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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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- The FSMA Produce Safety Rule does not require a written Farm Food Safety Plan but it has been included in this module because writing a Farm Food Safety Plan was identified by growers and the PSA Working Committees as being important for many reasons.
- Even though a Farm Food Safety Plan is not required by the FSMA Produce Safety Rule, the regulatory section symbols (§) may appear on some of the slides to indicate requirements which were discussed in the previous six modules and how to incorporate those considerations into a written Farm Food Safety Plan.

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
First, a written food safety plan helps growers get organized and focused on produce safety. During this training, assessing risk has been discussed. Once growers assess their risks, writing a plan allows them to outline practices that will reduce the risks. It is a place to keep their policies and SOPs. It also helps growers use resources wisely by investing time and money in practices that reduce the biggest risks first.

A Farm Food Safety Plan will also help growers be prepared for buyer questions and third party audits. To have a third party audit, the farm or packinghouse needs a plan. It can also help growers show they are following federal and state regulations.

Every farm is unique and the risks on the farm will be specific to each operation.

Developing a Farm Food Safety Plan is best done by someone on the farm (most likely the grower!)—because they know the farm best and are capable of assessing risks on the farm. Growers know about the agricultural water, soil amendments, and harvest practices they use.

The commodities grown on the farm will also impact the assessment of risks and practices that are included in the Farm Food Safety Plan. Unique produce characteristics such as netted skin or smooth, where the crop grows (e.g., on the ground or in a tree) and past food safety concerns may impact what practices are implemented to reduce risks.

The key thing for growers to know and understand is that they can assess risks and implement practices that reduce risks. Remember, the focus is on risk reduction, not risk elimination.
Each farm should identify a single person who will be in charge of developing their Farm Food Safety Plan. Everyone will support food safety and may even have record keeping responsibilities, but one person should be identified so everyone knows who is in charge of food safety and who is responsible for making it work on the farm.

This person should be willing to be the farm food safety contact person, which may mean interacting with auditors, leading the farm food safety team, and training workers.

The food safety person should have the authority to make changes, when necessary, and invest in resources to make sure food safety practices are in place, including the required equipment to make sure tasks are being completed properly.

§ 112.22(c) requires that at least one supervisor or responsible party from the farm complete food safety training at least equivalent to the standardized curriculum recognized by the FDA. The PSA curriculum and training program is one way to satisfy this requirement.

§ 112.23 requires that a grower assign or identify personnel to supervise (or otherwise be responsible for) their operations to ensure compliance.
How to Develop a Farm Food Safety Plan

Additional Information

- This slide is optional.
- The hardest part of writing the plan is getting started. At first, stick to the basics of produce safety that have been outlined in the previous modules. Once growers have a system down, it will be much easier to add and modify.
- The more growers know, the better they will be at assessing risks and making progress on their Farm Food Safety Plan.

A Farm Food Safety Plan can have many parts.

- Writing down the farm name and address, a short farm description that provides information about how long they have been farming, the commodities they grow, and the farm size are all good things to include and an easy way for the grower to begin writing their Farm Food Safety Plan.
- Be sure to include the name and contact information of the food safety contact person for the farm.
- Next, a risk assessment of production practices and growing conditions should be conducted for each area on the farm. Production practices may be different for each commodity, so be sure to account for any differences when assessing risks. If growers are not sure where to begin, they should take a moment to consider areas that could impact food safety on their farm such as:
  - Workers and facilities they use, such as toilets and handwashing sinks
  - Soil amendments, with particular attention to those that include raw manure and other amendments of animal origin

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• Wildlife and domesticated animals
• Agricultural water (production and postharvest uses)
• Postharvest handling
• Adjacent land use

Write down the risks and then identify practices that will reduce those risks. Growers may need to develop SOPs and conduct training to help workers implement the required practices.

Keep records to document that practices are being done properly. Some records are required in the rule, even if a grower is eligible for a qualified exemption. Records requirements are mentioned throughout the FSMA Produce Safety Rule and in Subpart O.

Here are a few items that growers may want to include in their Farm Food Safety Plan.

Keeping all this documentation in one place is the best way to be organized for an audit and for implementing the plan. Many growers use binders to keep their paperwork organized, but some have now moved to completely electronic systems. Growers should choose what works best for them.

There are many ways to document practices, such as using a smart phone. Some growers use smart phones to document their actions by taking photos of log sheets and white board notes. They catalogue the photos by date to keep records organized. Remind growers to back up their data daily if using electronic recordkeeping.

