



PRACTICING **GOOD** **AGRICULTURE:** A **PRIMER** FOR **FOODSERVICE** **OPERATIONS**

PRESENTED BY
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FOOD SAFETY EXPERT

MEET OUR PRESENTER



DR. KEVIN ROBERTS,
PhD

PURPOSE

This webinar will discuss the food safety risks associated with fresh produce, safe handling of fresh produce, and good agricultural practices and their implication for the foodservice operator.



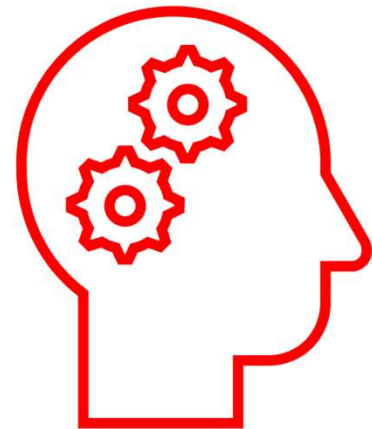
OBJECTIVES



1. Understand the risk involved with serving fresh produce and produce from local sources.
2. Describe best practices for handling fresh produce.
3. Explain Good Agricultural Practices and Good Handling Practices.
4. Describe Good Agricultural Practices and their application in your foodservice system.
5. Identify resources for employee training.

CONSIDERATIONS

- Produce presents unique risks
 - Lack of cooking step prior to service
 - Many opportunities for potential contamination
 - Increasing use of produce
 - Increasing use of fresh cut produce
- Employee handling practice can reduce risks



WHY IS IT IMPORTANT?

- Salmonella outbreak linked to onions
 - Illnesses: 892
 - Hospitalizations: 183
 - Deaths: 0

All recalled onions were supplied by ProSource Produce LLC and Keeler Family Farms and imported from the State of Chihuahua, Mexico, between July 1, 2021, and August 31, 2021.

Another Distributor Recalls Onions Over Salmonella Concerns

Alsum issued its recall announcement with the U.S. Food and Drug Administration, which posted the statement on its website.

By Entrepreneur Staff | November 16, 2021

Alsum Farms & Produce, Inc.
multi-state salmonella outb
Food and Drug Administrati

Massive onion recall due to salmonella: Here are all the products you should toss

Updated: Nov 01, 2021, 12:28 p.m. | Published: Nov 01, 2021, 12:07 p.m.



A salmonella outbreak linked to onions has led to massive product recalls. (Courtesy/CDC) CDC



By Annalise Knudson | aknudson@iadvance.com

STATEN ISLAND, N.Y. — A salmonella outbreak linked to whole

Advertisement

1. HOW TO REVERSE KIDNEY DISEASE >
2. FEVER TEMPERATURE CHARTS >
3. HOW TO STOP HAIR THINNING >
4. SALMONELLA INFECTION TESTS >
5. BEST FOODS TO STOP DIARRHEA >
6. FREE SENIOR GRANTS >
7. FOODS THAT REVERSE DIABETES >
8. FOODS THAT STOP DIARRHEA >

WHY IS IT IMPORTANT?



WHY IS IT IMPORTANT?

Oregon confirms deer droppings caused E. coli outbreak tied to strawberries

Published: Wednesday, August 17, 2011, 12:22 PM Updated: Wednesday, August 17, 2011, 4:26 PM



By **Lynne Terry, The Oregonian**

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EIS officer/Oregon Public Health

Oregon scientists collected deer droppings from Strawberry Farm that contained the E. coli that sickened people in Washington Clackamas and Clatsop counties.

Lab testing confirmed the source of the outbreak, said Keene, senior epidemiologist with Oregon Public Health.




Scientists picked up samples from fields at Strawberry Farm in Clatsop County and 10 tested for E. coli O157:H7. Of the 10, 10 tested positive.

Spinach E. coli linked to cattle

Manure on pasture had same strain as bacteria in outbreak

Sabin Russell, Chronicle Medical Writer
Friday, October 13, 2006

 PRINT  E-MAIL  SHARE  COMMENTS (0)

 FONT | SIZE:  

MORE NEWS

- Dry weather coming to an end 04.09.12
- 2 appear in court in Tulsa shooting rampage 04.09.12
- Syrians fire across 2 borders as conflict deepens 04.09.12

Samples of cattle manure on pastures surrounding a spinach field have tested positive for the same strain of E. coli bacteria that killed at least three people and sickened nearly 200 others -- the first direct evidence linking a Salinas Valley farm to the outbreak that has spanned 26 states and one Canadian

province.

