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EXTENSION



2024

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Upcoming Webinars

See you in 2025!



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2024 *field to fork*

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Presenter

Audio Settings ^



Chat



Raise Hand



Q&A

Leave

- **Please complete the short online survey** that will be emailed to you after today's webinar. It will take just a couple minutes!
- Be sure to sign up for an opportunity to win a prize in the drawing. After submitting the survey, a form to fill out with your name/address will appear.

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May 1

Growing Produce Safely for Consumption, Sales or Donation

Londa Nwadike, Extension Associate Professor of Food Safety, Kansas State University and University of Missouri Extension



- Importance of food safety
- Produce safety regulations/certifications
- Growing produce safely basics
- Food donations basics



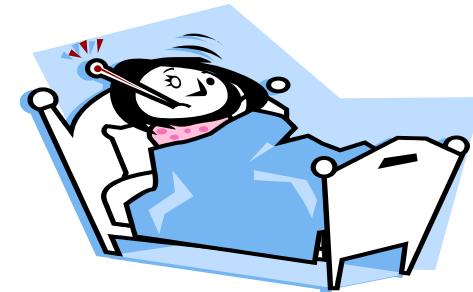
- Provide products as safe as possible
- Protect markets - reduce liability (sales/donation)
- Assure customers that product quality and safety, and their health, is important to you
 - impresses customers
- Meet regulations (mainly sales)



- Many safety practices also help quality
 - Temperature control
 - Sanitation
- More pounds of product to sell
 - Reduce product water loss
- Prevents early spoilage and bad appearance- extends shelf life
 - Lost sales and profits



- Each year, CDC estimates 1 in 6 people get sick from foodborne illness in US
 - ~48 million get sick; ~128,000 hospitalized
 - ~3,000 deaths
 - Highly under-reported **
 - Does occur in small scale production
- Outbreaks continue to occur
- Affects markets; **reduces consumer confidence**
- Populations most vulnerable to foodborne illness are the young, old, pregnant, and the sick



Produce Safety: Certifications and Regulations

- Good Agricultural Practices
 - Good practices for raising produce safely
- GAPs certification
 - NOT regulatory requirement; market driven
 - Required by certain produce buyers, banks
 - Administered by USDA or 3rd party



