Produce Safety ALLIANCE

Lessons Learned from Recent Pre-Harvest Agricultural Water Outreach

Produce Safety Educators' Call #72

February 24, 2025

Instructions

- All participants are muted.
- There will be time for questions and discussion at the end of the meeting.
- Feel free to use the chat box to ask questions as well!
- This session will be recorded and the presentation will be shared via the listserv and on our website after the call.

Agenda

- Summary of questions from Subpart E webinars
- Educator Input about delivery of pre-harvest agricultural water requirements
  - Heads up: we will be asking you to share your experiences while presenting these requirements!
- New resources
  - Includes Agricultural Water Assessment template
- PSA Updates

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Awareness of Subpart E Changes: Based on 12 PSA Webinars

	Overall		English-Language		Spanish-Language		
Self-identified category	**n**	**Percent aware**	**n**	**Percent aware**	**n**	**Percent aware**	**Self-identified category**
Other	688	46.2%	429	49.0%	259	41.7%	Otra profesión
Farm worker	727	40.0%	370	45.1%	357	34.7%	Trabajador agrícola
Farm owner/operator	1349	35.2%	1104	34.8%	245	37.1%	Propietario/encargado de la huerta
Extension educator	228	61.8%	155	61.9%	73	61.6%	Educador en extensión
Produce Industry	1190	52.7%	433	63.3%	757	46.6%	Profesional en la industria de los productos agrícolas frescos
Government employee	404	63.9%	315	69.2%	89	44.9%	Empleado del gobierno

Multiple categories could be selected. Total of 3,946 registrations
Percentages may not add up to 100%; remaining respondents selected “other” to represent their awareness of revised Subpart E

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Summary of Questions from Subpart E Webinars

- PSA has hosted 12 Subpart E webinars at this time
  - 7 in English; 4 in Spanish
  - Two hour session: about one hour for Revised Module 5-1 presentation, and one hour for Q&A
- During each webinar, one person copies questions into an Excel document
  - Recorded 483 questions over 12 webinars
- Bucketed questions by topic area

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Summary of Questions From Six English-language Webinars

- 165 questions in total
- Testing (27 questions)
  - Testing frequency, comparison to third-party requirements
- Definition of Ag Water (15 questions)
  - Often detailed, based on a specific operation
- Water Source (15 questions)
  - Rainwater and rainwater capture
  - General risk of sources (municipal, groundwater, surface water)

Summary of Questions From Six English-language Webinars

- Die-off (9 questions)
  - Recommendations for die-off rates, factsheets
- Exemptions from the AgWA (12 questions)
- General FSMA PSR (10 questions)
  - Often asking about exemptions and exclusions
- Other 'buckets' included postharvest water, specific treatment methods, mitigation measures, requests for resources

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Subpart E Teaching Discussion: Poll Questions

- Have you taught the revised pre-harvest agricultural water requirements? **(poll responses: in a PSA GT/to stakeholders as an update/in another format/no)**
- Are you comfortable teaching the revised pre-harvest agricultural water requirements? **(poll: yes/no/unsure/probably, but nervous)**

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Certificate of Completion for Subpart E Outreach

- PSA offers a Certificate of Completion. Input from this group was crucial in the decision
- This could be made an option for all PSA Lead Trainers
  - Not without rules (sometimes viewed as complications)
  - PSA would develop a policy that PSA LTs would follow
- You can offer your own certificates of completion
  - Only benefit to PSA is it goes in the database but usually not associated with their original PSA GT; let us explain
- Is there interest in providing a PSA Certificate of Completion? **(poll: yes/no/not sure)**
- What would that look like? **(open discussion)**
  - Please use the chat box or raise your hand to be allowed to talk


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Certificate of Completion
is presented to
John Smith
for attending a session focused on the
FSMA Produce Safety Rule Revised Module 5-1
Pre-Harvest Agricultural Water Update
delivered by:
Elizabeth A. Bihn, Laura Acuña-Maldonado, Donna Clements
Training ID SE-241203
Training Date 12/03/2024
Attendee ID 905534

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Open Mic: Your Perspectives

- Discussion about questions you been receiving about Subpart E (Pre-Harvest Agricultural Water)
  - What are some major points of confusion?
  - Do you have strategies that clarify confusing points during delivery of Revised Module 5-1 or stakeholder updates?
  - How can we all collaborate on resources that might help to resolve confusing parts?
  - Other thoughts to share and discuss?

