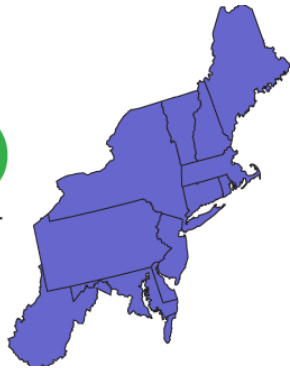


# NECAFS

The Northeast Center to  
Advance Food Safety



## Update on National Work

This work is supported by the Food Safety Outreach Program grant no. 2018-70020-28878 and 2021-70020-35497 from the USDA National Institute of Food and Agriculture.



National Institute of Food and Agriculture  
UNITED STATES DEPARTMENT OF AGRICULTURE

# NECAFS Team



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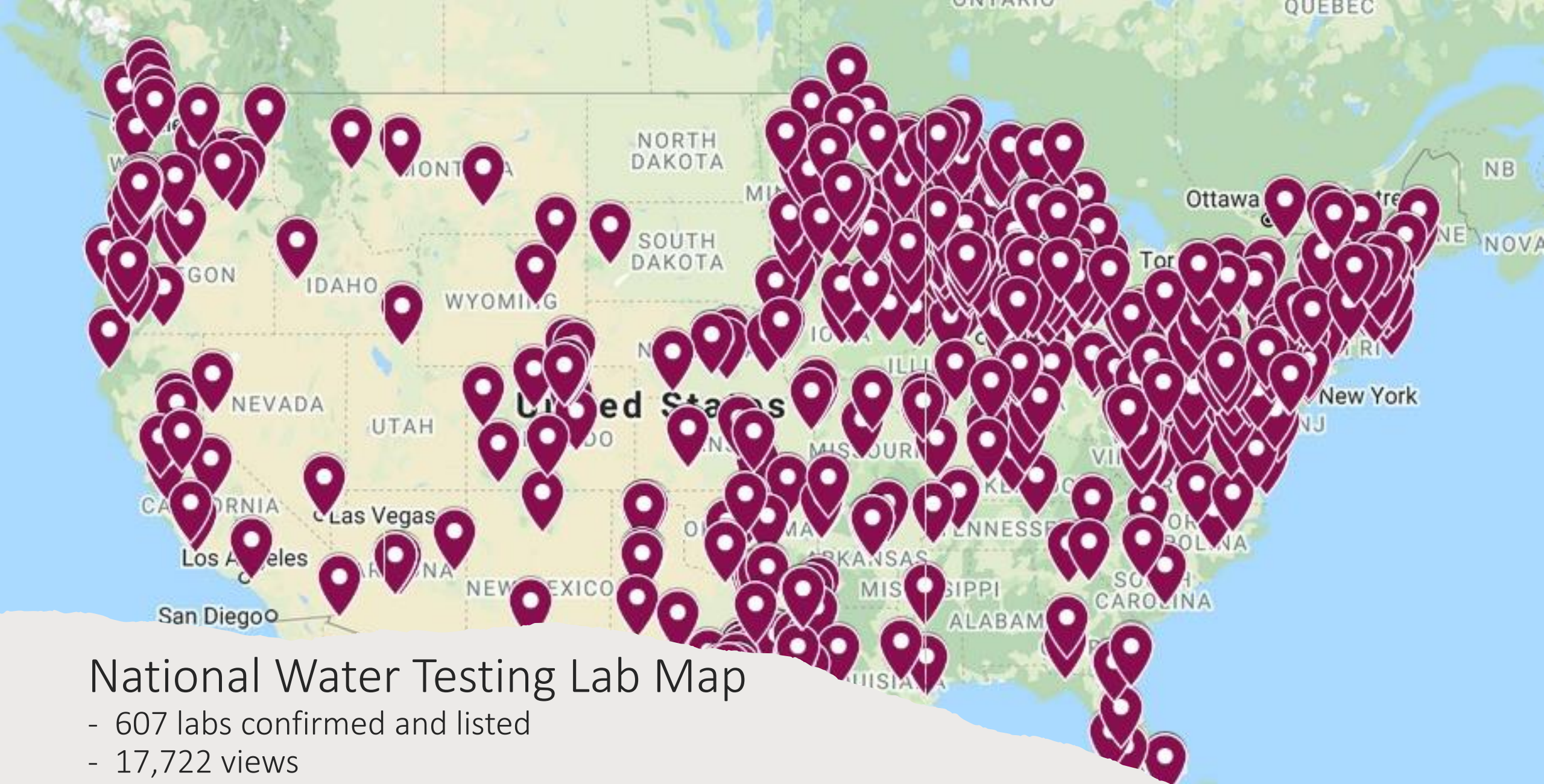