The pasture is part of an unidentified beef cattle ranch that also leases its fields to spinach growers. Fences on the cattle operation had been penetrated by wild

0

 Tweet

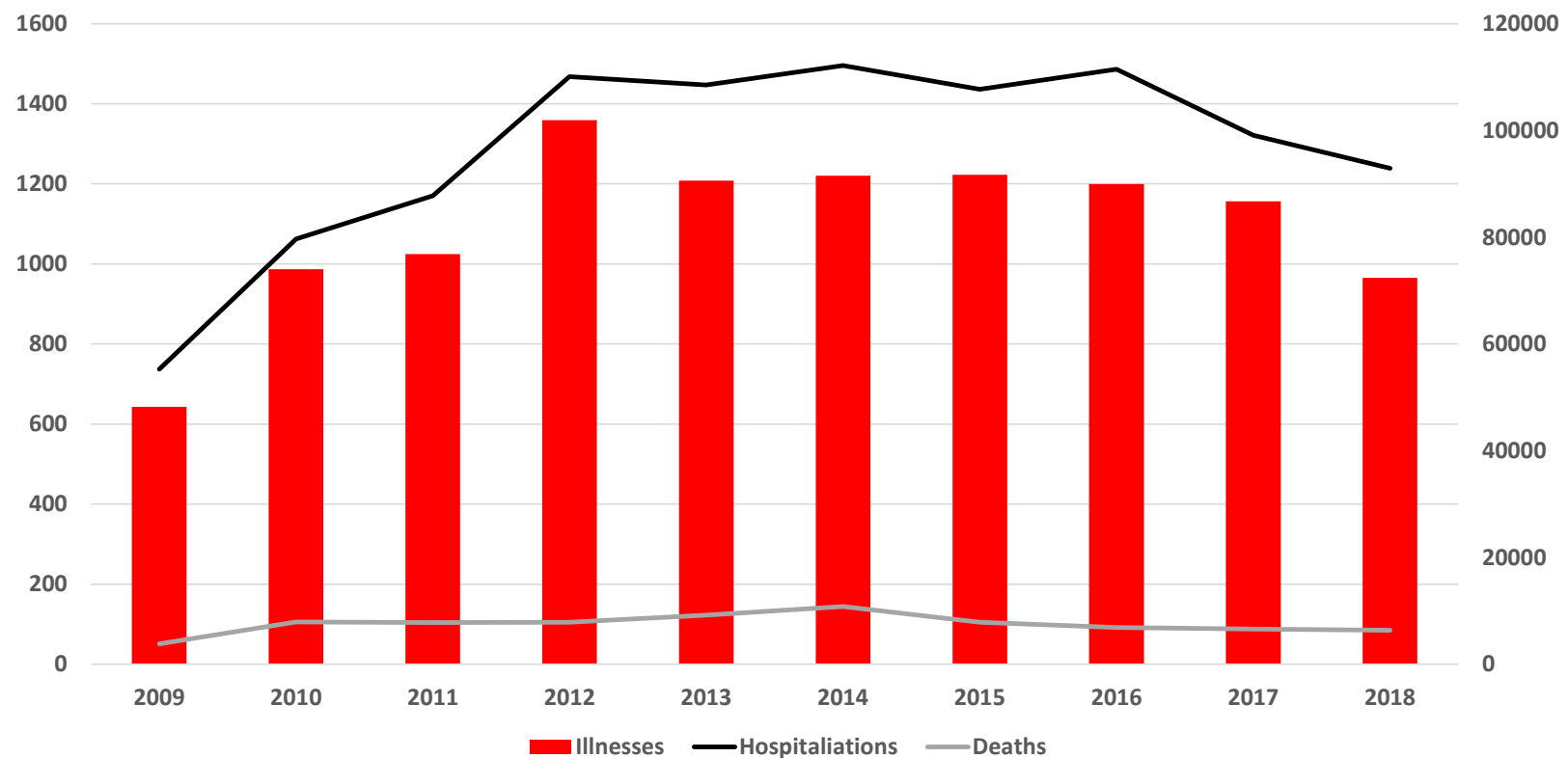