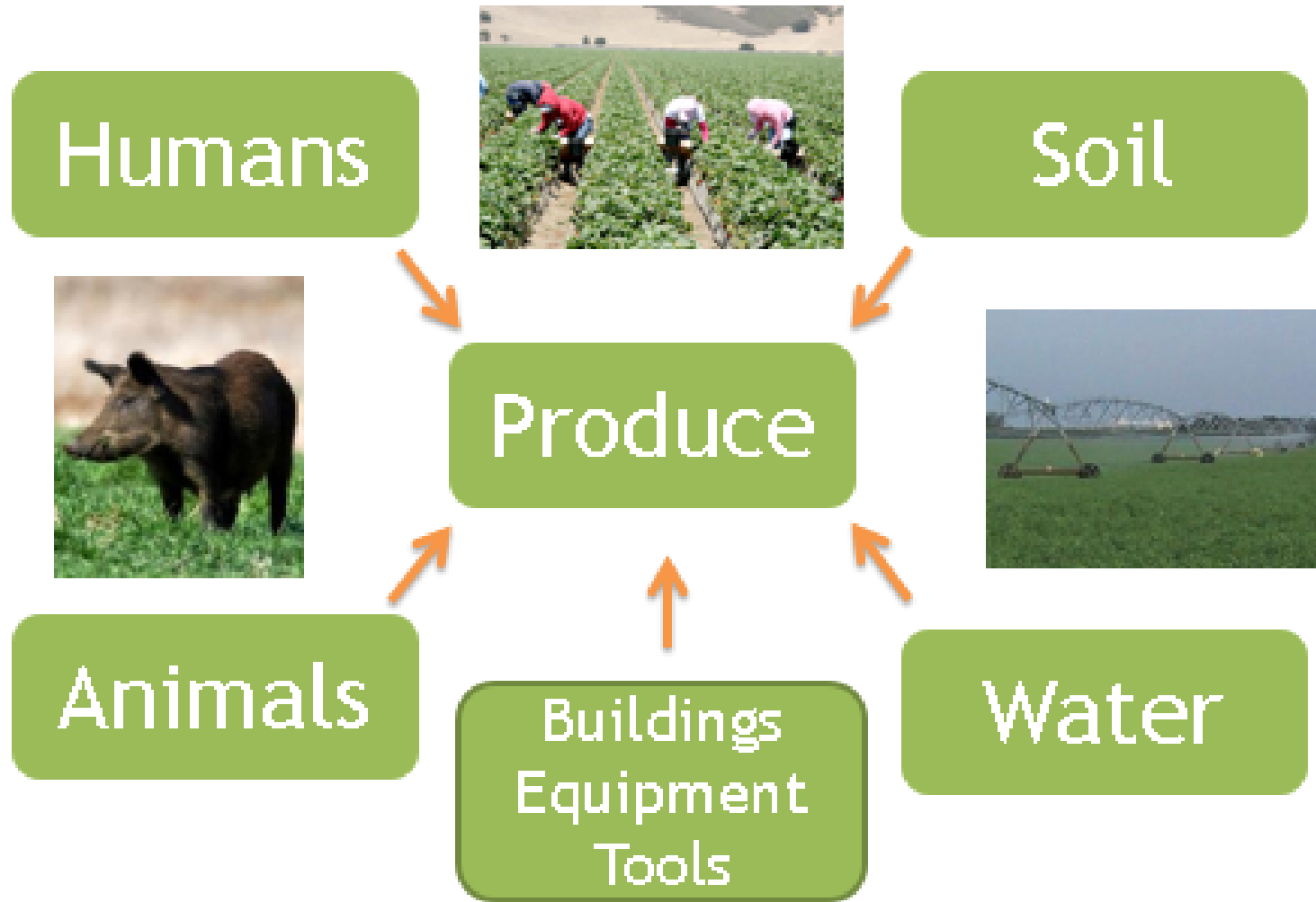
Produce Safety Rule

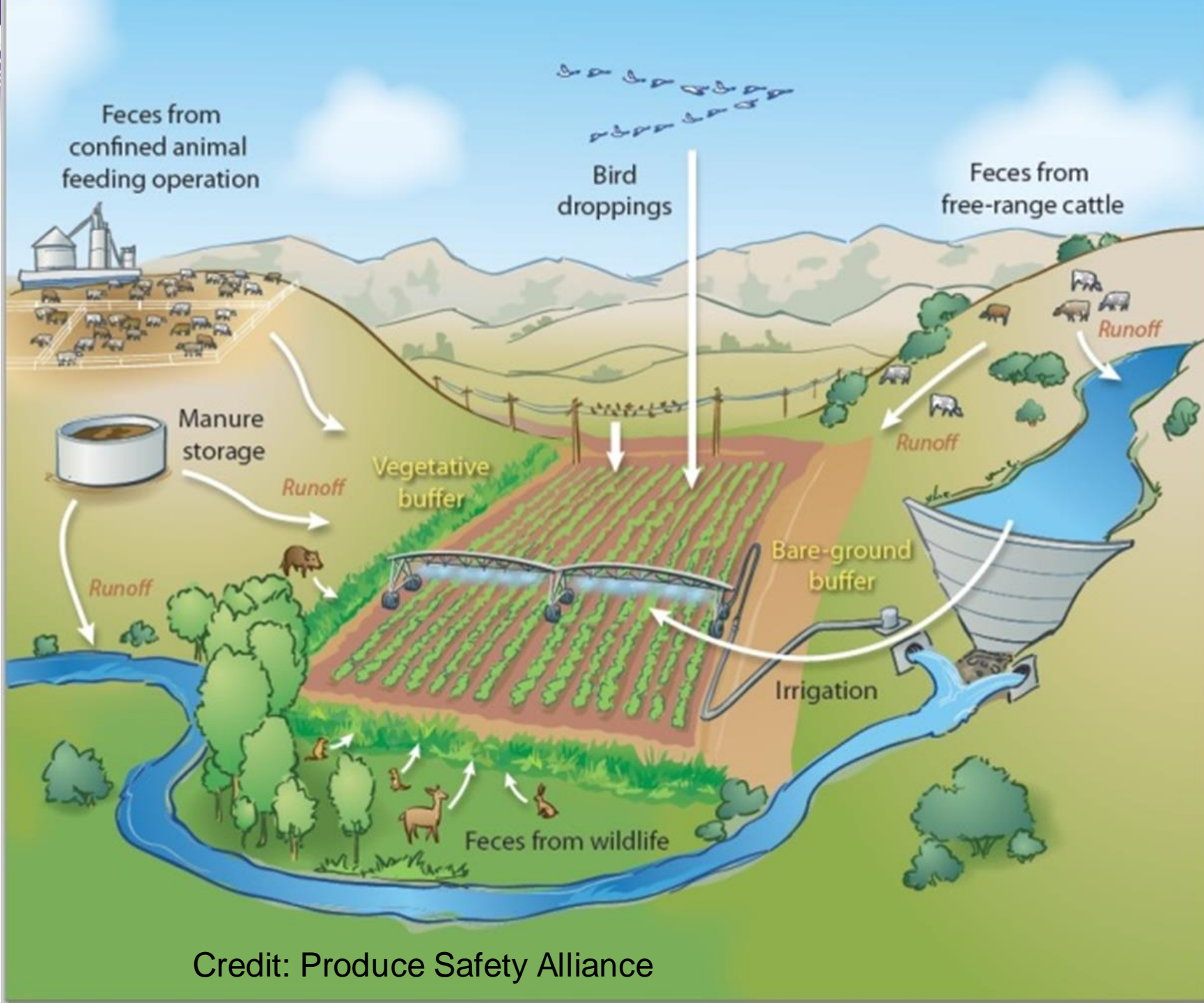
- Final rule released in November 2015
- Focus on growing, harvesting, packing, holding produce
- First ever government regulation for the production, harvest, and handling of fruits and vegetables
- Similar requirements to USDA GAPs (buyer requirement)



