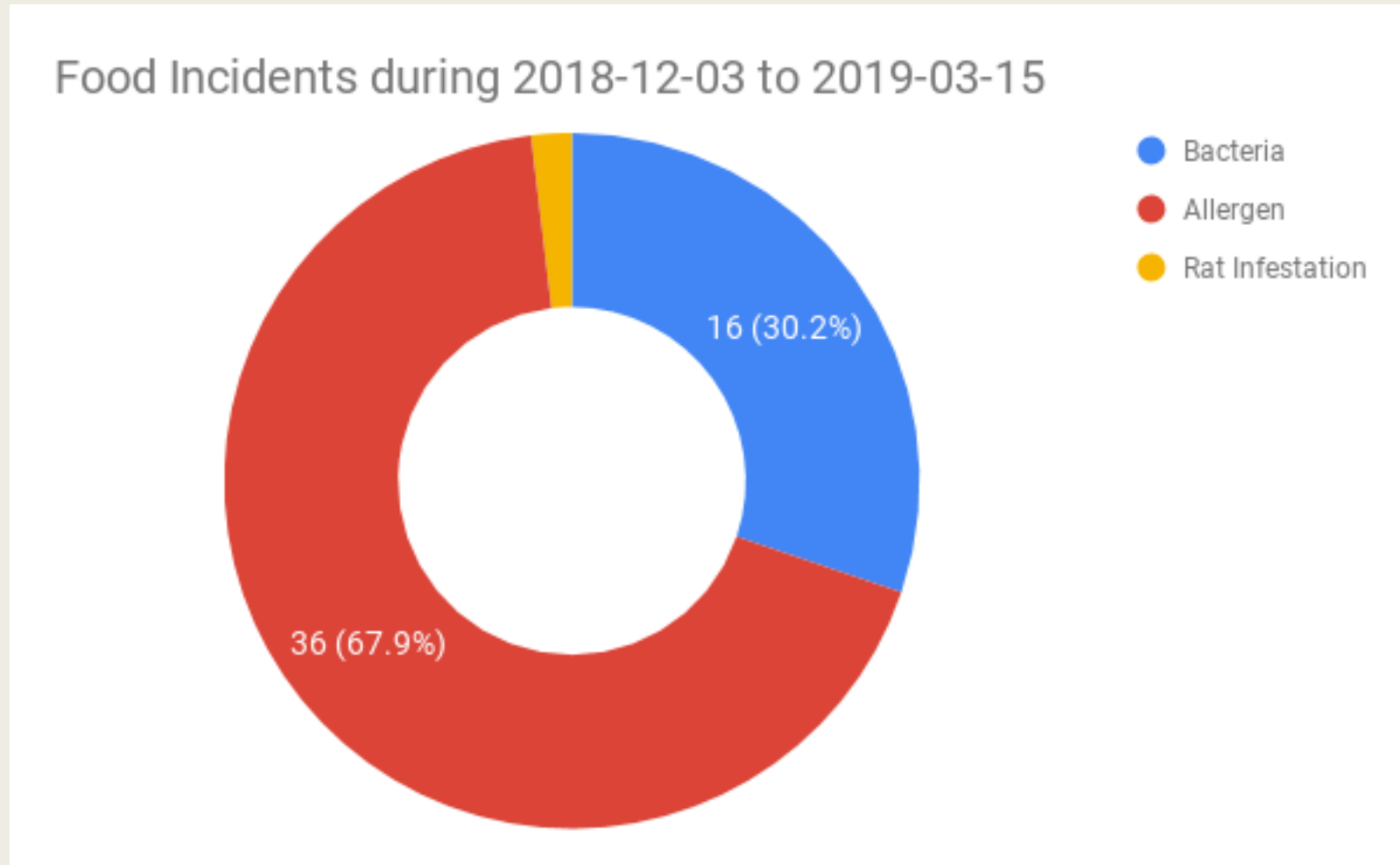


A decorative frame consisting of two thick black L-shaped brackets. One bracket is in the top-left corner, and the other is in the bottom-right corner, framing the central text.

