

SafeBites  presents

## KEEP FRESH PRODUCE SAFE: PRACTICES ACROSS THE FOOD CHAIN

presented by **Dr. Angela Shaw, PhD**

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SafeBites  MEET OUR FOOD SAFETY EXPERTS



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### MEET OUR PRESENTER

FoodHandler



Dr. Angela Shaw is an Associate Professor of Food Safety at Iowa State University in the Department of Food Science and Human Nutrition, and a Food Safety Extension Specialist. Her expertise is in food law and regulations, while her research focuses on farm to retail food safety.

Shaw's research addresses the needs of commodity and practice groups, while her extension work focuses on education about emerging food safety concerns and food regulations.

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### LEARNING OBJECTIVES

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- Identify inherent risks when preparing and serving produce items.
- Implement strategies to mitigate risk of foodborne illness from produce.
- Recognize resources to use in developing standard operating procedures addressing produce procurement, storage, handling, and service.

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### PRODUCE FOOD LAWS

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- Food Drug and Cosmetic Act of 1938
- FDA Food Safety Modernization Act Produce Safety Rule
- Various EPA, OSHA, state, and local rules for farm use
- FDA Food Code 2017 (latest)

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### INTRODUCTION

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**Food Safety Modernization Act (FSMA)**

- **Produce Safety Rule**
- Preventive Controls for Human Food
- Preventive Controls for Animal Food
- Foreign Supplier Verification Programs
- Accreditation of Third-Party Auditors/Certification Bodies
- Sanitary Transportation of Human and Animal Food
- Prevention of Intentional Contamination/Adulteration



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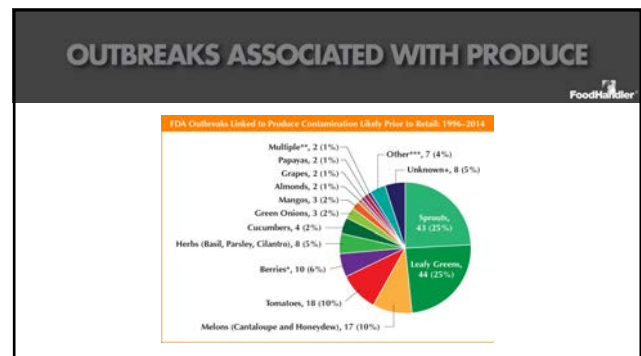


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### INTRODUCTION

- 48 million people become ill from foodborne illness yearly (CDC, 2018)
- 46% of foodborne illness outbreaks linked to fruit, vegetables, and nuts (CDC, 2013; CDC, 2018)

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### PRODUCE SAFETY CHALLENGES

- Fresh produce is often consumed raw (i.e., not cooked)
- Microbial contamination on produce is extremely difficult to remove once present
  - Natural openings, stem scars, bruises, cuts
  - Rough surfaces, folds, netting
- Contamination is often sporadic
- Bacteria can multiply on produce surfaces and in fruit wounds, provided the right conditions are present

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## STEPS TOWARDS PRODUCE SAFETY

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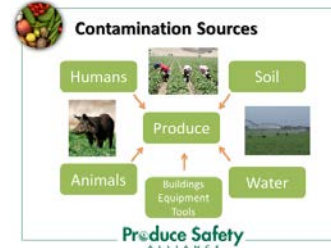
- 1 • Assess Produce Safety Risks
- 2 • Implement Practices
- 3 • Monitor Practices
- 4 • Use Corrective Actions
- 5 • Keep Records



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## CONTAMINATION SOURCES

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## SIX PARTS TO PRODUCE SAFETY RULE

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1. Agriculture Water
2. Biological Soil Amendments
3. Domesticated and Wild Animals
4. Worker Training, Health, and Hygiene
5. Equipment, Tools, and Buildings
6. Sprouts

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## TIMELINE FOR COMPLIANCE

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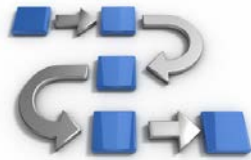


FDA

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## FOODSERVICE BEST PRACTICES FLOW OF FOOD

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## QUESTIONS FOODSERVICE CAN ASK FARMS DIRECTLY

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1. Do you have an employee training program?
2. Do you test your water for generic *Escherichia coli*?
3. Do you use raw manure or compost?
4. How do you control wildlife and domesticated animals on your farm?
5. What is your cleaning and sanitizing practices?

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## FOR MORE INFORMATION

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Check list for retailers purchasing local produce  
<https://store.extension.iastate.edu/Product/12938>

### Checklist for Retail Purchasing of Local Fresh Produce



Items on this checklist are based on GAPs and elements of the FSMA Produce Safety Rule.