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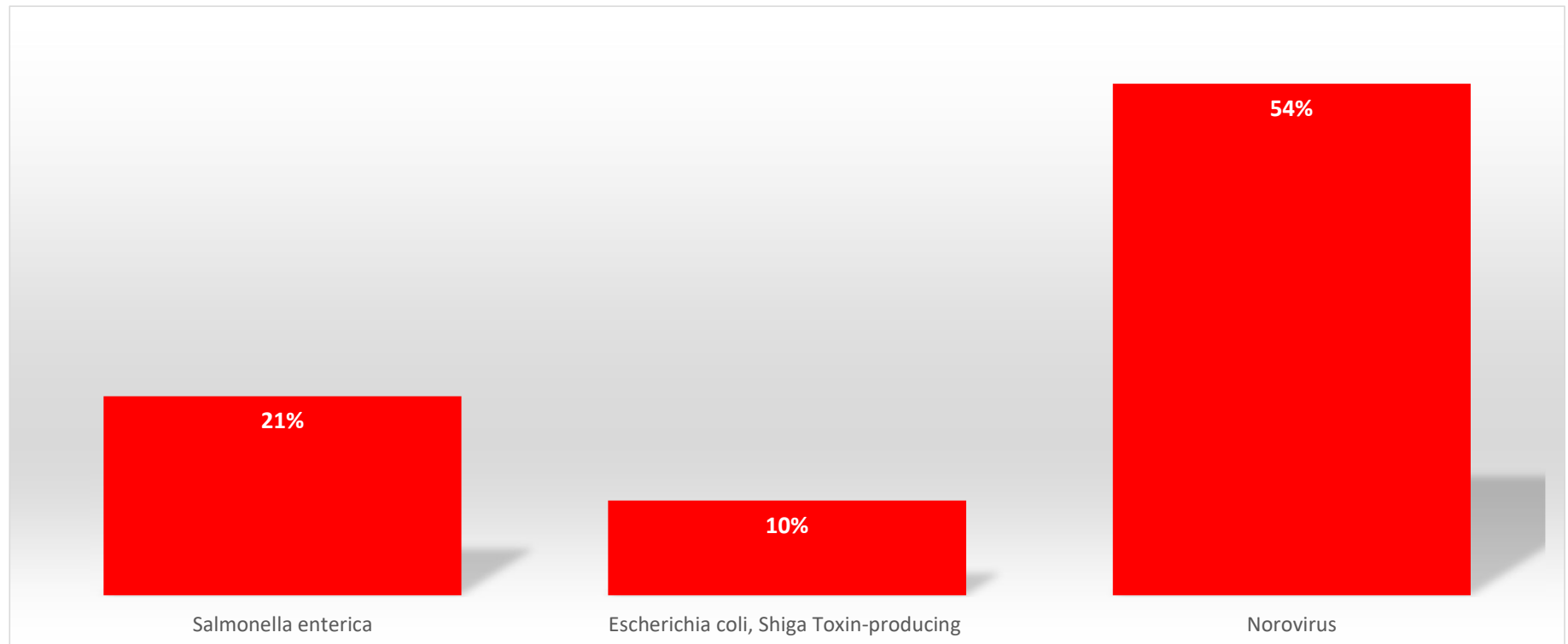
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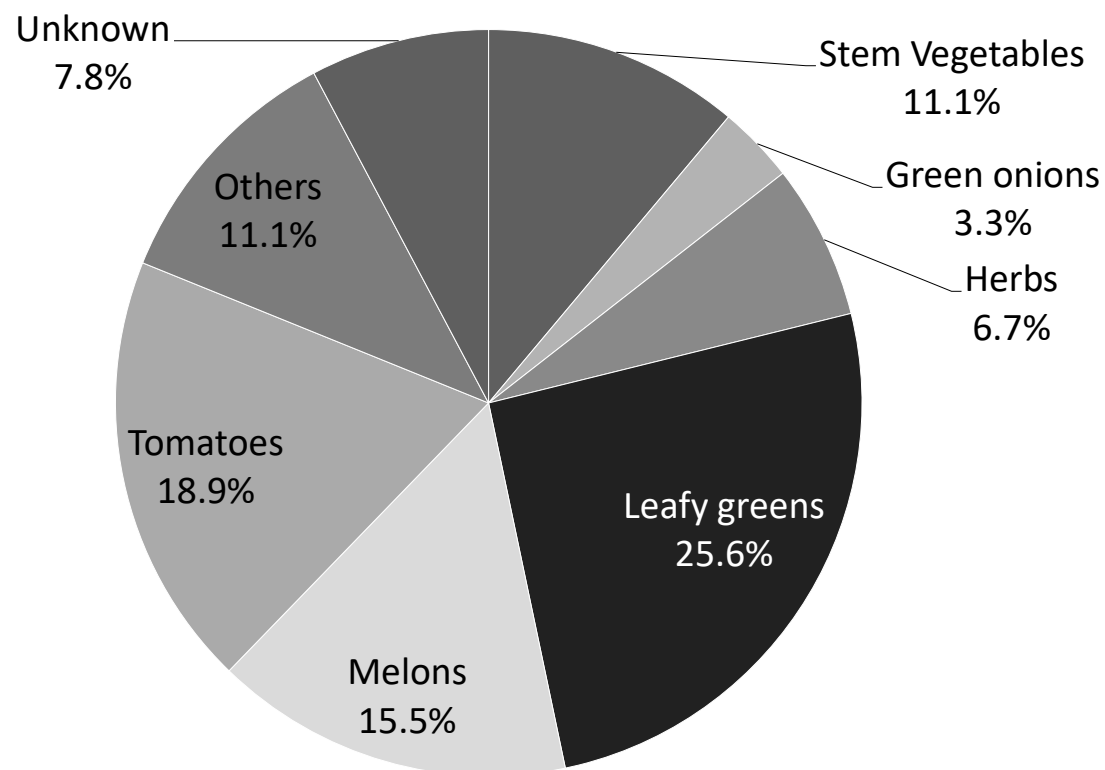
2009-2018 PRODUCE RELATED OUTBREAKS