Some records are required by the FSMA Produce Safety Rule, such as:

• Worker training dates, information covered, who was trained (§ 112.30(b))
• Agricultural water test results (§ 112.50 (b)(2))
• Agricultural water system inspections (§ 112.50 (b)(1))
• Monitoring treatment of biological soil amendments of animal origin (§ 112.60(b)(1)(i) or § 112.60 (b)(2))
Other records are not required by the FSMA Produce Safety Rule but may be a useful part of a farm food safety plan. Some to consider include:

- Water change schedules for postharvest uses
- Management of sanitary facilities, such as when restrooms are cleaned and restocked
- Soil amendment applications
- Actions taken to minimize wildlife intrusion into fields

FSMA Produce Safety Rule Subpart O—§§ 112.161–112.167 includes information on record-keeping requirements for making and keeping records that are required by the FSMA Produce Safety Rule.

#### Step 1: Assessing Risks

- Review all farm operations to identify practices and conditions that may 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

The first step is to assess likely risks on each farm by reviewing practices, the farm environment, and adjacent land use to identify things that could introduce or increase food safety risks.

Identify the practices and conditions that have the greatest impact on produce safety and those that may occur most frequently.

Modules 1 through 6 have detailed where risks could exist and steps that can be taken to minimize risks, so growers can use these modules as a resource to help complete a risk assessment for their farm.
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- Time and money are limited, so farm resources need to be directed toward addressing the biggest risks first.
- In ranking risks, prioritize those that put the entire crop at risk. For example, overhead irrigation of crops with poor quality water the day before harvest could impact the safety of the entire crop.
- Consider practices or known sources of contamination that have led to previous outbreaks. A few outbreaks were presented as examples in Module 1: Introduction to Produce Safety.
- Many past outbreaks have been due to changes that were made on the farm, including equipment changes, personnel turnover, or production practices that introduced unintended risks. Any time there is a modification on the farm, the change should be assessed to determine if any food safety risks may result.

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- Once a grower has identified produce safety risks on their farm, they will need to develop practices to reduce risks. Growers may need to prioritize which ones to address first if they have several risks and also are limited by human and financial resources.
- If growers are having trouble coming up with practices to reduce risks, they should ask for help. They could call their local extension educator or another farmer who has experience. The Produce Safety Alliance website hosts a list of state collaborators and contact information so that growers can get help locally. There also are many educational websites and publications that are available.

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Growers should identify resources they need to successfully implement produce safety practices including time, people, equipment, and infrastructure. Making a list is a good way to gather this information and predict the costs associated with implementation.

Growers should designate someone to do each task. This will likely require training so everyone knows what to do and when.

Although a written Farm Food Safety Plan is not required by the FSMA Produce Safety Rule, it is highly encouraged.

Build recordkeeping into food safety practices to document that things are getting done properly and on time.

A Farm Food Safety Plan is a living document. This means it needs to be updated or changed when practices, workers, or situations change or if things are not working as expected.

During the production season (especially in the first year after writing the plan) it is a good idea to sit down monthly and review the plan to make sure it is addressing all of the critical areas to minimize produce safety risks according to how the farm is actually functioning.

Review the plan at least yearly, even if things are going smoothly.

This slide is optional.

There are many resources available to help growers develop a Farm Food Safety Plan. A list of resources is included in the PSA training materials; however, there are other materials available that may not be listed on this sheet. Feel free to use the resources that work the best for the growers attending the training.

- 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

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- It is important to remind growers that even if they use a Farm Food Safety Plan template, they still should tailor the plan to reflect their practices.
- Many of these resources also provide sample logs and SOPs. These are great time savers because it is often easier to edit than to create a whole new document.
- One size does not fit all. Growers should take advantage of all the resources that are available, but make sure their plan reflects their conditions and practices.
- Writing their own plan will ensure it is reflective of the activities that happen on their farm and will save them time if they decide to have a food safety audit. Growers should be prepared to reference all the parts of the plan they developed when the auditor visits their farm. The less time the auditor needs to spend reviewing their plan, the less the grower may need to pay if the audit is based on an hourly charge.

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- Say what you do and do what you say. Growers should never write down things that they wish they were doing in their plan.
- If, for example, a grower says they are going to clean their bathrooms everyday, then they need to set a schedule to get it done. If there are only three workers, is it really necessary to do this everyday? Probably not. Set realistic goals and make sure workers have the appropriate resources, tools, and training to get the job done.
- The clearer the plan, the easier it will be for everyone to follow and complete. A Farm Food Safety Plan does not need to be long—short and concise is ideal.
Traceability is the ability to track a product through the food production and distribution system. In the case of fruits and vegetables, this includes back to the field where it was grown and forward to any subsequent handling, storage, and sale. Traceability also means the grower can identify any relevant inputs used during production including the source of soil amendments, fertilizers and any chemicals applied to the crop.

Growers are usually only a part of this production chain system and so are only responsible for a part of the traceability.

In the next few slides, the benefits of traceability for the farm and how to develop a traceability program are discussed.