Annie Fitzgerald  
Research Specialist – PC focus



Sean Fogarty  
Research Specialist – PS focus

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## National Water Testing Lab Map

- 607 labs confirmed and listed
- 17,722 views

# PRODUCE SAFETY RULE INSPECTIONS AND THIRD-PARTY AUDITS

Extension Legal Services Initiative  
FSMA Fact Sheet



AGRICULTURE &  
FOOD SYSTEMS

[elsi.necafs.org](http://elsi.necafs.org)

## PRODUCE FARMS, FOODBORNE ILLNESS, AND LEGAL LIABILITY

Extension Legal Services Initiative  
FSMA Fact Sheet




## Extension Legal Services Initiative

- Project Partner: Center for Agriculture and Food Systems at Vermont Law School
  - FSMA PSR State Implementation Map
  - FSMA PSR Coverage and Exemptions for Farms with Multiple Business Entities
  - FSMA Supply Chain Program Requirements for Processors and Their Produce Suppliers
  - Using the FDA TAN and FOIA to Access Information about FSMA
  - Understanding the Relationship between FDA Rules, Guidance and Other Communications
  - Produce Farms, Foodborne Illness, and Legal Liability
  - Produce Safety Rule Inspections and Third-Party Audits
  - Alternatives and Variances to the Produce Safety Rule

# Clearinghouse Peer Review Process


- Peer review is available for any add-on produce safety or preventive controls for human food material through the Food Safety Resource Clearinghouse
- Opportunity to receive anonymous review from your peers on educational material's accuracy, reliability and useability
- Once reviewed, content is added to the Clearinghouse with a peer reviewed stamp



### Wildlife Damage Flash Cards: An engaging way to help train your workers

Added by Phillip Tocco • Last updated December 18, 2020  
**AUTHOR:** Phil Tocco  
**TYPE:** Add-on / Supplemental Educational Material  
**TOPIC:** General (PSR), Produce Safety Rule (PSR), Wildlife, Domestic Animals & Land Use

This resource contains several flash cards that growers can use as part of a tailgate training with farm workers. These serve to start conversations around relative risk.



### Hygienic Design on Produce Farms Interactive Video


Added by Phillip Tocco • Last updated April 7, 2020  
**AUTHOR:** Alison Work, Chris Callahan and Phil Tocco  
**TYPE:** Add-on / Supplemental Educational Material, Videos  
**TOPIC:** Preventive Controls (PCs), Preventive Controls for Human Foods (PCHF), Postharvest Handling & Sanitation, Produce Safety Rule (PSR)

Hygienic or Sanitary Design allows equipment and the areas around it to be easily cleaned and sanitized, which is crucial when it comes to food safety. This interactive video walks you through key principles to consider when evaluating the hygienic design of your equipment.

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**Peer  
Reviewed**  
Food Safety Resource  
#697

# Resources for Hydroponic & Aquaponic Growers

Sean Fogarty, sean.z.fogarty@uvm.edu

## Factsheet topics

- Hydroponics and Aquaponics 101
- Cleaning and Sanitizing
- Fish Health and Handling
- Harvest and Postharvest Handling
- Personal Health and Hygiene
- Waste Management
- Water Quality
- Wildlife and Domesticated Animals

First release expected in summer 2022.



Harvest practices depend on the unique system, such as in this deep water culture (DWC) bed of lettuce. TOP PHOTO: NICHOLAS VAN DER WAL



This is an example of automated robotic tomato harvest in a hydroponic system.

### Introduction

Harvest and postharvest handling practices in hydroponic and aquaponic operations are generally similar to those used in field agriculture, though the presence of production water introduces special considerations. In general, workers should always be aware of anything that comes in contact with production water, which can contaminate food and food contact surfaces with pathogens. This factsheet covers recommended practices for harvest and postharvest handling of crops in a hydroponic or aquaponic operation, with the risk factor of water contact as a central consideration.

### Harvest

#### WHAT DOES HARVEST LOOK LIKE IN A HYDROPONIC OR AQUAPONIC OPERATION?

Aquaponic and hydroponic operations, which grow crops ranging from leafy greens, to vine crops and root crops, operate in numerous ways. Tools used to harvest crops will vary, with harvest in small operations being predominantly done by humans, and in large operations more likely done through a mechanized

process. Human harvesters may use a handheld knife to cut the harvestable portion of the crop away from the growing substrate and put the produce into retail packaging or a reusable tote. Larger, highly mechanized operations may use machinery, such as a robotic arm, to harvest the produce and transport it on a conveyor belt to a pack room.