Name of Produce/Farm \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_  
 Zip \_\_\_\_\_  
 Name \_\_\_\_\_  
 Title \_\_\_\_\_  
 Total acres of total produce farmed \_\_\_\_\_  
 Availability of governmental resources YES NO

Produce available for purchase \_\_\_\_\_  
 Produce processor capable to handle YES (Dollar amount) \_\_\_\_\_ NO  
 Is produce from the farm GAP Certified? YES NO  
 After GAP Certified, is a certified processor and/or kitchen in business? YES NO  
 Is the farm GAP Certified or food safety third party certified? YES NO  
 Has the person in charge of the farm produced GAP or FDA training? YES NO  
 Can buyers observe in person during the production season? YES NO

**IOWA STATE UNIVERSITY**  
 Extension and Outreach

**North Central Region**  
 2019-2020 Season

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## STANDARD OPERATING PROCEDURES (SOP)

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- Standard Operating Procedures or SOPs are a set of written instructions that describes, in detail, how to perform a task safely and effectively.
- SOPs in place for: Purchasing, receiving, storage, preparation, and service.



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## SOP FOR PURCHASING PRODUCE

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- Use a checklist for contract standards for an approved list of vendors
  - Farmer follows Produce Safety Rule
  - Produce processor follows Preventive Control
  - Produce specifications for operation
  - Commodity risk of produce item
  - Allergens
  - Education and Training on-farm or by vendor
  - Testing of water and handling on farm



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## RECEIVING PRODUCE

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## BEST PRACTICES AT RECEIVING

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- Approved list of vendors to receive
- SOP for receiving produce
  - When to accept
  - When to reject
  - Who to contact if reject



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## BEST PRACTICES AT RECEIVING

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- The FDA Food Code defines TCS produce as follows:
  - Raw seed sprouts, cut melons, cut leafy greens, cut tomatoes or mixtures of cut tomatoes that are not modified in a way so that they are unable to support pathogenic microorganism growth or toxin formation.
  - Temperatures should be monitored and verified at 41°F or below.



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## BEST PRACTICES AT RECEIVING

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- Elements of an SOP for when to accept or reject produce:
  - Maturity of the produce
  - Visible evidence of disease
  - Insect damage
  - Cutting and bruising
  - Temperature control (TCS Produce)



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## STORAGE OF PRODUCE

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## STORAGE GUIDELINES FOR FRUITS AND VEGETABLES

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Fruit	Temperature	Humidity	Length of Storage
Apple	32	90	2-6 months
Broccoli	32	95	10-14 days
Cabbage	32	95	3-6 weeks
Carrots	32	95	4-6 weeks
Celery	32	95	2-3 month

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## BEST PRACTICES

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- Store produce at the appropriate temperature.
  - Coolers typically are set at 32° - 40° F with humidity at or above 90%.
  - Most produce is stored for seven days.
- Store in manner to prevent cross contamination.
- Clean and sanitize coolers and refrigerators on a routine basis.
- Store all produce at least 6 inches off the floor.



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## WHAT SOPs SHOULD YOU HAVE?

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- Rotation of produce schedule (how long to store produce).
- Store only produce that is free from all visible evidence of disease, insect damage, and/or cutting and bruising.
- Cleaning and sanitation routine for storage units.
- Pest management practices for the facility.
- Storage temperatures for specific fruits and vegetables.



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## RESOURCES

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- Bulletin #4135 Storage Conditions: Fruits and Vegetables - University of Maine
- Storage Guidelines for Fruits and Vegetables - Cornell Cooperative Extension

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## PREPARING PRODUCE

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## BEST PRACTICES AT PREPARATION

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- Employee training
  - Health and hygiene
- Inspect produce for damage prior to preparing
- Clean and sanitize all equipment, utensils, and food contact surfaces
- Wash whole produce prior to serving
  - Clean hands; gloves not necessary



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## DO NOT

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- Do not rewash packaged produce labeled “ready to eat”, “washed” or “triple washed”.
- Do not use soap or detergent for washing produce as these products are not food grade.



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## ELEMENTS OF FRESH PRODUCE PREPARATION SOP

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- Cleaning and sanitizing of workspace
- Inspection procedures of the produce
- When to wash and not to wash produce
- Hand hygiene
- Glove Use
- Temperature control for TCS



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## IF PROCESSING...

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- Prep room and food contact surfaces should be cleaned and monitored on a routine.
- Wash hands before beginning.
- There should be Sanitation SOPs developed for specific equipment, cutting boards, knives, and brushes.
- Pre-chill fruits and vegetables prior to cutting (below 41F).



