

# Introduction to On Farm Produce Safety



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## What is the Produce Safety Rule?

### Food Safety Modernization Act

The Produce Safety Rule is part of the Food and Drug Administration (FDA) Food Safety Modernization Act of January 4, 2011. It sets the first-ever federal regulatory standards for the production, harvest, and handling of fruits and vegetables in order to prevent contamination from bacteria, viruses and parasites, with the goal of reducing foodborne illnesses from fresh produce.

### What does the Produce Safety Rule cover?

It establishes minimum standards for the safe growing, harvesting, packing, and holding of fresh fruits and vegetables that are normally eaten raw. These standards are based on good agricultural practices (GAPs).

### What can I do to become a safe grower?

- Identify produce safety risks on your farm.
- Adopt practices that reduce those risks.
- Use equipment and facilities that help reduce risks.
- Support food safety training, become actively involved.
- Set the example for your farm and others.

The following pages contain checklists you can use to help you meet the goals of the Produce Safety Rule.

## Worker Health, Hygiene, and Training

Workers can carry, introduce, and spread contamination while handling produce. Possible sources of contamination can be feces, hands, clothing, footwear, tools and equipment, and working while ill or injured. Workers can reduce risk through handwashing and proper training.

### Training, Supervision, and Documentation

- All workers who handle covered produce, food contact surfaces, or supervise covered activities are trained upon hire and at least annually.
- Training records are kept for those trained, including date, topics, and language (if necessary).
- One supervisor or other responsible party with FDA-recognized food safety training.

### Facilities and Access

- Readily accessible toilets provided to workers.
- Toilet facilities supplied, maintained, and regularly serviced.
- Workers have access to handwashing facilities with soap, running water, and adequate drying devices to dry hands.
- Worker wash hands after using the toilet, after eating or smoking, after touching animals or waste, before putting on gloves, before handling produce, or any other time hands may have become contaminated.
- Designated break areas identified and separate from covered activities.
- Visitors to the farm are made aware of food safety policies and have access to toilet and handwashing facilities.

Checklist items in **bold** are required by the Produce Safety Rule.

## Worker Health, Hygiene, and Training Summary

- Worker health and hygiene is critical to food safety because workers can introduce food safety risks.
- Everyone should be trained, but anyone who handles covered produce, or performs covered activities, must be trained.
- Training must be documented, with records kept for inspectors.
- Training must emphasize health and hygiene practices that reduce contamination risks.
- A written training program should be developed, implemented, and documented.
- Visitors must be made aware of policies, too.



## Agricultural Water

Many factors can affect water quality and farms often have more than one source of water. Water can easily spread diseases, viruses, and parasites, so special care must be taken to address risks. There are different quality standards for *production water* and *postharvest water*. All agricultural water must be safe for its intended use.

### Production Water

- Agricultural water is safe and of adequate sanitary quality for intended use.
- All agricultural water systems inspected at the beginning of a growing season, or as appropriate, at least once a season.
- All agricultural water systems adequately maintained.
- Establishes an initial microbial water quality profile for untreated (surface or ground) water sources that are applied using a direct water application method during growing activities.
- Tests water for generic *E. coli* as the indicator for water quality.
- Each water source used for direct application during growing activities is tested for water quality profile of 126 or less colony forming units (CFU) generic *E. coli* per 100 mL water geometric mean (GM) and 410 or less CFU statistical threshold value (SVT).
- Ground water sources tested at least four times during growing season in first year, at least once annually thereafter.
- Surface water sources tested at least 20 times during growing season in first two to four years and at least five times annually thereafter.
- Water source samples taken as close to point of intake (for surface sources) or tap (ground sources) as possible.
- Discontinues use of or takes corrective measures if water sources do not meet water quality standards.
- Records kept of inspections, test results, monitoring, corrective measures (if taken), supporting scientific or third party data.



## Postharvest Water

- Water used for harvest and postharvest activities has no detectable generic *E. coli* per 100mL sample.
- Does not use surface water for harvest and postharvest activities unless adequately treated.
- Ground water sources tested at least four times during growing season in first year, at least once annually thereafter.
- Copy of test results or current certificates of compliance kept for public water sources.
- Visually inspects, monitors (pH/temperature) and regularly changes re-circulated water to reduce buildup of organic matter.
- Waste water properly disposed of to avoid contamination.
- If sanitizers used, water monitored during treatment in accordance with manufacturers instructions.
- Records kept of inspections, test results, monitoring, corrective measures (if taken), supporting scientific or third party data.