This series of factsheets discusses considerations to help hydroponic and aquaponic operations when adopting practices to reduce produce safety risk.



The Food Safety Modernization Act's Produce Safety Rule (FSMA PSR) sets mandatory standards for growing, harvesting, packing, and holding produce for human consumption.

### Introduction

Wildlife and domesticated animals can carry pathogens to food and food contact surfaces, and growers should understand how to limit or exclude their access to production and packing areas. When it comes to excluding wildlife and domesticated animals, determining whether or not your operation is located in a fully or partially-enclosed building will inform your decision-making and practices. In outdoor and partially-enclosed hydroponic or aquaponic operations, wildlife and domesticated animals may enter the production area and potentially contaminate produce, so it is important to deter their presence. This factsheet outlines the food safety concerns associated with animal intrusion, as well as recommendations for preventing and dealing with these trespassers.

### Wildlife In and Around Hydroponic or Aquaponic Operations



The discussion in this section applies to both large wildlife, such as deer, raccoons, and wild pigs, and small pest animals such as mice, rats, and birds.

Hydroponic and aquaponic farms operate in a range of building structures. In colder climates it is more likely for these operations to be located inside a heated greenhouse or building. In warmer areas, it is not uncommon to see operations in the open or in partially-enclosed structures. This variation in building structure brings different considerations when

managing wildlife and approaches to excluding them. For example, different types of wildlife, large and small, can enter the production area of an open outdoor operation. However, while a partially-enclosed building may have more protection against large wildlife, smaller animals can still enter through small openings such as uncovered vents or fans.

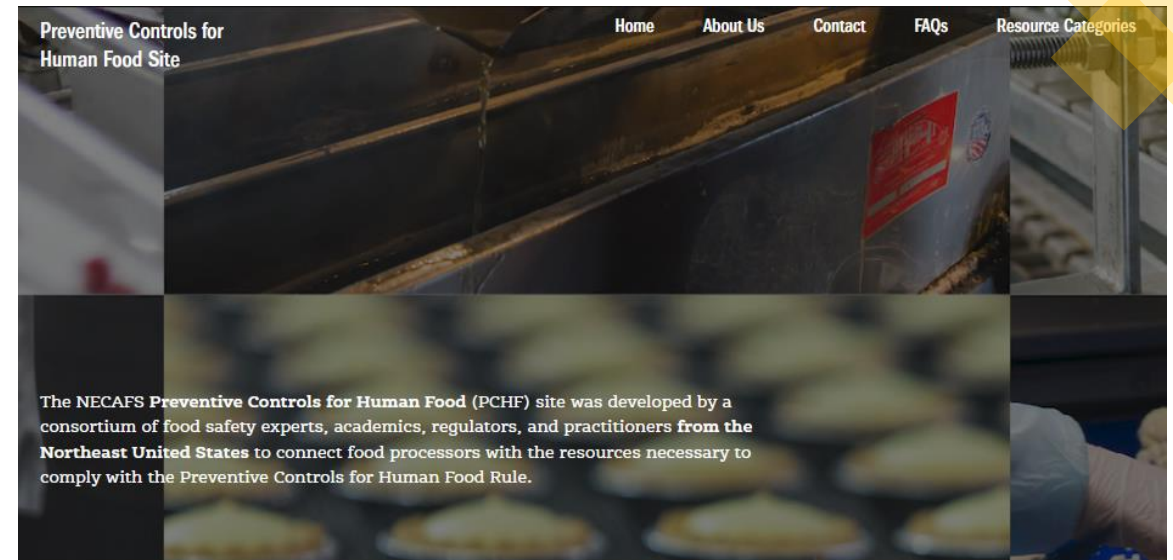


This series of factsheets discusses considerations to help hydroponic and aquaponic operations when adopting practices to reduce produce safety risk.

# Curating Resources for Processors

Annie Fitzgerald

- Food safety communicators needed a single, user-friendly resource for small and very small processors
- Surveyed local, state, and federal food safety resources
- Developed a site that supports processors
- Currently in user experience testing
- Peer review is next
- Anticipated launch, late spring 2022



## Connect to Resources



### Roadmap to Resources

Learn more about the Preventive Controls for Human Food Rule and where to find answers to your questions.



### Templates, Examples & Forms

Here you can find sample and real working documents that food processors can use to follow



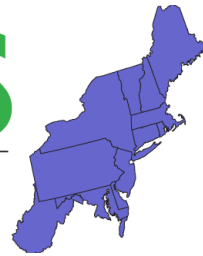
### Connect to a Professional

Find preventive controls educators, experts, and specialists in your area.



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# Thank You

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