PSA Required Records Fact Sheet

- PSA released updated Required Records Fact Sheet
  - Includes new Agricultural Water Assessment templates
  - Updated Agricultural Water Systems Inspection template
- Each required record in Subpart E is described
  - Summary of the requirement
  - For farm-created records, includes direct link to a template
  - Records not created by the farm have an explanation of where to get the information

SUPPLEMENTAL MATERIAL

Required Records Templates

- A blank set of fillable templates can be downloaded
- Pre-filled examples are at the end of the fact sheet

Following slides describe the process of filling out the Agricultural Water Assessment Template

Agricultural Water Assessment *Template*

Farm name and location: Slate Rock Creek Farm; Beautiful County, State, USA

Agricultural water being assessed: *Pond 1*

Date: June 4, 2024 **Time**: 9 am **Initials**: EAB

Element	Factor evaluated	Observation/ condition	Assessment of how observation or condition could influence risk (use additional pages as needed)
	Location and nature of source	*Well A is pumped into Holding Pond 1 prior to use to irrigate leafy greens crops. The water is classified as surface water.* Recommendation: Create a map of water distribution system.	*Surface water generally is considered more vulnerable to contamination by human pathogens. Original source well water is tested annually and has no detectable generic E. coli in 100 mL, indicating that the ground water is protected.*

SUPPLEMENTAL MATERIAL

Required Records Template: Agricultural Water Assessment

Agricultural Water Assessment *Template*

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Agricultural water being assessed: *Pond 1*

Date: June 4, 2024 **Time**: 9 am **Initials**: EAB

Element	Factor evaluated	Observation/ condition	Assessment of how observation or condition could influence risk (use additional pages as needed)
Agricultural water system(s)	Location and nature of source	*Well A is pumped into Holding Pond 1 prior to use to irrigate leafy greens crops. The water is classified as surface water.* Recommendation: Create a map of water distribution system.	*Surface water generally is considered more vulnerable to contamination by human pathogens. Original source well water is tested annually and has no detectable generic E. coli in 100 mL, indicating that the ground water is protected.*
	Type of distribution system	*Water is moved from the well to the lined holding pond, and from the holding pond to point of use, using a pressurized piping system. Pipes are spaced 40 feet apart, with 12-inch risers for overhead emitters spaced every 30 feet. An inline 120 mesh sieve reduces grit.*	*Pressurized piping protects the water from contamination within the distribution system. The sieve is not expected to have an appreciable effect on microbial water quality; however, a cleaning and maintenance schedule is followed to prevent buildup of biofilm and reduce potential for regrowth of bacterial pathogens.*
	Degree of protection from possible sources of contamination listed in § 112.43(a)(1)(iii) and other subparts (e.g., § 112.52(a) and §§ 112.130 through 112.134)	*(other water users)* *This farm is the sole user of water from the well and reservoir*	*There are no risk factors from other users.*
		(on-farm animal impacts or other on-farm hazards) *Domesticated animals and people are not allowed access to the pond. Wildlife, including amphibians, waterfowl, and mammals may access the pond.*	*The limited access by wildlife does represent a risk due to possible poop in the pond but we maintain nuisance permits to eliminate animals as needed, and we monitor activity around the pond.*
		(off-farm[1] uses) *Neighboring farm has horses. These animals do not have direct access to the pond.*	*Berms prevent any potential runoff from adjacent and nearby lands from entering the pond.*

[1] Off-farm means land uses on adjacent and nearby lands involving animal activity, application of biological soil amendments of animal origin, or presence of untreated or improperly treated human waste. Animal activities include grazing or commercial animal feeding operations of any size (reference § 112.43(a)(1)(iii)). Off-farm also includes any other conditions not related to animal activity, BSAAO, or human waste that could introduce risks.