Who is covered?

- Sell \leq \$25,000/ year in produce sales (on average over previous 3 years) **EXEMPT**
- Produce is rarely consumed raw (pumpkin) **EXEMPT**
- Produce that will be commercially processed before consumption (tomatoes sold to a canner) **EXEMPT**
- On average (over past 3 years), have
 - <\$500,000 annual food sales AND
 - Majority of food sold directly to “qualified end user”
 - **EXEMPT, but** have some record-keeping requirements
- Everyone else covered; NO exemption if linked to foodborne disease outbreak





Credit: Produce Safety Alliance

Raw manure and other soil amendments can be a source of contamination if not properly handled and applied.

- Application too close to harvest
- Improper/incomplete treatment
- Improper storage
- Runoff
- Wind spread
- Cross-contamination due to improper sanitation procedures



Credit: Produce Safety Alliance

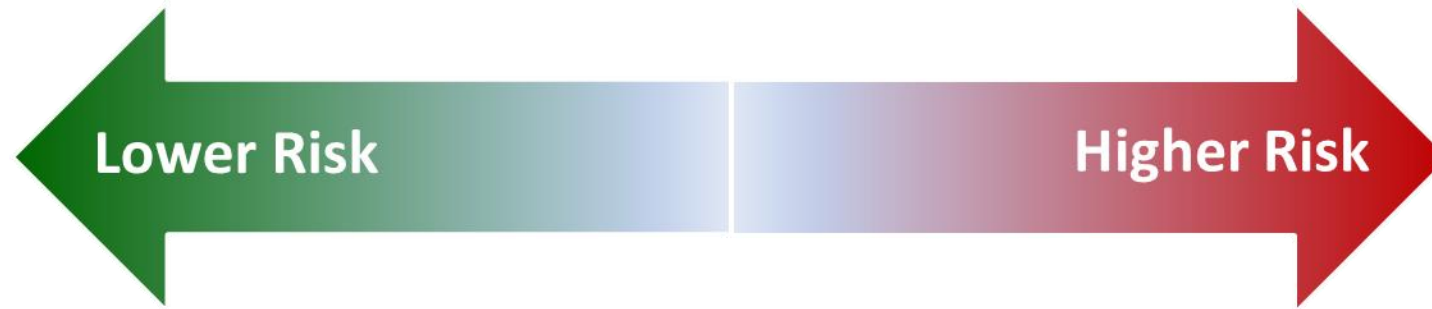
- 120 days between raw manure application/livestock rotations and harvesting
 - Where edible portion is in contact with soil
 - Edible portion not in contact with soil (i.e. sweet corn), 90 days



Where do you use water in your produce operation?

How can you reduce potential contamination from water in your produce operation?

