

Principles of Packinghouse Food Safety

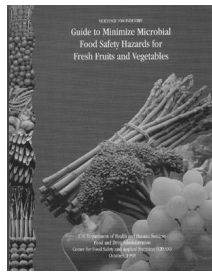
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Why is Sanitation Important?

- ✘ Unsanitary conditions provide inoculum for decay causing organisms.
 - Increased product loss to decay.
- ✘ Unsanitary conditions promote contamination with human pathogens.
 - e.g. *Cyclospora* on raspberries and lettuce.

"Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables."

- Buyers are requiring suppliers to follow these guidelines.



From "Field to Fork"

- ✘ Effective sanitary practices are part of an integrated program from "field to fork."
- ✘ Prevent contamination.
 - Once product is contaminated, it is difficult to remove the pathogens.
 - The major source of contamination comes from human or animal feces.


Possible sources of contamination

- ✘ Foreign materials or debris – e.g. metal, glass, wood, etc.
- ✘ Nearby or previous loads – e.g. frozen or chilled meats.
- ✘ From insects, rodents, etc.


Possible sources of contamination

- ✘ Cleaning materials – e.g. contaminated recycled water, residual sanitizer or detergent, etc.
- ✘ Poor hygiene of handlers (including inspectors).
- ✘ Contaminated water.

Water



- ✎ Use clean, potable water.
 - Know the quality of irrigation water and water used in the packinghouse.
 - Test for bacteria, protozoa and viruses.
 - Sanitize recirculated water systems.




Manure & Biosolids


- ✎ Assure manure or biosolids are properly treated to reduce microbial hazards.
 - Isolate treatment areas away from fresh produce fields.
 - Minimize animal access to fresh produce fields.

Hygiene


- ✎ Encourage sick employees to stay home.
- ✎ Cover employee wounds so they do not contact product.



Hygiene



- ✎ Train employees to follow good hygiene practices.
- ✎ Maintain sanitary, well-supplied toilets and sinks.




Field sanitation

- ✎ Maintain sanitary field and harvest environments.
 - Clean and sanitize harvest equipment, bins and storage containers before use.
 - Provide toilet and handwashing facilities for field workers and harvesters.
 - Handle produce carefully to prevent injury.




Packinghouses

- ✎ Produce from many groves pass through here!
 - Any errors preharvest, can contaminate clean fruit at the packinghouse.
 - Errors at the packinghouse are amplified.



Packinghouses

✘ Keep dirty fruit from the field separated from the clean, packed fruit.

- Wash dirty fruit outside the packinghouse.



Packinghouses

✘ Clean and sanitize packing areas, storage rooms, and equipment. Prime sites for pathogen growth are:

- Areas that remain wet.
- Plant debris left on the line or packinghouse floor.



Photo Courtesy of Jeff Brecht

Packinghouses

✘ Handle produce carefully to prevent wounds and remove injured product from the facilities.

✘ Maintain an effective pest control program.



Distribution



✘ Insure that all parties understand product and sanitary requirements.

✘ Clean, sanitize & check that equipment is in good working order.

Distribution

✘ Watch for incompatibilities of previous or current mixed loads (e.g. with animal products).

✘ Maintain optimum temperatures.




Traceback

✘ Maintain good records.

- Traceback will be covered in more detail by Dr. Renee Goodrich later in the program.





For more information see:

<http://postharvest.ifas.ufl.edu>