% OF OUTBREAKS ASSOCIATED WITH PRODUCE, BY PATHOGEN



PRODUCE OUTBREAKS BY ITEM, 1996-2009



Source: CORE Outbreak Database, FDA Coordinated Outbreak Response and Evaluation Network (CORE) Internal dataset, 1996-2010

1998-2008 PRODUCE OUTBREAKS



Produce	Number of Outbreaks	Number of Outbreaks Due to Fresh-cut	Percent due to Fresh-cut
Leafy Greens	25	14	56.0
Tomatoes	14	5	35.7
Melons	12	2	16.7
Total	51	21	41.2

Fresh-cut produce: fresh produce that has been processed by peeling, slicing, chopping, shredding, coring, trimming, or mashing, with or without washing or other treatment, prior to being packaged for consumption.

-FDA CFSAN



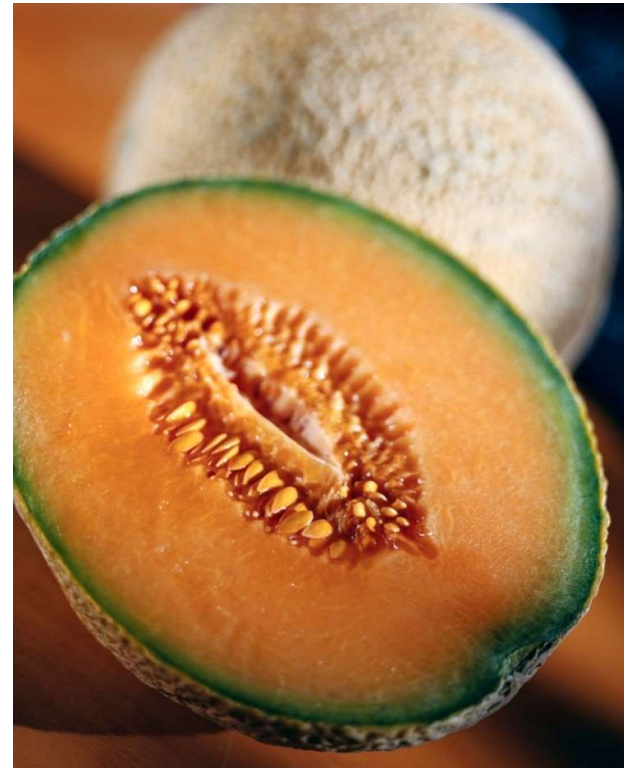
RECOMMENDATIONS FOR MINIMIZING

- Cold Chain Management
 - Receiving
 - Storage
 - Preparation
 - Service
- Traceability
- Cleaning and Sanitizing
- Personal Hygiene
- Training



BEST PRACTICES FOR HANDLING FRESH PRODUCE: MELONS

- Avoid using whole melons with visible signs of decay or damaged rinds.
- Wash the outer surface of the melon thoroughly
- Display cut melons for a maximum of 4 hours without being kept cool
- Mark the date on refrigerated cut melons



BEST PRACTICES FOR HANDLING FRESH PRODUCE: TOMATOES



- Do not wash tomatoes in cold water – use temperatures that are 10°F warmer than the tomato
- Ensure whole tomatoes are free from soil and skin damage
- Hold tomatoes at 41°F or below after cutting
- Mark the date on refrigerated cut tomatoes
- Do not store cut tomatoes in direct contact with ice or water.