Probability of Contamination



Public Water Supply



Treated

Ground Water



Surface Water



Open to
Environment

- Test all water sources
 - Using municipal water- get results from city
 - Well and surface waters- good idea to get tested
- Production water = Recreational Water Quality
- Post-harvest water = Potable
 - No detectable generic E.coli/100 mL water sample



- Domesticated and wild animals can carry and transmit human pathogens to produce
 - Animal feeding, rooting, and movement through fields
 - Animals can contaminate water sources
 - Manure runoff
- Prevention measures, monitoring, and measures taken if intrusion or possible contamination
- Do Not harvest produce that is visibly contaminated with feces or likely to have been contaminated



Minimizing Animal Contamination (and Crop Damage)

Decoys



Fencing & Netting



Harvest Containers and Tools



Clean and sanitize
harvest tools

Washable harvest containers

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*Knowledge
for Life*

M Extension

Prioritizing Cleaning and Sanitizing

Zone 1
(direct food
contact surface)

Zone 3
(floor)



Zone 4
(outside)

Zone 2
(outside surface
of washer)

- Dirty surfaces can contaminate produce- need to CLEAN!
- Keep areas outside packing areas clean and mowed

Washing and Cooling-1

- For some produce, it is better for the producer NOT to wash
 - Tomatoes, berries, green beans, cabbage, peas, peppers
- If you do wash, need to do it properly
 - Improper washing can spread contamination



Washing and Cooling-2

- Clean wash water-- Potable
- Cleanable surfaces
- Change wash water often
- Monitor sanitizer solution
- Clean packing containers



- Important for safety AND quality
 - eg. Strawberries: 1 hr at field temp (90° F) may = 1 week at 32° F
- Allow airflow between containers
- Cool down **ASAP**
- Maintain the cold chain
- Shade vehicle



The “KoolKat” mobile refrigerated unit, of K-state Olathe Horticulture Research and Extension Center

- Clean/ sanitize surfaces after transporting non-food contaminants
 - (manure, compost, livestock, meat, chemicals, etc...)
- Protect surfaces with tarps
- Cover produce during transport



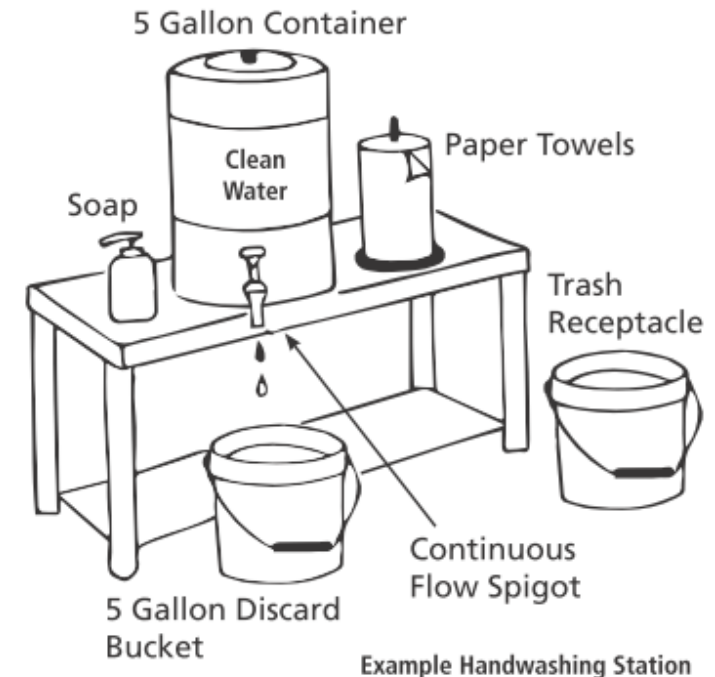
Workers can spread pathogens to produce because they directly handle fruits and vegetables.

- Improper health and hygiene practices
 - Lack of adequate training and handwashing practices
 - Lack of or inadequate toilet facilities
- Don't touch produce if have diarrhea, fevers, jaundice, vomiting
 - No blood touching produce
- Need to train workers on this

Credit: Produce Safety Alliance



- Accessible, clean, stocked bathrooms are available for workers and visitors
- Always have hand-washing site
 - Running water, soap and clean towels located near toilet facilities and break areas
 - Wash hands for 20 seconds





- Recordkeeping includes documenting practices, monitoring, and corrective actions
- There are many templates available
- Recordkeeping should be convenient, or else it will not get done
- Records must be signed and dated after they are reviewed
- Keep all records for at least 2 years

Sample Illness/Injury Reporting Log

Name of Farm: XXXXXXXXXX Farm

Please use the form below only for record-keeping reporting purposes.