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## PROCESSING QUESTIONS

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- If vacuum packaging or other modified packaging used, review Food Code requirements about need for variance and HACCP plan to address concerns.
- Work with local health inspector to ensure safety and quality issues are addressed.



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## SERVING PRODUCE

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## BEST PRACTICES

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- Cut produce should only be displayed for 6 hours at 41°F or less.
- Label products to ensure names and allergens are presented.
- Clean and sanitize food contact surfaces and utensils.



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## SALAD BAR...

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- Use equipment with food shields or sneeze guards.
- Cut produce should only be displayed for 6 hours or less without temperature controls.
- Clean and sanitize all surfaces and utensils.
- Label all foods.
- Use dispensers or single use packaged salad dressings.
- Ensure temperature is below 41°F and check every 2 hours during service.
- Use small serving pans to reduce food waste.



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## DISPLAYS WITH FRESH PRODUCE

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- Ensure products are labeled.
- Keep products at 41°F or below.
- Check that return vents are not blocked or plugged.
- Use potable water with produce misters and reservoirs that are cleaned and sanitized regularly.



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## IF ICE IS USED...

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- It must be from a potable water source.
- Discard ice after use.
- Check that product temperatures can be met.
- Store iced product to avoid cross contamination from dripping water.



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## RECAP

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- Produce safety laws
- On-farm best practices
- Produce Receiving
- Storage of produce
- Preparing produce
- Serving produce



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## RESOURCES

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- Handling Fresh Produce on Salad Bars
  - [https://fns-prod.azureedge.net/sites/default/files/foodsafety\\_saladbars.pdf](https://fns-prod.azureedge.net/sites/default/files/foodsafety_saladbars.pdf)
- USDA Food Safety Produce Best Practice Guide
  - [https://fns-prod.azureedge.net/sites/default/files/Food\\_Safety\\_Produce\\_Best\\_practices.pdf](https://fns-prod.azureedge.net/sites/default/files/Food_Safety_Produce_Best_practices.pdf)
- Produce Safety Best Practices Guide for Retailers
  - <https://www.fmi.org/docs/default-source/food-safety/produce-safety-best-practices-guide-for-retailers.pdf?sfvrsn=15>
- North Carolina State University
  - <https://ncfreshproducesafety.ces.ncsu.edu/ncfreshproducesafety-gaps-standard-operating-procedures/>
- University of Massachusetts
  - <https://ag.umass.edu/vegetable/fact-sheets/standard-operating-procedures>

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## QUESTIONS?

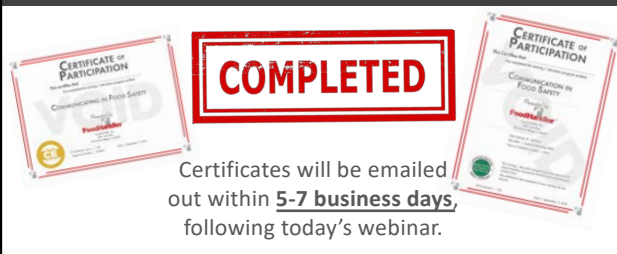
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## CERTIFICATES

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## WEBINAR RESOURCE

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For more information about our webinars and registration:

← → ↺ [foodhandler.com/education-training/](https://foodhandler.com/education-training/) ☆



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## JOIN US FOR FUTURE WEBINARS!

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### UPCOMING 2020 WEBINARS

**MAY 20** Re-Opening Food Service Post-Coronavirus

**SEP 16** It's in Your Hands: Handwashing and Glove Use Best Practices

Each is preapproved for 1 hour of Continuing Education Credit by the School Nutrition Association (SNA) and the Certifying Board for Dietary Managers (CBDMD)

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## FOODHANDLER FOOD SAFETY RESOURCES

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### Downloads

- Restaurant Re-Opening Guidelines
- Daily Temperature Logs
- Temperature Chart For Safe Food
- Refrigerator Storage Chart
- Food Safety Doesn't Happen By Accident

### Videos

- Handwashing
- Why To Glove
- When To Glove
- How To Glove



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## FOODHANDLER FOOD SAFETY RESOURCES

**Past Blogs**

- Emergency Preparedness
- Hepatitis A
- Ready-to-eat Foods
- Risk Based Health Inspections

**Upcoming Blogs**

- Food Safety Culture/Accountability
- Listeria/Cyclospora
- Produce Safety
- Allergies in Foodservice



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## FOODHANDLER FOOD SAFETY RESOURCES

Please send us your questions or comments at:  
[FoodSafety@foodhandler.com](mailto:FoodSafety@foodhandler.com)



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## THANK YOU FOR JOINING US!



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