Checklist items in **bold** are required by the Produce Safety Rule.



## Agricultural Water Summary

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### Production Water:

- Knowing the water quality through long-term testing will help establish management practices for appropriate use of the water.
- If the water is **not** applied by a direct application method to the harvestable portion of the crop, the risks are lower.
- If water quality is a concern, extend time between last application of water and harvest to reduce risks. You must test water for E. Coli to determine the number of days needed for the contaminated water to die off before harvesting or storing.
  - Harvesting: A maximum of four days (two logs) are allowed for die off of the contaminated water before harvest.
  - Storing: An unlimited amount of time is allowed for die off of the contaminated water.
- Treating water is an option to reduce risks.
- Keep copies of all water test results.
- Document all water system management practices.

### Postharvest Water:

- Postharvest water management can reduce the risk of a small contamination event from becoming a **big** one.
- Only use water that has no detectable generic E. coli in 100 mL water samples for harvest and postharvest uses.
- To reduce the risk of cross-contamination, consider adding a sanitizer to postharvest water.
- Monitor postharvest water and any sanitizer used to ensure water quality.
- Take corrective actions when needed.
- Keep detailed records.

## Biological Soil Amendments of Animal Origin

Soil amendments are any chemical, biological, or physical material intentionally added to the soil to improve and support plant growth and development. The following biological soil amendments of animal origin can present produce safety risks: untreated raw manure, runoff, and cross-contamination.

### Application Considerations

- Apply untreated soil amendments during non-produce field rotations (cover crops, grains, hay, etc.).
  - When applying untreated soil amendments, it should not come into contact with produce.
  - After applying untreated soil amendments, you should ensure it does not come into contact with covered produce.
- Apply untreated soil amendments not less than 120 days prior to harvest for covered produce that contacts the soil, or not less than 90 days for covered produce that does not contact the soil
- Treated soil amendments applied in a manner that minimizes contact with covered produce during and after application.**

### Handling and Documentation

- Designate tools and equipment for handling soil amendments.
- Tools and equipment used for handling soil amendments cleaned prior to use for covered produce handling.**
- Biological soil amendments of animal origin handled, conveyed, and stored in a manner and location that minimizes contamination.**
- Records are kept if grower treats or composts soil amendments on farm.**
- Records are kept if soil amendments are supplied by a third party vendor.**
- Develop a standard operations plan (SOP) for contamination incidents involving soil amendments.

Checklist items in **bold** are required by the Produce Safety Rule.

## Biological Soil

### Amendments of Animal Origin Summary

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- Soil amendments can introduce produce safety risks, especially those that contain untreated raw manure.
- To reduce risks associated with soil amendments:
  1. Apply untreated manure to non-produce fields.
  2. Treat raw manure using a scientifically validated, controlled process.
  3. Extend the time between application of raw manure and harvest.
- Make sure storage areas do not contaminate fields, water sources, or packing areas.
- Train workers to safely handle and apply soil amendments.
- Develop sanitation steps for tools and equipment used with soil amendments.
- Keep records of soil amendment applications and treatments.



## Wildlife, Domesticated Animals, and Land Use

Animals can pose a risk for contamination because they can carry human pathogens like E. coli, salmonella, and listeria. This is usually by dropping feces in the field or introducing contaminants as they move.

### Wildlife, Domestic Animals, and Land Use

- Inspects relevant areas for evidence of potential contamination by animal intrusion prior to conducting covered activities.**
- Takes steps to minimize potential contamination by animal intrusion and identifies covered produce that has been contaminated and can no longer be sold for raw consumption.**
  - **During harvest, you must be able to identify if produce has been contaminated and not harvest it.**
- Domestic animals not allowed in areas inside fully enclosed buildings where covered activities are performed, with the exception of guard or guide dogs.**

Checklist items in **bold** are required by the Produce Safety Rule.



