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Learning Objectives

- Identify food safety risk that can lead to cross contamination in the garden
- Illustrate the proper hand washing procedure

Produce Outbreaks Increased

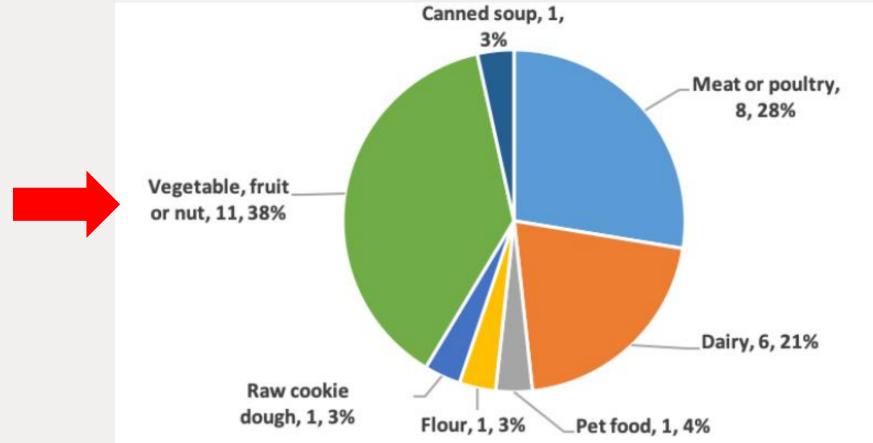


Figure 1. Demonstrates that of the 29 food recalls that "poisoned" the most people in the U.S. between 1985 and 2017, the highest number of recalls, 11, was of vegetable, fruit, or nut products (Water Quality and Health Council 2020)

IOWA STATE UNIVERSITY Reference: Benard, B.K., Golodner, L. (2019) Food Recalls in the United States: Examining the Data. Access from: https://waterandhealth.org/disinfect/food_safety/food-recalls-in-the-united-statesexamining-the-data/ on May 2022.

Extension and Outreach Painter, J. A., Hoekstra, R. M., Ayers, T., Tauxe, R. V., Braden, C. R., Angulo, F. J....Griffin, P. M. (2013). Attribution of Foodborne Illnesses, Hospitalizations, and Deaths to Food Commodities by using Outbreak Data, United States, 1998–2008. Emerging Infectious Diseases, 19(3), 407-415. https://doi.org/10.3201/eid1903.111866.

GROWING TOGETHER: FOOD SAFETY IN DONATION GARDENS



Produce Safety Concerns with Animals

- More likely to harbor human pathogens
- Spread contamination around fields as they move
- Limit their access to fields and work to ensure contaminated produce is not harvested

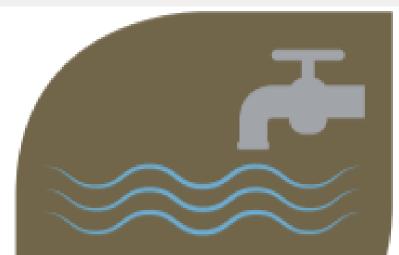




Langholz, J., & Jay-Russell M. (2013). Potential role of wildlife in pathogenic contamination of fresh produce. *Hum Wildlife Interact,* 7(1), 140–157.

Jay, M.T., Cooley, M., Carychao, D., Wiscomb, G.W., Sweitzer, R.A., Crawford-Miksza, L., Farrar, J.A., Lau, D.K., O'Connell, J., Millington, A., Asmundson, R.V., Atwill, E.R., & Mandrell, R.E. (2007). *Escherichia coli* O157:H7 in Feral Swine near Spinach Fields and Cattle, Central California Coast. *Emerg Infect Dis*, 13(12), 1908–1911.

Use appropriate water source



Use municipal (drinking) water to rinse and remove visible dirt from produce.

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- Pathogens can be introduced to fresh produce through water sources
- Water quality is important to manage the critical risk during production

Higher Risk

Lower Risk

- Water sources
 - Surface

Beuchat, L.R. (2006). Vectors and conditions for pre-harvest contamination of fruits and vegetables with

pathogens capable of causing enteric diseases. Brit Food J, 108(1), 38-53.

