TRACKING FOOD PRODUCTS FOR QUALITY, SAFETY, AND EFFICIENCY

A FOOD INDUSTRY PERSPECTIVE ON TRACKING INVENTORY AND ENSURING QUALITY ATTRIBUTES

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Taking on the Future

Voluntary Food Safety Guidelines for Fresh Produce
Scope

- Address major risk areas associated with microbiological hazards on produce
  - Field through shipping point
  - Recognize that safety assurance systems through entire food chain are imperative
Guidance Objectives

- Focus industry’s attention on potential sources of microbiological hazards
  - Water
  - Manure
  - Worker, field, facility sanitation
  - Transportation and handling
Guidance Objectives

- Industry consensus on key issues
  - Traceback
  - HACCP
Water

- Risk Potential
  - Cryptosporidium
  - Cyclospora
  - E. coli 0157:H7
  - Shigella

- “In general, operations in which produce comes in direct contact with water require a correspondingly high level of attention paid to water quality”
Water

- Risk Awareness
  - Irrigation water, crop protection sprays
  - Pre-cooling operations: Hydro-coolers, Hydro-vacs, top icing
  - Water dump tanks
  - Rinse water
In field washing and packing of celery hearts
In field spray washer
Chlorination controls
Well providing water for operations
Hydro-cooler
Well providing water for operations
Water treatment for Hydro-cooler
Hydro-cooler for celery and broccoli
Hydro-cooling asparagus - Gonzales
Manure

Risk Potential

- Widespread recognition that animal manure can harbor many human pathogens
  - *E. coli* 0157:H7
  - *Salmonella*
  - *Cryptosporidium*
Manure

- Risk Awareness
  - Composted and uncomposted manure as a soil amendment and fertilizer
  - Livestock operations
  - Feral animals and birds
Animals can be a source of contamination
“Good sanitation practices provide the foundation upon which any food production, handling and distribution operation supplies quality, safe food.”
Training for Employees

All personnel, including those indirectly involved in fresh produce operations, must comply with hygienic practices. Operating program; to be familiar with infections diseases, lesions, etc., and to assure all workers and visitors follow Good Hygienic Practices.
Hair restraint instructions for food handling areas and insect barriers - Philippines
Worker Sanitation and Hygiene

Risk Potential

Without proper sanitation, dirty hands continuously gather and spread germs to surfaces they contact.
Pathogens that can be spread by dirty hands
Guidelines for effective hand-washing
Bilingual signage - Philippines

HUGASAN ANG MGA KAMAY
PAGKATAPOS GUMAMIT
NG PALIKURAN.

WASH YOUR HANDS
AFTER USING THE
COMFORT ROOM.
Hand washing and hand drying - Philippines
Hand washing station - automatic shut-off - Thailand
Boot washing facility - Thailand
Soap and towel dispensers for hand washing
In a statement directed at farm workers, FDA cited the importance of using toilet facilities to reduce the potential for cross-contaminating fields, produce, other workers and water supplies.
Worker sanitation and hygiene

Toilet facility supplies should include toilet paper, basin, water, liquid soap, sanitary hand drying devices, and a waste container.

All facilities should be kept clean and sanitary and should be cleaned on a regular schedule.
In field sanitary units and drinking water
Hand drying with towers -- in field Salinas
Worker Sanitation and Hygiene

- Risk Awareness
  - Restroom facilities should be readily available and clean
  - Handwashing (gloves are not the answer)
  - Employee training
Field toilets being pumped out
Storage of personal items -- in field Salinas
Field and Facility Sanitation

- Risk Awareness
  - Restroom facilities and supplies
  - Waste management
  - Bins, containers
  - Animals
Product on bed of leaves
Transportation and Handling

- Risk Potential
  - Cross contamination from “potentially hazardous foods” may occur
Risk Awareness

“Wherever product is transported and handled the sanitation conditions should be evaluated, especially between links in the distribution chain.”

- Preparation for loading
- Condition of produce hauler
- Cold chain maintenance
- Work with distributors and customers
Field packing celery
Icing equipment adjacent to refrigerated storage
Traceback

- Limit liability to the responsible party
- Mitigate unwarranted damage to the reputation of an entire commodity
- Lessen the economic burden on those not responsible

Encourage industry consideration
Applicability of HACCP to the Produce Industry

- HACCP does not have broad applicability
- Hindered by lack of scientific information
The guidelines focus on risk reduction, not risk elimination, by addressing the root causes of food safety problems.

- Prevention of contamination.
- Minimize hazards by using GAP’s.
- Most contamination by pathogens comes from human and animal feces.
- Water source and quality dictate the potential of that water to contaminate produce.
Guidelines

- Use of manure or municipal bio-solids should be closely monitored.
- Work hygiene and sanitation practices are critical.
- All local, state and federal rules related to agricultural practices should be understood and obeyed.
- Establish a system for accountability at all levels of your agricultural environment (farm, packing facility, distribution center and transportation operation). This should include growers.
Spreading of cattle manure
Irrigation water pumped from pond through sand filters
Sand filters at a pumping station
Setting irrigation by overhead boom
Setting irrigation by overhead boom
Irrigation water in a lined pond
Grower/shipper requirements

- Water Quality -- see general requirements for water
- Field History
- Use of Manure
- Worker Hygiene
- Field Management
Grower/shipper requirements (Continued)

- Facility operation and sanitation
- Temperature Control
- Traceback Mechanisms
- HACCP where applicable
Transportation requirements

- Vehicle condition (cleanliness, prior use, working condition)
- Temperature during loading and unloading
- Appropriate transportation conditions
- Data monitoring for transportation environment
- Visual and data information on product
Water is a critical component of many stages. In the distribution system, water can be used for icing, hydro-cooling, backroom and prep areas, misting/fogging, handwashing, restrooms, equipment cleaning, facility cleaning, tool cleaning, and produce cleaning.
Employee hygiene

- Appropriate handwashing
- No jewelry, discourage fake nails
- Disposable gloves must be changed like handwashing
- No infectious diseases (cuts, flu, diarrhea, etc.)
- Hair restraint
Employee hygiene
(Continued)

- Eating, drinking, chewing, smoking (designated areas)
- No spitting
- No pilfering or eating product
- Maintain personal items in designated areas
Product cooling

Hold produce at appropriate temperatures. Fresh cut at 33-41°F. Other products vary with category. Keep thermometers calibrated, check pulp temperatures. Keep temperature logs. If temperature not in range, evaluate and pull, if necessary.
Storage

- Keep produce away from chemicals/pesticides
- Never store directly on floor
- Prevent cross-contamination
- Use FIFO
- Order volumes appropriate for sales
Storage (Continued)

- Store product at appropriate temperature quickly
- Remove any spoiled or problem product, clean area
- Maintain proper temperature and humidity