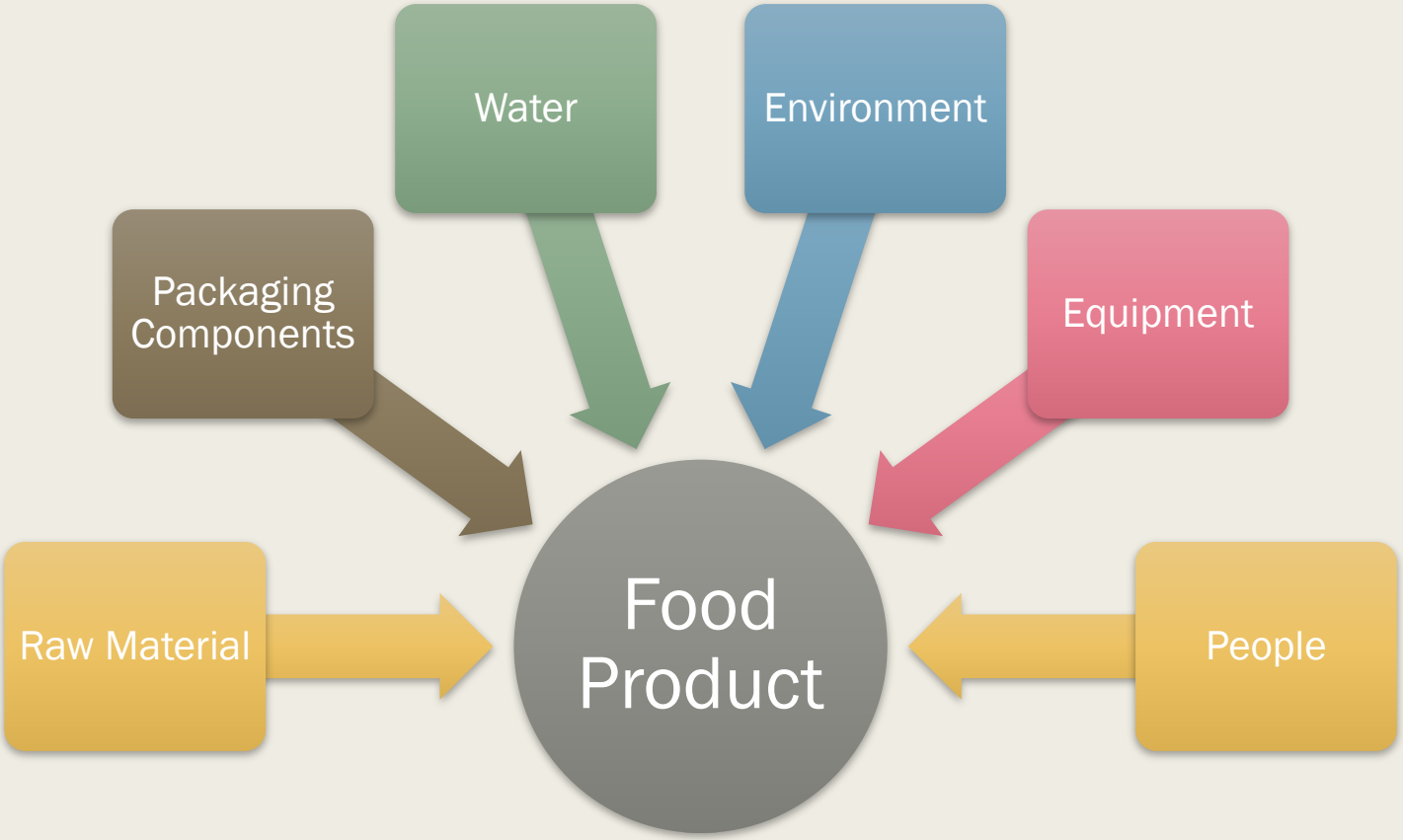
Contamination Control In Food Manufacturing

By Savi Subra

Recent Food Related Recalls-Statistics.



