best person to write the plan is someone who knows the farm and has food safety knowledge
- Identify someone to be in charge of food safety
- Farm Food Safety Plans should include assessing risks, any actions taken to reduce risks, and recordkeeping
- Simple is best: write what you do, not what you hope to do
- Traceability = one step forward and one step back, as well as inputs to the crop throughout production
- Establishing lots, lot codes, and labeling are necessary for developing a traceability system
- Finally, follow the plan and update as necessary