V3 • 1/21/25

Required Records Template: Agricultural Water Assessment

Element	Factor evaluated	Observation/ condition	Assessment of how observation or condition could influence risk (use additional pages as needed)
Water Use	Method of application	*The water is applied by overhead irrigation.*	*Overhead irrigation will contact produce. If the water is contaminated with pathogens, microbial risk to produce will be higher because of contact with water.*
	Timing of application to crop(s)	*Irrigation water is applied to the leafy greens every day after transplant until establishment, and every 3-5 days thereafter as needed until harvest. Water is not applied if rain is sufficient. No water is applied within 4 days of harvest.*	*Time between last water application and harvest allows for die-off to occur and risks to be reduced.*
Crop Characteristics	Adhesion, internalization	*Crop 1: leafy greens*	*No unusual adhesion or internalization characteristics would substantially increase risk for this crop over other crops*
		Crop 2: none	
Environmental Conditions	Rainfall, temperature, sunlight (UV)	*Our growing region is characterized by high temperatures, low rainfall, and 90% days with minimal cloud cover during the growing season.*	*These conditions are expected to promote die-off of human pathogens and reduce risk in combination with the 4 or more days between last application of water and harvest.*
Other Factors	Testing results	*Water in the pond is tested monthly for generic E. coli. During the past three growing seasons, the result has never been above 50 MPN/100 mL.*	*This history of test results indicates that identified risks do not represent reasonably foreseeable hazardous conditions. Management reviews all test results and will respond if tests are high during the growing season.*

Written determination(s) for this agricultural water[2]:

- ☐ Water is not safe, or not of adequate sanitary quality for its intended use
- X No reasonably foreseeable hazardous conditions limit this use of the water source
- ☐ One or more **off-farm uses** related to animal activity, application of BSAAO, human waste are reasonably likely to introduce pathogens to the water source
- ☐ One or more condition(s) **on-farm** are reasonably likely to introduce pathogens to the water source, or **off-farm** conditions **not** related to animal activity, BSAAO, or human waste

Reviewed by: Grower Greta **Title:** Farm Owner **Date:** June 11, 2024

FSMA PSR Reference § 112.50(b)(2) Confidential Record

[2] For determinations other than "no reasonably foreseeable hazardous conditions limit this use" use the *Measures for Agricultural Water Management Template* to describe whether measures are reasonably necessary, and describe any measures taken in response

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Written Determination

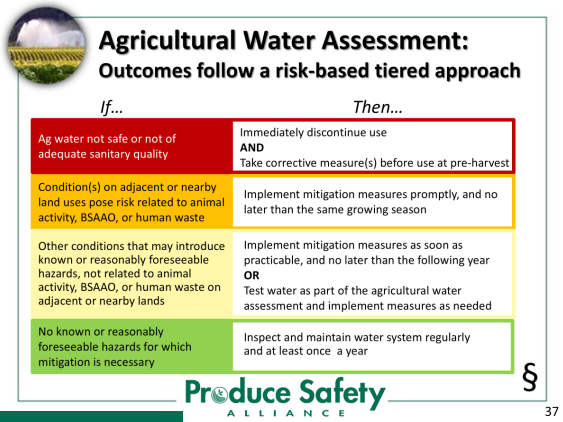
- Required by § 112.50(b)(2)
- The written determination in this example was “No … conditions limit this use of the water”

Written determination(s) for this agricultural water[2]:

☐ Water is not safe, or not of adequate sanitary quality for its intended use	☐ One or more **off-farm uses** related to animal activity, application of BSAAO, human waste are reasonably likely to introduce pathogens to the water source
X No reasonably foreseeable hazardous conditions limit this use of the water source	☐ One or more condition(s) **on-farm** are reasonably likely to introduce pathogens to the water source, or **off-farm** conditions **not** related to animal activity, BSAAO, or human waste

