Post-Harvest Food Safety

Purdue University
Feng Lab

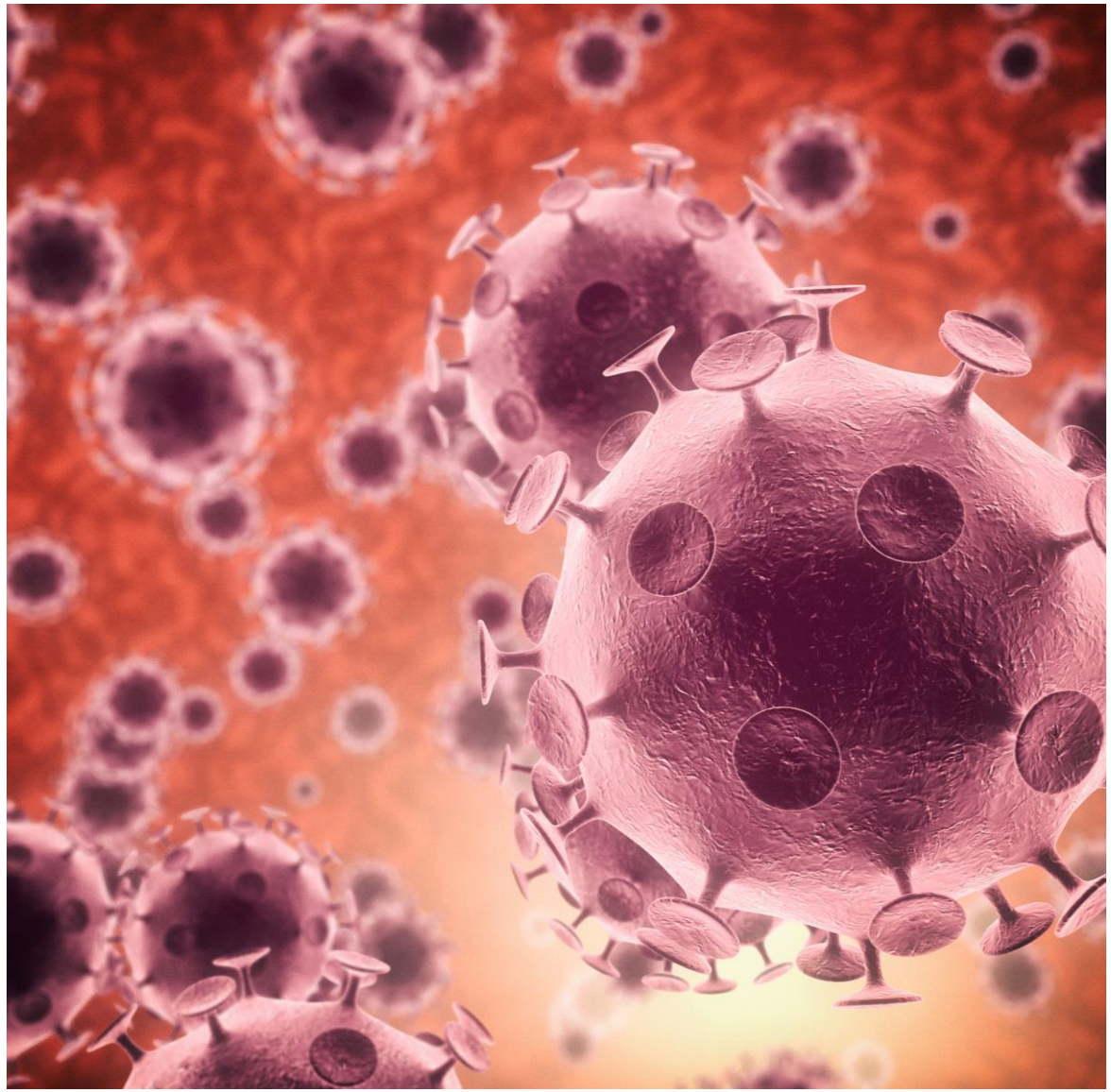
Post-Harvest Water

What is Post-Harvest Water?