Sources of Contamination



Control of Plant Operation pt. 1

- SOPs (Standard Operating Procedures)
- FIFO (First In First Out)
- Specifications (Specs.)
- Traceability
- HACCP Training
- GMP Training
- COA
- Receiving and Shipping Program
- Certified Suppliers
- Conveyance Vehicles
- Packaging Labels
- Storage Facility
- MSDS



Control of Plant Operation pt. 2

■ Temperature Control

- *Shelf-Stable Foods*

- Keep hot foods hot at 60°C (140°F) or higher
- Keep cold foods cool at 4°C (40°F) or colder

- *Danger Zone: (4°C / 40°F - 60°C / 140°F)*

- Avoid passing foods through this zone



Control of Plant Operation pt. 3

- Packaging
 - *Protects food from contamination / damage during transport & distribution to consumer*

- Packaging Controls
 - *Environmental Conditions*
 - Clean, sanitary area and equipment
 - One-way product flow
 - *People Controls*
 - **Handlers of raw products should not package RTE**
 - Operators should be properly trained

Control of Plant Operation pt. 4

■ Waste Handling

- *Solid, liquid, inedible, recycling can cause contamination*
- *Regular removal from food handling areas, at least daily*
- *Use leak-free, covered containers, cleaned and sanitized between use, identified and covered*
- *Bio Hazardous waste should be incinerated before disposal*
- *Acid Waste should be kept in well defined ,proper Storage Containers*



Food Handling

■ Prevention

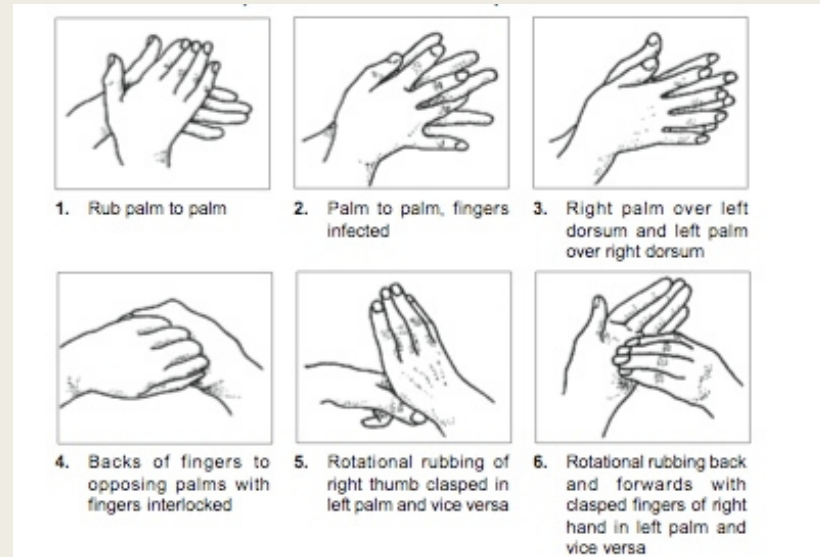
- *Do not move cooked / RTE into raw product handling areas*
- *Follow sanitization procedures for all utensils, equipments, and food contact surfaces*
- *Minimize handling of RTE / cooked products*
- *Good Personal Practices:*
 - **Wash Hands**
 - **Clean & Sanitize Food Contact Surfaces**
- *Avoid Allergen Cross-Contamination*
- *Color Coding*

Color of Bottle Cap	
Tan	
Pink	
Red	
Gray	
Dark Green	
Yellow	
Dark Blue	
Purple	
Orange	
Turquoise	

Hand Washing

■ Hands Contact-

- Food
- Food Contact Surfaces
- Ingredients
- Packaging
- Door Knobs
- Telephone/Cell Phone
- Pick things from Floor
- Touch Body Parts-esp,Face
- Place things in the Garbage
- And More...