- Template text corresponds to the outcomes chart, slide 17

Written determination(s) for this agricultural water[2]: ☐ Water is not safe, or not of adequate sanitary quality for its intended use	☐ One or more **off-farm uses** related to animal activity, application of BSAAO, human waste are reasonably likely to introduce pathogens to the water source
X No reasonably foreseeable hazardous conditions limit this use of the water source	☐ One or more condition(s) **on-farm** are reasonably likely to introduce pathogens to the water source, or **off-farm** conditions **not** related to animal activity, BSAAO, or human waste



SUPPLEMENTAL MATERIAL

Measures in Response

- When an outcome requires measures, document using the Measures for Agricultural Water Management template

Measures for Agricultural Water Management *Template*

Farm name and location: _____

Date, Initials	Water Source	Water Use (Description)	Reason for Measures* (Including any Documentation)	Corrective or Mitigation Measure(s)** Implemented	Confirmation Steps (if applicable)***

* Such as, pre-harvest agricultural water assessment written determination; postharvest water test result shows presence of generic *E. coli*; water does not meet § 112.41 quality requirement

** Reference § 112.45 list of corrective measures and mitigation measures

*** Reference § 112.45(a)(1) "take adequate measures to determine if your changes were effective" when reinspection and making necessary changes is used as corrective measure

SUPPLEMENTAL MATERIAL

Additional PSA Tools and Resources

- Lots of updated factsheets, supplemental slides, Educators' Call recordings
- Updated factsheet on the differences between Agricultural Water Systems Inspection and Agricultural Water Assessment
- Don't forget Sanitizer Tool is updated!

Characteristic	Agricultural Water System Inspection	Agricultural Water Assessment
Regulatory requirement	Food Safety Modernization Act (FSMA) Produce Safety Rule (PSR) 21 Code of Federal Regulations (CFR) 112.42	§ 112.43
Compliance date	First compliance date: January 26, 2022 • Phased in by business size class	First compliance date: April 07, 2025 • Phased in by business size class
Scope of requirement	For all agricultural water systems on covered farms, to the extent under the farm's control. Applies to water used during growing (pre-harvest), harvest, and postharvest activities	Applies only to agricultural water used during growing activities (pre-harvest water) on covered farms
Frequency	§ 112.42: *"At the beginning of a growing season, as appropriate, but at least once annually …"*	§ 112.43: *"… at the beginning of the growing season, as appropriate, but at least once annually …"*
Evaluation parameters	Abridged quote from § 112.42: *"… identify any conditions that are reasonably likely to introduce known or reasonably foreseeable hazards into or onto covered produce or food contact surfaces, including consideration of the following:* *(1) The nature of each agricultural water source (for example, whether it is ground water or surface water);* *(2) The extent of your control over each agricultural water source;* *(3) The degree of protection of each agricultural water source;* *(4) Use of adjacent and nearby land; and* *(5) The likelihood of introduction of known or reasonably foreseeable hazards to agricultural water by another user of agricultural water before the water reaches your covered farm."*	Paraphrased from § 112.43(a): • Water system characteristics: include information collected as part of the agricultural water systems inspection • Agricultural water practices: include a description of how the water is applied and timing of application • Crop characteristics: examples include characteristics related to adhesion or internalization of hazards • Environmental conditions: examples include the frequency of heavy rain or extreme weather events that may impact the agricultural water system (such as by stirring sediments) or covered produce (such as damage to harvestable leaves) during growing activities, air temperatures, and sun exposure • Other factors: include water analysis results, if water is tested

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External Tools and Resources

- IFPA Industry Guidance: Preharvest Agricultural Water

https://www.freshproduce.com/siteassets/files/food-safety/23-pre-harvest-agricultural-water-industry-guidance.pdf

  - This guidance document is being revised to incorporate May 2024 revisions
- 2015 and 2024 Preamble to the Produce Safety Rule
  - Important context for expectations and understanding
- FDA Agricultural Water Assessment Builder

https://www.fda.gov/food/food-safety-modernization-act-fsma/agricultural-water-assessment-builder

More Subpart E Webinars

Email sent January 23, 2024 at 12:00 pm EST

Upcoming webinars in English:

- March 14, 2025, 3-5 pm ET.
- May 8, 2025, 12-2 pm ET.
- July 10, 2025, 2-4 pm ET.