BEST PRACTICES FOR HANDLING FRESH PRODUCE: LEAFY GREENS



- Do not use leafy greens with visible signs of decay or damage
- Do not rewash packaged produce labeled “ready-to-eat,” “washed,” or “triple washed.”

BEST PRACTICES FOR HANDLING FRESH PRODUCE: SPROUTS

- Due to the increasing number of illnesses associated with eating raw sprouts, the FDA has advised to not eat raw sprouts.
- All sprouts should be cooked thoroughly before eating to reduce the risk of illness.



BEST PRACTICES FOR HANDLING FRESH PRODUCE: FRESH CUT

- Purchase from reputable suppliers
- Ensure the temperature of fresh-cut produce (i.e., sliced, diced, or chopped) is 41°F or below upon delivery.



WORKING WITH LOCALLY SOURCED FRUITS AND VEGETABLES

GAPS VS. GHPS

- **Good Agriculture Pactices** generally relates to the farm review and field harvesting or field packing operation.
- **Good Handling Pactices** generally relates to the packing house /storage and handling operation.

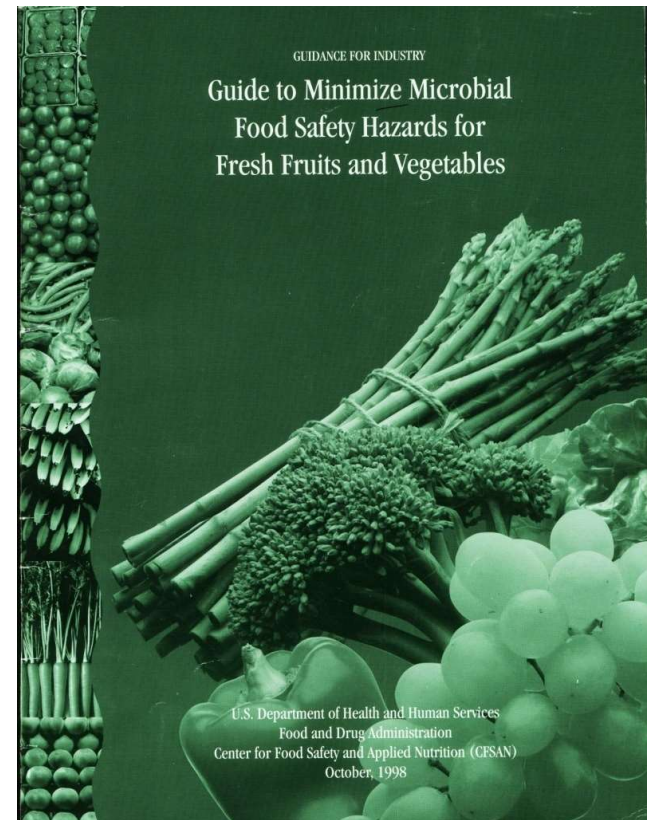
HISTORY OF GAP/GAP



- 1998 - FDA and USDA issue “*The Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables*”
- Wholesalers want assurance
- Shippers and Growers approach USDA to develop an audit system
- Result: GAP/GHP Audit system was developed by USDA and FDA

GAPs & GHPs

- These programs are used across the country for all commodities and recognized by most industry groups.
- USDA's Audit program is based on established scientific principles and verifies adherence to the Food Drug Administration's (FDA) guidance document
- Published in October 1998



WHY GAP?

- Required by some buyers
- Enhances marketability
- Good business practice



WHAT ARE THE SOURCES OF CONTAMINATION?



GAP: COMPONENTS



- Part 1: Farm Review
 - Part 2: Field Harvesting & Field Packing
 - Part 3: House Packing
 - Part 4: Storage and Transportation
 - Part 5: Wholesale Distribution/Terminal Warehouse
 - Part 6: Preventative Food Security Procedures
- **Traceback questions have been incorporated into each component.**

PRODUCTION PRACTICES

- **Part 1: Farm Review**

- Water
- Manure
- Animal/Wildlife
- Land Use



PART 1: FARM REVIEW

Water

- May be contaminated by a variety of biological and chemical hazards.
- Such as bacteria, viruses, domestic waste, heavy metals, synthetic or organic chemicals.