## Wildlife, Domesticated Animals, and Land Use Summary

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- Feces and urine from domesticated and wild animals can contaminate produce fields and water sources.
- Have measures in place to prevent domestic animal litter and waste from becoming a source of contamination.
- Conduct pre-planting and pre-harvest assessments.
- If animals are present, fields must be monitored during the growing season for evidence of contamination.
- Steps should be taken to reduce risks from animals.
- Co-management should be used to balance food safety and conservation goals.
- Document actions taken to reduce risks from animals and adjacent land uses.



## Postharvest Handling and Sanitation

Keeping things clean during and after harvesting is important. Anything that touches produce can contaminate it, such as picking and packing containers; packing equipment; hands and clothing; water; buildings; and transport vehicles.

### Growing, Harvesting, Packing, and Holding

- Workers instructed not to harvest covered produce that is visibly contaminated with feces.
- Workers instructed not to harvest dropped covered produce (does not cover produce that grows underground, on the ground, or intentionally dropped for harvesting).
- Covered and not covered food activities are separated either physically or sanitarily.
- Produce handling areas are separate from other risk areas (equipment maintenance, animal care, soil amendments).

### Equipment, Tools, Buildings, and Sanitation

- Both fully- and partially-enclosed produce packing areas are clean, with no standing water or condensation, and have proper hygiene facilities for workers.
- Food contact surfaces (Zone 1) inspected, maintained, cleaned, and if necessary sanitized.
- Non-food contact surfaces (Zones 2, 3, and 4) maintained and cleaned when necessary.
- Food contact equipment and tools are of adequate design, construction, and workmanship to allow adequate cleaning and maintenance, and are inspected, maintained, and cleaned as necessary to minimize contamination.
- Food-packing material adequate for intended use, unlikely to support growth or transfer of bacteria, cleanable or designed for single use, and if reused contact surfaces cleaned or used with single use liners.

- Both fully- and partially-enclosed buildings have measures in place to protect covered produce, food contact surfaces, and food-packing material from contamination by pests.
- Equipment used to transport covered produce is either adequately cleaned or a clean liner is used prior to use.
- Records kept when equipment is cleaned and sanitized, to include date, what was cleaned and method used.
- Cleans and sanitizes food contact surfaces to establish clean breaks, does not use sanitizer as cleaner, documents clean breaks.
- Cold storage areas clean and maintained, with no condensation dripping on produce, and temperatures monitored and recorded daily.

Checklist items in **bold** are required by the Produce Safety Rule.





## Postharvest Handling and Sanitation Summary

- All packing areas, regardless of age or design, must have in place sanitation steps that minimize contamination risks.
- As produce moves through the packing and storage areas, identify all of the food contact surfaces—focus on keeping these surfaces clean as a first priority.
- Cleaning and sanitizing are not the same thing.
- You cannot sanitize a dirty surface.
- Food safety practices such as cleaning, general maintenance and housekeeping, and pest control must be in place to reduce risks.



## Food Safety Plan

The Produce Safety Rule does **not** require a food safety plan. So why do one? Because preparing one helps you get organized and focused on food safety, and it's the best way to prepare for buyer questions, third party audits, and future inspections.

### Food Safety Plan

- Food safety plan includes at least:
  - Farm name and address
  - Farm description (commodities grown, farm size, how long in operation, etc.)
  - Name and contact information of Food Safety Manager
  - Risk assessment of practices and environmental conditions that impact food safety
  - Practices employed to reduce food safety risks
  - Records that document practices employed
- Can trace grown produce through production and distribution system one step forward, one step back: from field grown; through handling, storage, and transportation; to point of sale.
- Uses clean breaks or other methods to establish lots.
- Uses a lot code that identifies:
  - Field location
  - Commodity and variety grown
  - Harvest and/or pack date
  - Harvest and/or pack crew
- Produce either labeled with lot code, or **farm name and address prominently displayed on label or at point of sale** (only required for qualified exempt farms).
- Mock recalls conducted and documented.

Checklist items in **bold** are required by the Produce Safety Rule.

## Food Safety Plan 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 equals 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.



Safe Wisconsin Produce is Wisconsin's program to adopt federal produce safety regulations in a manner that makes sense for Wisconsin's growers and ensures produce remains safe and wholesome.

This program is the result of the Food Safety Modernization Act (FSMA) of 2011.

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