Date	Name of employee	Injury/Illness Reported	Details (Date and Approximate Location, and to Whom Reported)	The Reporting Person's Name (Print)	Initials
1/20/14	JANE JOHNSON	Cut Finger while handling produce	Reported incident, advised supervisor, accident & damage report filed for OSHA record keeping in farm	Joe	EGH

Prepared by: _____ Title: _____ Date: _____

On-Farm Director: The District, Extension, and Training—12-11-13-2014
P.O. Box 650, Manhattan, KS, 66506-0650, and 66000, 2014

- Gets you thinking about YOUR farm and practices
- Keeps you organized so you can focus your time and resources more effectively
- Gives you a plan to follow and assure everyone is involved
- Documents your progress
- Is required by third part audits and some buyers
- Is not required by the FSMA Produce Safety Rule

- Workshops scheduled to help with farm food safety plans, including providing record keeping templates

Extension Food Safety



- Home
- People
- Topics of Interest
- Food Preservation
- Produce Safety Toolkit**
- FSMA
- GAPs
- Food Safety Plan
- Additional Resources
- Events

On-Farm Produce Safety

[FSMA Guidelines and Help](#)

[Good Agricultural Practices \(GAPs\)](#)

[Food Safety Plan](#)

[Additional Resources](#)

Events for You!

For information on scholarships to attend GAPs, FSMA, or other produce safety training events below, please contact:

Kansas growers

[Kansas Center for Sustainable Agriculture and Alternative Crops](#)

Kerri Ebert
785-532-2976
kebert@ksu.edu

Donating Safe and Nutritious Food to Food Pantries and Soup Kitchens

Londa Nwadike, Ph.D.
Kansas State University
University of Missouri Extension Food Safety Specialist

Introduction

The United States has an abundance of food; yet many people in the U.S. still suffer from food insecurity and use food assistance such as food pantries and soup kitchens. Much of the food in the U.S. food supply is wasted but some of it could be utilized by hungry families. In fact, it is estimated that 30 to 40 percent of the food supply is wasted (not available for human consumption) in the U.S., with 31 percent food loss at the retail and consumer levels. Donations of safe and healthy food by food retailers and consumers to entities such as food pantries and soup kitchens can help provide food to hungry families and also reduce food waste.

Some groups may be reluctant to donate food that would otherwise be wasted because of the fear of liability if the food they donate makes someone sick. Therefore, in 1996, the U.S. Congress passed the Bill Emerson Good Samaritan Food Donation Act to reduce potential donor liability if donations are made in good faith. In particular, this act can help grocery stores, restaurants, and similar retail organizations feel more comfortable donating food rather than needlessly sending food to the landfill.

However, it is critical that the food donated to such entities is as safe and nutritious as possible so that more people have access to safe and healthy food, rather than just whatever food has been in the back of someone's cupboard too long. This lesson provides food safety tips for people who are donating food to such entities, as well as for groups organizing food drives.

Donating Food to a Food Bank or Pantry

When donating food to a food bank or food pantry, it is important to not just "clean out your



cupboard" and donate the foods that you don't want or can't use anymore. Food pantries also do not want to waste food, but do not want to provide unsafe or unhealthy food to their customers either. Cash donations are also greatly appreciated by food banks and food pantries.

In order to help people maintain the balance of not wasting food but also providing safe and healthy food to food banks and food pantries, here are some answers to frequently asked questions on the topic:

Can I donate "expired" food? **NO**

- Do NOT donate food that is past its "best by," "use by," or "sell by" date. More information on these dates on food product labels is available from Kansas State University Research and Extension¹.

- An important source of food for families trying to make ends meet
- A way for neighbors to help neighbors
- Instill values of caring and sharing in families and children
- Bill Emerson Good Samaritan Food Donation Act- 1996
 - Reduces liability if donations made in good faith



- Donations help provide food to hungry people and also reduce food waste
- 30% of U.S. food supply is wasted at retail and consumer levels
- Contact your local food pantry to see if they accept produce



- **Food Pantries and Food Banks- North Carolina State Univ**
<https://foodsafety.ces.ncsu.edu/food-pantries-and-food-banks/>
- **University of Wisconsin Safe Food Pantries**
<http://fyi.uwex.edu/safehealthypantries/>
- **University of Missouri Healthy Shelves resources**
<http://foodsecurity.missouri.edu/healthy-shelves/>
- **KSU Extension Food Safety- includes food waste reduction**
www.ksre.k-state.edu/foodsafety

Questions?

ksre.ksu.edu/producesafety

Londa Nwadike
Inwadike@ksu.edu

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