PART 1: FARM REVIEW

Manure

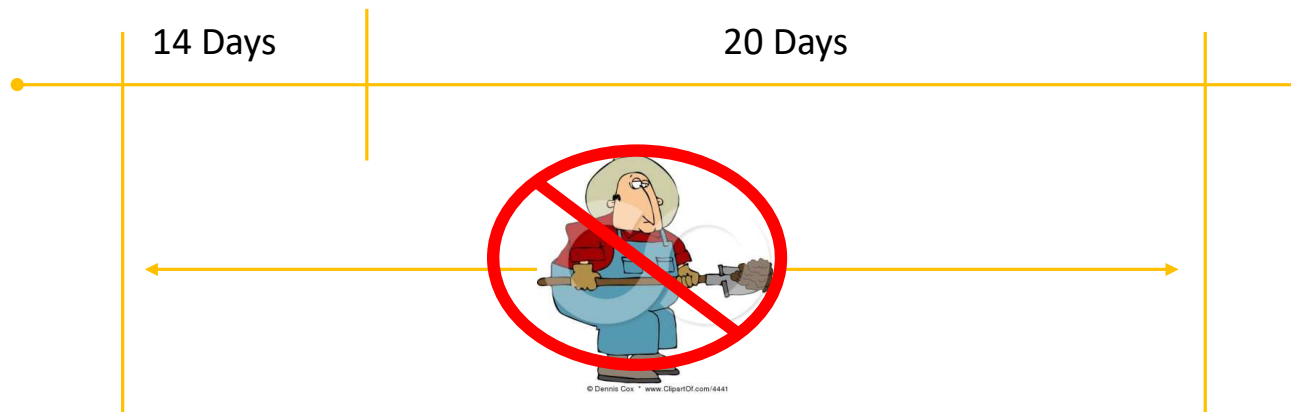
- What type is used?
 - Raw manure
 - Composted
 - Aged
 - None



PART 1: FARM REVIEW

Manure

- Is raw manure incorporated at least two weeks prior to planting and/or 120 days prior to harvest?



PART 1: FARM REVIEW

Manure

- Is the manure application schedule documented?



PART 1: FARM REVIEW

Animal/Wildlife

- Are livestock and wild animals restricted from growing areas?



PART 1: FARM REVIEW

Land Use

- Is the cropland prone to flooding?
- Is the land downhill from an animal production facility?
- Has the area ever been used for anything other than crop production?



PRODUCTION PRACTICES

Part 2: Field Harvesting & Field Packing

- Field Sanitation
- Field Harvesting and Transportation



PRODUCTION PRACTICES

Part 3: House Packing

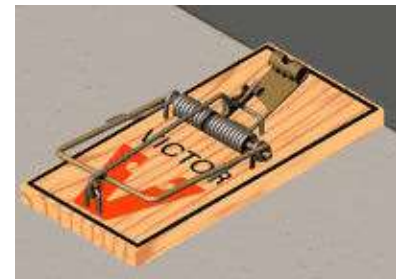
- Water use
- Packing Line Operation
- General Sanitation



PRODUCTION PRACTICES

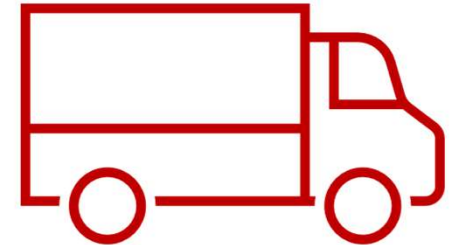
Part 4: Storage and Transportation

- Containers and Pallets
- Pest Control
- Temperature Control
- Transportation/Loading



PRODUCTION PRACTICES

- **Part 5:** Wholesale Distribution/
Terminal Warehouse



- **Part 6:** Preventative Food
Security Procedures



WHERE TO START?

- Formal GAP Audit
- GAP websites
- Extension Offices
- Self Assessment checklists
- Farmers with existing food safety plans
- Health Department



SELF ASSESSMENT CHECKLISTS

Iowa State University

- Five Major areas
- Voluntary
- Initiates conversation

Source:
<https://tinyurl.com/SAProduceChecklist>

Checklist for Retail Purchasing of Local Fresh Produce

It is important for buyers of fresh, whole produce to have assurances that safe food handling practices were followed on the farm and during delivery to their facilities. Growers can provide documentation of food safety assurances through a buyer's onsite review of their farm, a certificate of attendance at good agricultural practices (GAPs) trainings or Produce Safety Alliance (PSA) workshops, or with documentation from a third-party audit.