Upcoming webinars in Spanish:

- Apr 11, 2025, 3-5 pm ET..
- June 5, 2025, 12-2 pm ET.
- Aug 13, 2025, 11am-1pm ET.

NEW!
On-demand video option
Does not include interactive Q and A!

Participating in a Subpart E webinar or viewing the full on-demand video will result in receiving an email certificate of completion

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Registration Open for Upcoming Train-the-Trainer Courses

- Both options are remote (hosted over Zoom)
  - March 24-27, 2025
  - June 9-12, 2025
- Feel free to share with anyone who is interested in attending a PSA TTT Course!
- Registration cost: $350
- Space is limited

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Input welcome on future Educators' Call topics

- Is there a webinar topic that you would like to see? Please email dmp274@cornell.edu

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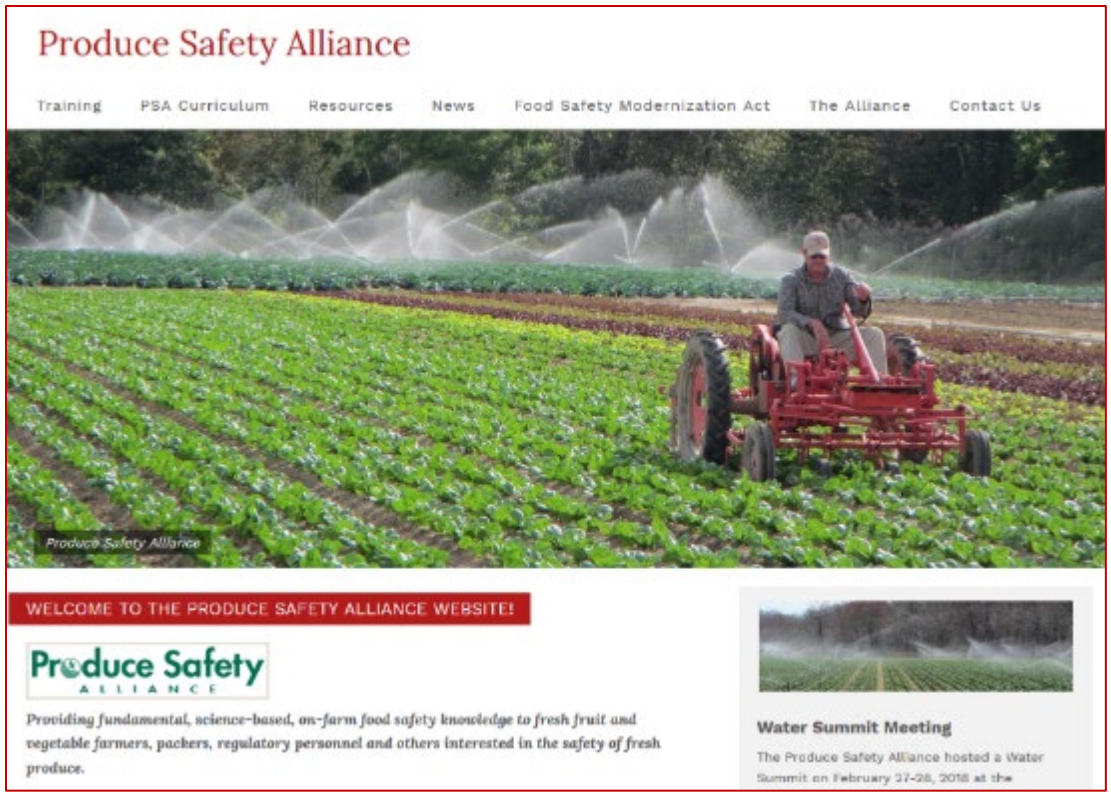
The PSA Website

http://producesafetyalliance.cornell.edu/

En español: es.producesafetyalliance.cornell.edu



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