- Rinsing
- Icing
- Washing
- Moving Produce
- Cooling
- Handwashing
- Waxing
- Any food contact surfaces

Why is post-harvest water a concern?

Post harvest water may introduce the risk of biological contamination to produce



Post-Harvest Water Safety Tips

No detectible generic E. coli in 100 mL water sample

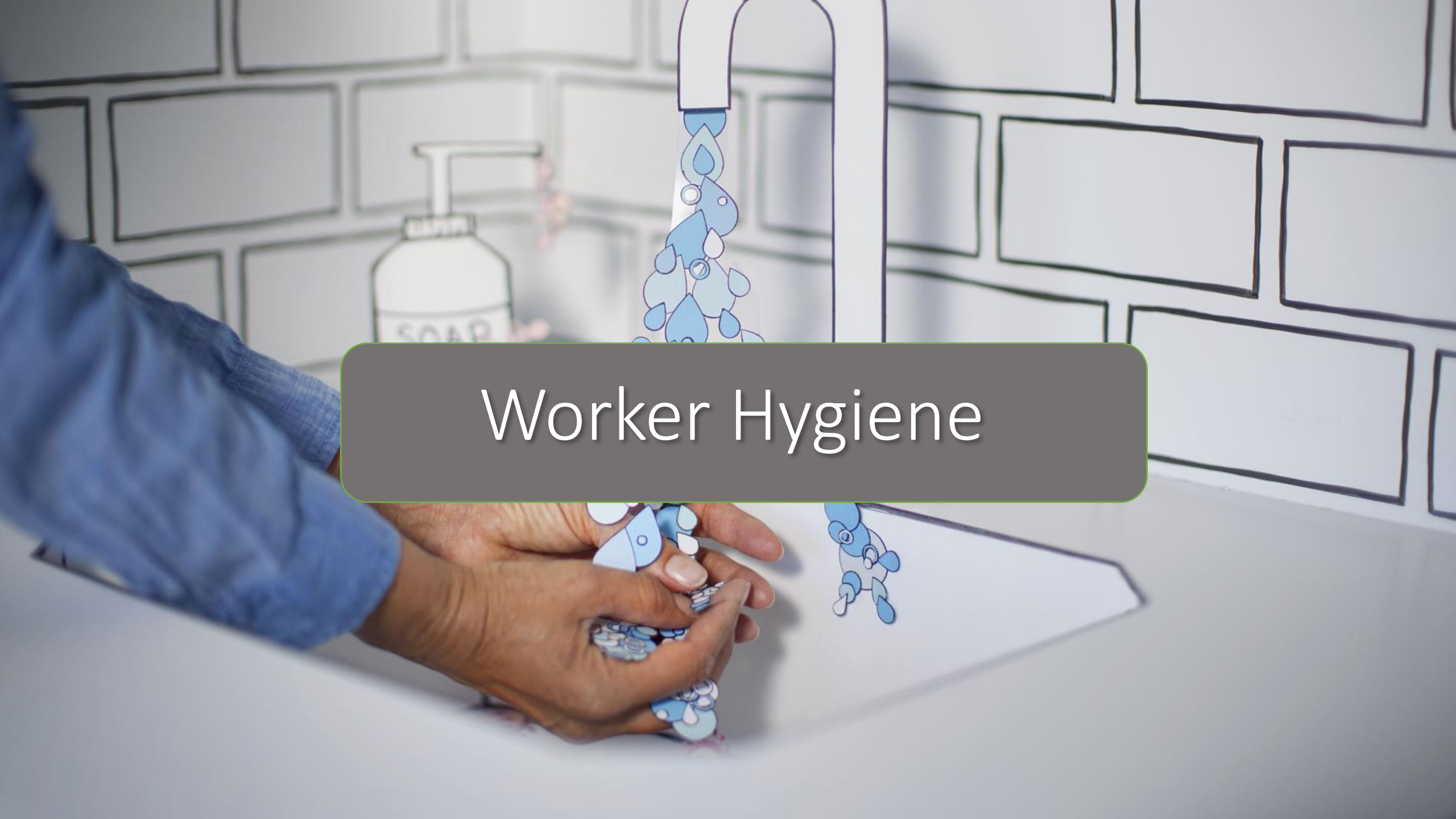
Sanitizer use to prevent cross contamination between batches

Change water when dirty

Clean and sanitize tanks/bins washers

Monitor water temperature to prevent infiltration

Document all post harvest activities



Worker Hygiene

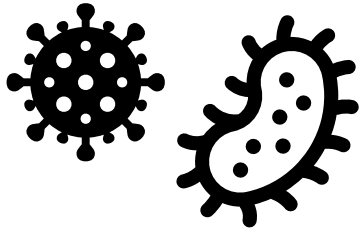
Why is Worker Hygiene Important?