While some growers must comply with the Produce Safety Rule of the Food Safety Modernization Act (FSMA) and attend PSA trainings, it is not required for all growers, such as for growers of products not typically consumed raw or produce that will be further processed. Completion of this checklist can provide documentation to the buyer that GAPs were followed on the farm, and that the buyer took reasonable care when purchasing fruits and vegetables directly from a grower. This checklist can also guide the conversation between retail buyers of fresh produce and local growers as they establish terms of the purchasing arrangement to ensure safe food practices are followed.

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

Name of Producer/Farm _____

City _____ State _____ Zip _____

Telephone _____ E-mail _____

Total acres of fresh produce farmed _____ Availability of promotional materials YES NO

Products available for purchase:

Product Insurance Liability is held: YES (Dollar amount _____) NO

Is produce from the farm USDA Certified Organic? YES NO

(Note: USDA Certified Organic is a certification of practices and does not focus on food safety.)

Is the farm USDA GAP certified or food safety third party certified (such as SQF or GlobalGAP)? YES NO

Has the person in charge of the farm produce completed GAPs or PSA training? YES NO

Can buyers schedule a tour of the farm during the production season? YES NO

IOWA STATE UNIVERSITY
Extension and Outreach



North Central Region
Center for FSMA Training, Extension
and Technical Assistance

LEAFY GREENS SAFE HANDLING POSTER

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www.iowafoodsafety.org


MY health is in YOUR hands!



Poster #1004 Revised 2012 and 2013. Photo by Kim St. John.

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FOOD SAFETY IS IN MY HANDS
GERMS ON YOUR HANDS



Poster #1005 Revised 2012 and 2013. Photo by Kim St. John.

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I WON'T CROSS-CONTAMINATE! BY DOING THIS



Poster #1006 Revised 2012 and 2013. Photo by Kim St. John.

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Prevent Cross-Contamination: KEEP HANDS CLEAN! DO NOT TOUCH



Poster #1007 Revised 2012 and 2013. Photo by Kim St. John.

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WHOLE LEAFY GREENS DO'S DON'TS



Safe Food

Funded by USDA National Institute of Food & Agriculture, Award No. 2012-40000-27204.

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I MAKE THE DIFFERENCE! BAGGED LEAFY GREENS



Poster #1008 Revised 2012 and 2013. Photo by Kim St. John.

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THE YUCK STOPS HERE! GERMS FOUND IN PRODUCE



Poster #1009 Revised 2012 and 2013. Photo by Kim St. John.

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I MAKE THE DIFFERENCE! WHOLE LEAFY GREENS



Poster #1010 Revised 2012 and 2013. Photo by Kim St. John.

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BAGGED LEAFY GREENS DO'S DON'TS



Poster #1011 Revised 2012 and 2013. Photo by Kim St. John.

RESOURCES

- **Iowa State University**
 - *Checklist for Retail Purchasing of Local Produce*
 - www.extension.iastate.edu/HRIM
 - *Leafy Greens Safe Handling Poster Set*
 - <https://store.extension.iastate.edu/Product/14196>
- **USDA Produce Handling: Best Practices**
 - <https://tinyurl.com/USDAProduceHandling>

RESOURCES



- **Institute of Child Nutrition**
 - <https://theicn.org/icn-resources-a-z/produce-safety>

The screenshot shows the Institute of Child Nutrition (ICN) website. At the top, a green banner contains the text "Call The ICN Helpdesk 1-800-321-3054 | helpdesk@theicn.org" and a row of social media icons for Facebook, Twitter, Instagram, LinkedIn, YouTube, and Vimeo. Below the banner is the ICN logo, which includes the text "INSTITUTE OF child nutrition" and "RESOURCES • TRAINING • RESEARCH". To the right of the logo is a blue button with the text "Learn ANYTIME, ANYWHERE". Below the logo and button is a green navigation bar with the following links: Home, Child Nutrition Resources, Training, Child Nutrition Archives, ICN Consultants, i-Bites News, Contact ICN, and a search icon. The main content area has the heading "Produce Safety Resources" followed by two horizontal lines. The text below the heading reads: "The resources on this page are intended to advance your understanding of food safety for produce in child nutrition operations. School Nutrition professionals with particular interest in this topic are encouraged to sign up through their State Agencies to attend Produce Safety University, a week-long immersion course offered by USDA." Below this is another paragraph: "Fresh produce provides many nutritional benefits, but it must be handled safely to reduce the risk of foodborne illness. Harmful bacteria residing in soil or water may come into contact with fresh produce at any point during the plant's growth, harvest, processing, transportation, storage, preparation, or service. Fresh produce that is served raw does not go through a cooking step to kill any harmful bacteria that may be present before it is served to students, and, therefore has the potential to cause a foodborne illness."