Traceability is not covered in the FSMA Produce Safety Rule because it will be covered in the future in a separate rule that covers food more broadly.

Traceability is important to food safety, but it has other benefits to every farming business.

Traceability allows growers to follow quality, so that if there is a complaint, they know who picked, packed, and transported the boxes. It is also good for keeping buyers honest since it allows growers to follow when they sold each lot should a buyer “lose” it in the cooler for several weeks.

Many growers have said that adding traceability has allowed them to keep better track of what sells well at particular markets and the money they should be making, especially growers who sell at farmers markets and who have not previously documented the amount of produce they take to market each week.

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

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
From a food safety perspective, traceability allows a grower to perform a recall of a product if there is contamination or some other food safety issue, so that the impact to consumers and the farm is as small as possible. Traceability allows growers to know how much was sold into the marketplace and who might be at risk.

Traceability does involve paperwork, but this recordkeeping is a benefit both for the safety and quality of produce—not to mention a good business practice to keep track of produce sold.

Traceability means being able to trace product one step forward and one step back.

At the farm level, this means identifying the field where it was grown and the buyer/location who bought it. This also means knowing what inputs were used during crop production.

It is not necessary to trace product all the way to the consumer since this could be several steps beyond the farm. If growers direct market (e.g., farmers markets), they can just identify the market where produce was sold. Growers do not need to identify all the individual consumers who bought their product at the market.

As another example, some farms have Community Supported Agriculture (CSA) programs or annual/seasonal members. Growers have a traceability advantage in working with these types of markets since it is likely they have contact information for everyone who is part of their CSA or membership program, making it easier to contact the group if there is a problem.

Everyone in the food system is responsible for their part, so if growers wholesale to a grocery store, the retailer is responsible for knowing where they got the produce (one step back: the farm) and where it was sold (one step forward: in a particular store).
To develop a traceability system, growers need to break produce into ‘lots’. A lot is a distinct and limited portion of the crop that can be grouped and identified. For small farms, it may be all the tomatoes harvested on the same day from the same field that received similar inputs (e.g., soil amendments, irrigation water, protective sprays).

It can be very difficult to decide how to define a lot. The bigger the lot, the more difficult it would be to recall, since one large lot may be sent to many different buyers. Having very small lots means keeping track of many different lots. If there is a recall, larger lots may mean recalling a significant portion of the crop, whereas smaller lots may limit the volume of the recall. There is no perfect answer. The decision should not be arbitrary, instead it should be based on how the farm functions considering things like the volume and commodities produced. Each grower needs to decide the best system for their farm.

Growers might also consider potential sources of contamination when deciding where a logical break between lots might be (i.e., if contamination happens in the field, or a portion of a field, assigning lots by field makes sense).

If a packing line is used, a ‘clean break’ should be established between lots. See Module 6: Postharvest Handling and Sanitation for a discussion on establishing ‘clean breaks’.

Additional Resource:
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- Developing a lot code is dependent on what works best for the farm and what is the easiest system to manage.
- The lot code could be a series of numbers, letters, or even colors or symbols.
- Each lot code should be unique to the specific lot, meaning growers could identify critical information about the lot by looking at the code such as date harvested, commodity, field of origin, etc.
- The lot code should follow the lot. It could be attached to the product itself or to the sellable container. Putting the lot code on any paperwork that travels with the produce may also be helpful in the event that a problem is identified but the product and its packaging is no longer available.
- **Tip**: Buyers may request a specific way to label lots for traceability, so be sure to ask if the buyer has any particular labeling requirements.

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- Field and farm identification can be established using a farm map on which specific areas have been delineated and given a number or other identifier.
- Each commodity should have its own identifier and some farms choose to include the variety if they grow multiple types of that commodity (e.g., Roma tomatoes, Early Girl tomatoes).
- Dates can be written in a variety of ways, such as MM-DD-YY or by using a Julian date (day 1-day 365). Some growers prefer Julian dates because they are not easily recognized by consumers and allow for a simple 3 digit date.
- If only a few people work on the farm, then identifying harvest or packing crews is not essential since the grower knows everyone who works on the farm. Identifying harvest and packing crews is more critical for farms who employ large numbers of workers if there is a problem with the produce, or an outbreak associated with pathogens that are spread by humans, such as Hepatitis A. If growers are already keeping track of crews/workers for piece rate pay, they may be able to use that system in their traceability system.

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- Lot codes may include the following information. It is not critical that all this information be part of the lot code, but the lot code should be able to be linked to all of this information through farm records.

- In addition to basic information about the produce and the date it was harvested, it is helpful to keep information about the agricultural inputs that were used to produce that specific crop. For example, soil amendments that were used or sprays that were applied to crops, in case any food safety problems arise. Having information about the agricultural inputs may provide insight as to whether an input may have been a source of contamination to the crop.