Personal Protective Gear

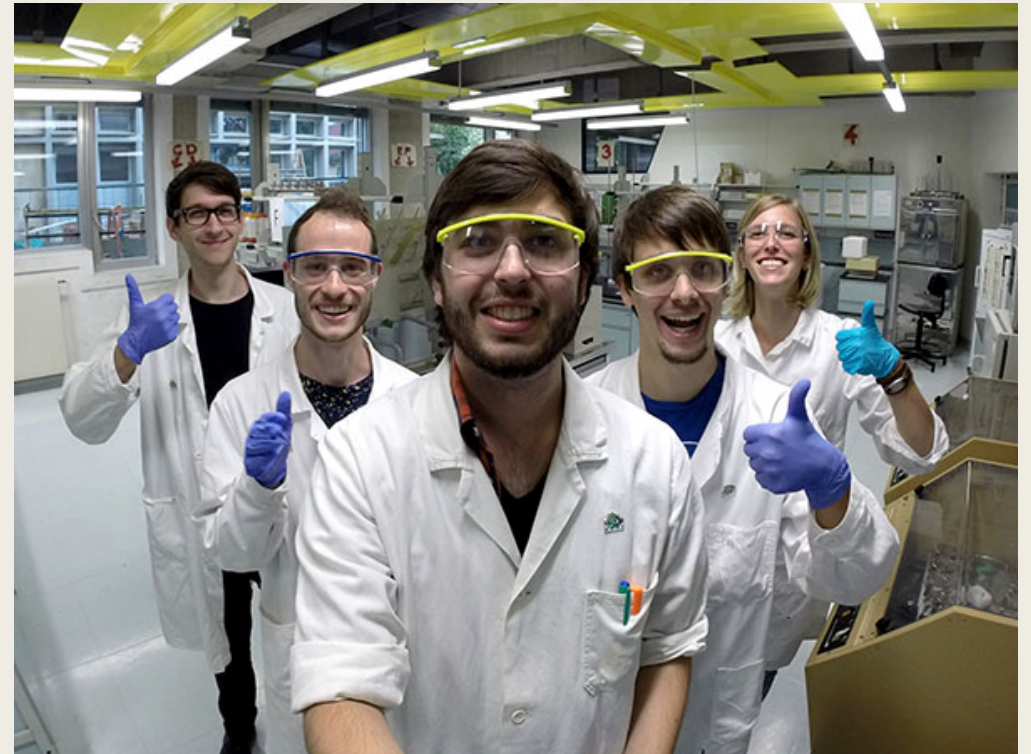
Safety Glasses

Safety Shoes

Disposable Gloves

Clean Uniform/Aprons

Hair Nets



Pest Control Program

- Pest Control
 - *Risks of Pest Infestations:*
 - Transmission of Disease
 - Damage to food, supplies, property
 - Bad publicity
 - *Problematic Pests:*
 - Rodents
 - Insects
 - Birds



Pest Control Program pt. 2

- Corrective measures
 - *Written action steps to be performed*
- Verification & Validation
- Integrated Pest Management (IPM):
 - *Inspection*
 - *Layout Analysis*
 - *Identification*
 - *Exclusion*
 - *Sanitation*
 - *Treatment strategies*
 - *Maintenance & Monitoring*

Microbial Control

- To prevent spread of infectious agents
- Delay Spoilage
- Keep Products Safe
- Maintain Balance between People & Microbes

Methods:

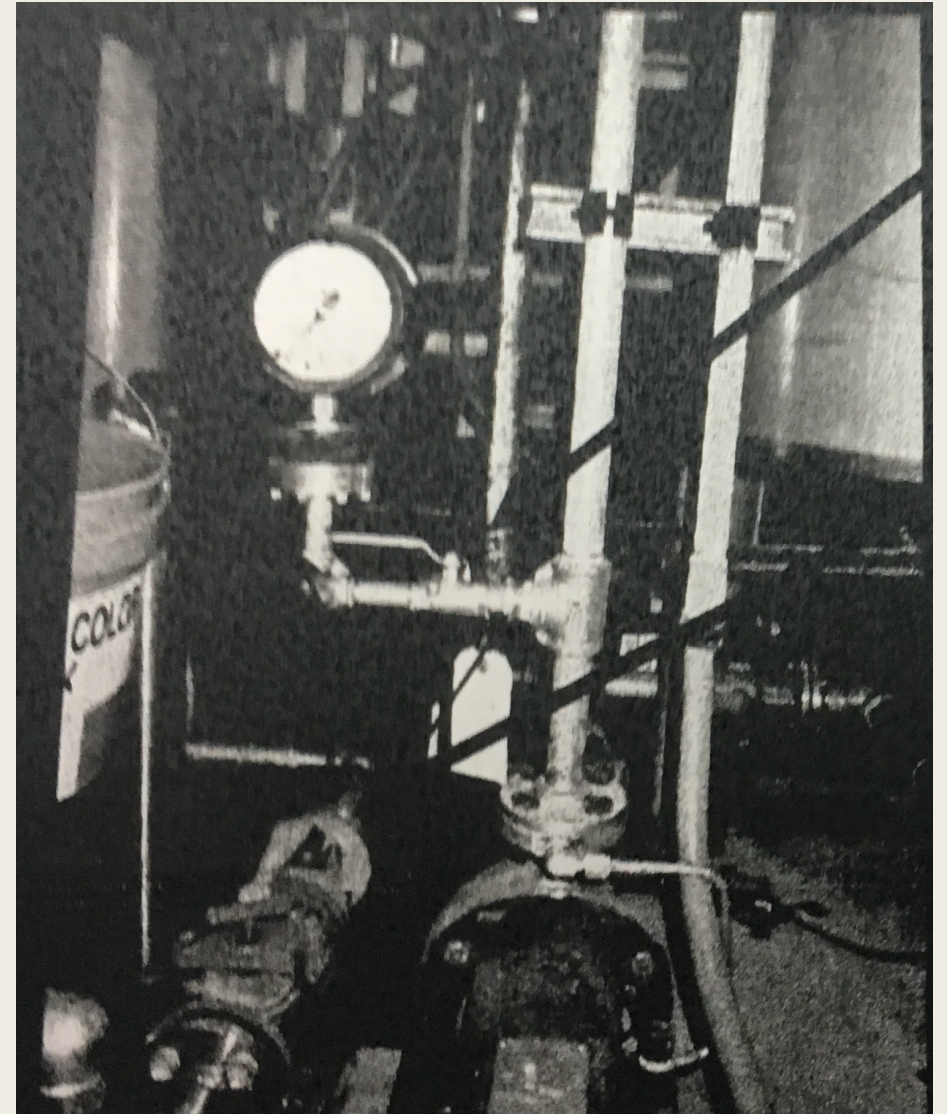
- *Physical-----Sterilization*
- *Chemical-----Disinfectants & Sanitizers*

Microbial Control - Corrective Action

- Contact Higher Authorities
- Stop Operation
- Conduct Investigation
- Implement Corrective Action
- Documentation
- Verification

Dead Legs and Fittings

- Dead Legs
- Biofilm
- Test
- Validate
- Control



Water

- Source
- Potable/Well Water
- Water Testing
- Water Activity
- Specifications
- Water Purification
- Control



Control & Critical Control Monitoring

- Critical Control Point (CCP)

- *A point, step, or procedure to which control can be applied and microbial contamination can be prevented, eliminated, or the risk reduced to acceptable levels*

- Control Point

- *Any process point, step, or procedure which is controlled by such programs as GMPS, validated SOPs, work instructions, etc.*



THANK YOU FOR LISTENING!

Any questions?

If No,
Let's Do-Pranayama—Yoga for 3 Minutes

Follow Me