QUESTIONS?



CERTIFICATES



COMPLETED

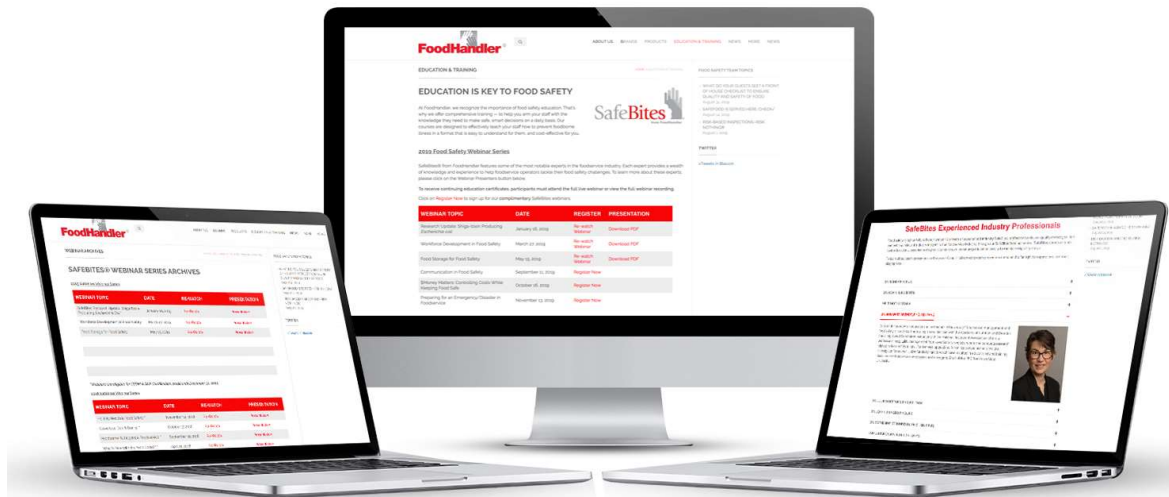
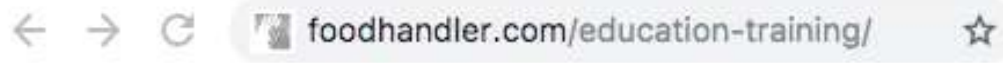
Certificates will be emailed out within 5-7 business days, following today's webinar.



WEBINAR RESOURCE



For more information about our webinars and registration:



FOODHANDLER FOOD SAFETY RESOURCES



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

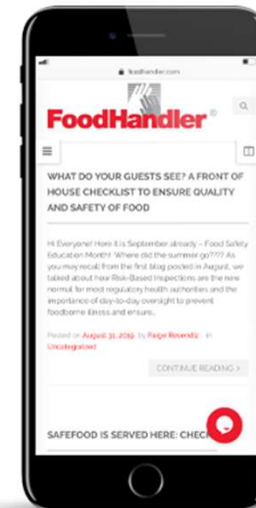


FOODHANDLER FOOD SAFETY RESOURCES



Past Blogs

- Emergency Preparedness
- Hand Hygiene
- Reopening Best Practices
- Allergies in Foodservices
- Identifying a Foodborne Illness
- Holiday Food Safety



FOODHANDLER FOOD SAFETY RESOURCES



Please send us your questions or comments at:
FoodSafety@foodhandler.com

The screenshot shows an email composition window titled "Questions & Comments". The window has a menu bar with "Message" and "Options". Below the menu bar is a toolbar with various icons for formatting and actions. The email fields are as follows:

- From: Bunzlusa (Paige Resendiz)
- To: FoodSafety@FoodHandler.com
- Cc:
- Subject: Questions & Comments

The body of the email contains the following text:

Hello Food Safety Team!

I have a question about the proper dilution for

THANK YOU FOR JOINING US!