- Like the Farm Food Safety Plan, the lot code should be tailored to the individual operation and the information that is needed to distinguish one lot of produce from another.

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)
25 Additional Information

- This slide is optional.
- This is just one example of how a grower may choose to create a lot number for their product.
- A point of discussion:
  - Is anything missing from this label?
  - This label does not have the farm name, city, and state. This is critical information to have available. It may have traveled with the invoice or other information associated with this product.

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- Once growers have completed the process of defining lots and lot numbers, they need to figure out how to get the number to travel with the lot. This is called labeling.
- Labels can be simple or complex, handwritten or bar codes—but the important part is that the lot number travels with the produce lot.
- There are many options. Pick the one that works best for the farm and one that is affordable. More expensive systems may save time, but not always. Growers should investigate which labeling options will work best for their operation.
- Most traceability systems label the sellable container. Some will label each piece, but this is not required and not always possible.
- If the containers are unloaded or co-mingled, the ability to fully trace each piece is impacted. This is OK—it just simply limits the extent to which the produce can be traced.
- There is no perfect system because of the complexity of the distribution system, but growers should consider traceability and how to put a system in place.

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Growers who are eligible for the qualified exemption in § 112.5 will need to comply with modified requirements for labeling.

§ 112.6 (b) outlines labeling requirements for those who are eligible for qualified exemptions.

1. When a food packaging label is required on food that would otherwise be covered produce under the Federal Food, Drug, and Cosmetic Act, you must include prominently and conspicuously on the food packaging label the name and the complete business address of the farm where the produce was grown.

2. When a food packaging label is not required on food that would otherwise be covered produce under the Federal Food, Drug, and Cosmetic Act, you 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, or documents delivered contemporaneously with the produce in the normal course of business, or, in the case of Internet sales, in an electronic notice.

- This requirement could be satisfied using a handwritten poster made with a marker and posted at the farm market stand or CSA pick up site if the grower direct markets. This provides contact information for the farm in case there is an issue with the produce.

3. The complete business address must include the street address or PO box, city, state, and zip code for domestic farms, and a comparable full address for foreign farms.
Once a product tracing system is in place, it should be tested with a mock recall. This will help growers assess if the system would work in a real recall and give them an opportunity to correct the system if it does not work.

Ideally, growers contact a buyer who is expecting them to perform a mock recall. Growers should be sure to alert buyers that they are conducting a MOCK recall and not a real recall, otherwise there could be some pretty serious confusion!

Make sure farm records can be traced back as well. Do growers know the field where it was grown, the date of harvest, spray records for the crop, and harvest crew? If so, their traceability system works. If not, growers will need to figure out the problem and fix it.

Set a timeline for receiving and documenting answers to traceability questions. Each step in the process should be rapid to allow quick action—Less than 2 hours total is ideal!

Finally, make sure to document all mock recall actions.

Growers may want to consider developing a crisis management plan for issues such as recalls and other farm emergencies.

A crisis management plan should include emergency contacts (e.g. key farm personnel, family contacts, lawyer, industry/grower organization contacts), daily tasks that should be completed on the farm in case the grower is not there, buyer contacts, and any other key info that would provide insight into farm operations should the grower be injured, ill, or worse. The worst time to develop a crisis management plan is during a crisis. A small amount of planning can go a long way in handling a crisis situation, so that the crisis is as short as possible with as little impact to the farm as possible.

Notes:

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!
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
Food Safety Plan Writing Resources

The following have web resources to assist with your Food Safety Plan writing.

Visit producesafetyalliance.cornell.edu/mod7 for a corresponding list of web links.

University & Land Grant Resources

- Cornell University
  - National GAPs Program
  - Farm Food Safety Decision Trees
- University of California
  - Food Safety
  - UC Small Farm Program
- Colorado State University
  - Farm to Table Food Safety
  - Template Food Safety Plan
- Michigan State University
  - Agrifood Safety
- University of Minnesota
  - Food Safety Plan for You
  - Template Food Safety Plan
- North Carolina State University
  - NC Fresh Produce Safety
- Penn State University
  - Template USDA Harmonized Food Safety Plan
- Rutgers
  - Developing a Plan for a Third-Party Audit
  - On Farm Food Safety Publications

Commodity Specific / Industry

- Arizona Leafy Greens Marketing Agreement
- California Leafy Greens Marketing Agreement
- California Strawberry Commission
- Family Farmed – On Farm Food Safety Project
- Mushroom GAPs
- University of Maine Cooperative Extension
- Tomato GAPs
- University of Vermont – Center for Sustainable Agriculture
- Washington State Department of Agriculture – Bridging the GAPs

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