- Ground (well)
- Municipal (recommended)

Containers & Equipment Safety

- Workers, water, soil, animals, adjacent equipment surfaces
- Food contact surfaces should be:
 - Non-toxic, non-absorbent
 - Durable, able to withstand corrosion
 - Able to be easily cleaned and sanitized





Schmidt, R., & Erickson, D. (2005). Sanitary Design and Construction of Food Equipment. University of Florida/IFAS Extension. http://edis.ifas.ufl.edu/pdffiles/fs/fs11900.pdf

Handwashing

1. Wet hands with water

2. Apply soap and lather

- Be sure to wash the front and backs of hands as well as in between the fingers
- Rub hands together for AT LEAST 20 seconds
- 3. Rinse hands thoroughly with clean water
- 4. Dry with a paper towel

- -Turn off faucet with used towel
- 5. Throw the paper towel in a trash can



When Must Hands Be Washed?



After using the toilet

Before starting or returning to work

Before and after eating and smoking

Before putting on gloves

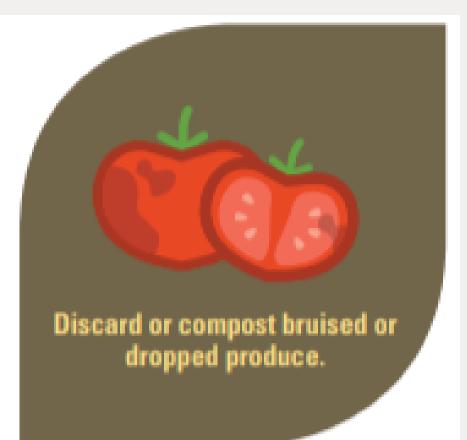
After other time hands may become contaminated

Available at: https://store.extension.iastate.edu/product/12559



Entry for Contamination

Bruised, punctured, or damaged produce provide – entry for contamination for foodborne pathogens



IOWA STATE UNIVERSITY Extension and Outreach Alegbeleye, O. O., Singleton, I., & Sant'Ana, A. S. (2018). Sources and contamination routes of microbial pathogens to fresh produce during field cultivation: A review. Food microbiology, 73, 177–208. https://doi.org/10.1016/j.fm.2018.01.003

Transportation Considerations



- Variety of transportations sources
- Best practice is to:
 - Use <u>CLEANED & COVERED</u> transportation (i.e., large SUV; tarp, bed cover, etc.)
 - If vehicle is used for other activities such as carrying live animals or compost, please <u>clean</u> <u>and sanitize</u> before use.

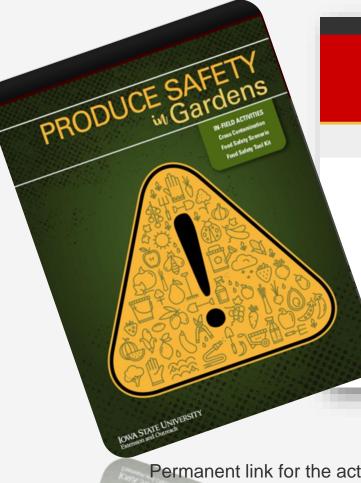


Thompson, J., Kader, A., & Sylva, K. (1996). Compatibility chart for fruits and vegetables in short-term transport or storage. Oakland: University of California, Division of Agriculture and Natural Resources. Publ. 21560. http://postharvest.ucdavis.edu/Commodity_Resources/Storage_Recommendations/Compatibility_Chart_for_Shortterm_Transport_or_Storage/

Personal Protection

Restrain hair No eating or smoking on facility grounds Do not work while sick (i.e., fever, diarrhea, vomiting, etc.) No excessive jewelry Wear clean clothing

Program & Resources in Iowa



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luman Sciences	🔐 Donate	
Home Family - Food - Finance - Focus - Courses and Training Eve	nts	
Description: Preparing fresh produce is easy if you have the information you need and a f store, clean, prepare, and preserve various fresh fruits and vegetables. Intended audience: Adults Format: 2 hours	ew skills. Learn how to OGJUL 9:00 AM	ice Basics

Permanent link for the activities: https://store.extension.iastate.edu/product/16131



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CONTACT INFORMATION

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