Sources of Harmful Microorganism	Examples of Harmful Microorganisms
Feces from people or animals	*Salmonella*
Contaminated raw food ingredients	Norovirus
Ill coworkers	Pathogenic *E. coli* (*E. coli* O157:H7)
Contaminated surfaces	Hepatitis A

Why is Handwashing Important?

- ☑ Prevent illness and spread of harmful microorganism
- ☑ Removes microorganisms from hands

Remember That:



People frequently touch their face	**Microorganisms can get into food**	**Microorganisms can be transferred to surfaces**

When to Wash Your Hands

- Before entering the production area 
- Every time you return to the production area 
- After using the restroom 
- After sneezing or blowing your nose 
- After returning from lunch 

Transitioning from Field to Produce Handling Areas

Change dirty clothes

Hair and beard nets

Wash hands with hot soapy water

Facility Sanitation

Produce Handling Areas

Cleaning vs. Sanitizing

Cleaning

- The removal of any type of soil

Sanitizing

- A process that destroys vegetative cells of pathogens and reduces other undesirable microorganisms

Cleaning and Sanitation Steps

Step 1 Rinse with water

- No detectible generic E. coli in 100 mL sample
- Rinse top to bottom
- Remove majority of soil

Step 2 Scrub

- Scrub surface with appropriate detergent
- Remove the rest of the soil

Step 3 Rinse with water

- No detectible generic E. coli in 100 mL sample
- Rinse bottom to top

Step 4 Sanitize

- Apply sanitizing method (follow direction on sanitizer label)
- Thermal or Chemical
- Apply top to bottom

Facility Pest Management

- Don’t use baited traps inside packing areas
- Keep doors and windows closed as much as possible
- Store produce at least 1 foot from the walls to aid in visual inspections and trap monitoring
- Keep produce covered when possible
- Maintain a physical record of pest management system and record when traps are set

Chemical and Physical Contamination

What are Chemical Hazards?

Naturally Occurring

- Allergens
- Mycotoxins

Unintentially Present

- Detergents
- Oil from Equipment
- Pesticides
- Allergens

Chemical Hazard Prevention

Proper sanitation to avoid allergen cross contamination

Use only food grade equipment, lubricants, oils and other chemicals

Keep cleaning products in a separate location from pesticides and in clearly labeled areas

What are Physical Hazards?

Physical	Example Sources
• Glass • Metal • Plastic • Wood	• Broken lights • Poorly maintained equipment • Debris from field

Physical Hazard Detection

- Metal detectors
- Magnets
- X-ray
- Visual inspection of equipment

Regulations to Consider

Food Safety Modernization Act (FSMA)

- Preventive Controls for Human Food Rule
- Preventive Controls for Animal Food Rule
- Produce Safety Rule
- Foreign Supplier Verification Rule
- Sanitary Transport Rule
- Food Defense Rule
- Third Party Accreditation and Certification Rule

7 Rules of FSMA

Produce Safety Rule

Agriculture Water	Biological Soil Amendments	Sprouts
Domesticated and Wild Animals	Working Training and Health and Hygiene	Equipment , Tools and Building

Food Safety Modernization Act (FSMA)

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About 48 million people in the U.S. (1 in 6) get sick, 128,000 are hospitalized, and 3,000 die each year from foodborne diseases, according to recent data from the Centers for Disease Control and Prevention. This is a significant public health burden that is largely

Content current as of:
06/09/2022

Regulated Product(s)
Food & Beverages

Law(s) & Regulation(s)
Food Safety Modernization Act


Thank you!

Acknowledgement

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