

Health and Hygiene for Growers

Food Safety Basics



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INTRODUCTION

In the last thirty years, the number of foodborne illness outbreaks linked to fresh fruits and vegetables has increased (Sivapalasinagam, et al, 2004). The most common pathogens implicated in foodborne illness linked to fresh produce include *Cyclospora cayetanensis*, *Escherichia coli* O157:H7, Hepatitis A, *Listeria monocytogenes*, Norovirus, *Salmonella* spp., and *Shigella* spp. (USDA FDA Guide to Minimize Microbial Hazards in Fresh-cut Fruits and Vegetables). The primary source of these pathogens on fresh produce is animal or human fecal material which results from indirect or direct contact with soil, wild and domestic animals, workers, and water. Worker hygiene and personal health practices are critical in reducing the risk of microbial contamination during production, hand harvesting, sorting, packing, and transportation of fresh fruits and vegetables.

Fresh produce safety begins on the farm and ends at consumer's tables. Each and every one of us has a personal responsibility for food safety beginning on the farm. Microbial contamination can spread on the farm or packing facilities by employees who are ill, unwashed hands or contaminated gloves, improper glove use, eating/smoking on the job, employees with open cuts or wounds, employees touching their face and mouths with their hands, inappropriate toilet practices, and improperly disposing of items like toilet paper and paper towels.

WORKER HYGIENE AND TRAINING

Simple steps like effective and frequent hand washing, appropriate use of toilets, and asking employees to report illnesses can minimize the risk of having a foodborne illness linked with your farm. Good Agriculture Practices for Worker Hygiene and Training include (Rangarajan et al. Food Safety Begins on the Farm: A Grower Self Assessment of Food Safety Risks):

- On-farm posted signage instructing workers of personal hygiene requirements. **Best Practice:** Signs are posted instructing workers to use toilet facilities and to properly wash their hands after using the toilet, smoking or eating.

- Signage in appropriate languages or uses diagrams for non-English speaking or illiterate workers.
Best Practice: Personal hygiene signage is provided in appropriate language or via diagrams so workers can read and understand.
- Worker Illness reporting.
Best Practice: Workers are required to report illness and if ill, given non-food contact jobs. Supervisors reassign workers who appear to be ill.
- Record keeping of worker training.
Best Practice: Records are kept documenting dates and attendance at training, standard operating procedures, and copies of training materials.

Special Note: The Grower Self Assessment is available on-line by visiting <http://www.grower.com/cornell.edu/farmassessmentws.html>.

WORKING WITH EMPLOYEES: Handwashing, Health, and Hygiene

1. Training is focused on personal hygiene for workers
2. Training positively reinforces health behaviors
3. Grower provides handwashing stations
4. Grower provides adequate toilet facilities
5. Grower provides employee accommodations

TOILETS and HANDWASHING FACILITIES

Poor handwashing practices are one of the leading causes of documented outbreaks of foodborne illnesses. The easiest way of preventing the transmission of fecal material from hands to the field is to have adequate toilets and handwashing facilities for farm workers, visitors, and customers. Good Agriculture Practices for Toilets and Handwashing Facilities include (Rangarajan et al. Food Safety Begins on the Farm: A Grower Self Assessment of Food Safety Risks):

- Clean toilet facilities for farm workers, visitors, and customers.
Best Practice: Facilities provided for everyone who handles fruits and vegetables in the field, processing and packing areas, and in storage and shipping areas. They are monitored daily to insure cleanliness.
- Toilets and handwashing maintenance and stocking with supplies.
Best Practice: Facilities are stocked with ample supply of handwashing items including soap, water, paper towels, and toilet paper. Supplies monitored daily.
- Location of field toilet in relationship to workers.
Best Practice: Readily available for use within ¼ mile work or as close as they can be given farm landscape.

- Location of field toilets in relation to crop.
Best Practice: Portable toilets are located out of the produce crop field, in an area physically isolated from all produce production or handling areas.
- Collection of grey water from handwashing facilities in the field.
Best Practice: System in place.
- Emergency containment of treatment plans for portable toilets.
Best Practice: A documented emergency containment and treatment plan is in place and all workers have received training for management of a spill.
- Servicing areas for portable toilets.
Best Practice: Portable toilets are serviced and cleaned in an area that is physically isolated from all produce production or handling areas.
- Ratio of toilets to workers.
Best Practice: Number of toilets and handwashing stations is sufficient to accommodate all workers in a timely fashion.
- Record keeping of toilet and handwashing facility cleaning and maintenance for farm audit, certification, and traceback.
Best Practice: SOPs are written for all aspects of toilet and handwashing facilities maintenance, sanitation, and emergency spill containment. Records are kept documenting implementation of the SOPs.

WORKING WITH CONSUMERS and U-PICK OPERATIONS

If you're thinking that consumers follow safe procedures when handling produce, you might want to reconsider. In a national study focused on consumer handling of fresh produce completed by Li-Cohen and Bruhn with 2,000 randomly selected households, 6% of consumers said they seldom or rarely wash produce and 35% never wash melons before preparation. 23% placed raw meat, poultry, and fish above other foods, including fresh fruits and vegetables. Almost 50% indicated they did not wash their hands before preparing produce. Women, lower-income households, and people over 65 years of age and non-college graduates reported safer food handling practices than men, higher-income households, people younger than 65 years, and college graduates (Li-Cohen, AE and C. Bruhn).

If you have a U-Pick Operation, let customers know about your commitment in following Good Agricultural Practices. Have soap, water, and paper towels available for them and ask them to do their part by washing their hands before picking any produce. Also, remember to keep all pets out of the fields.

If you have a farmer's market, tell consumers about your growing practices that protect them from foodborne illnesses. And, talk with them about handling produce appropriately at home.

RESOURCES

Food Safety Begins on the Farm: Good Agricultural Practices for Fresh Fruits and Vegetables

Cornell University. Robert Gravanni and Elizabeth Bihn.

www.gaps.cornell.edu

Information includes Grower's Guide for Fresh Fruits and Vegetables, Grower Self Assessment of Food Safety Risks, Employee Training Programs, Health & Hygiene Posters in English and Spanish, Worker Publications in English and Spanish, Training Videos in Multiple Languages, a Coloring Book in English and Spanish.

**Check out the website for connections to national collaborators in 25 states.*

Guide to Minimize Microbial Food Safety Hazards of Fresh-cut Fruits and Vegetables.

U.S. Department of Health and Human Services, Food and Drug Administration, U. S. Department of Agriculture, Center for Food Safety and applied Nutrition, Appendix B, (Washington, D.C.: U.S. Department of Health and Human Services, 2008.

<http://www.cfsan.fda.gov/~dms/guidance.html>

Guidance document addresses food safety hazards and good agricultural practices for "fresh-cut produce". Because it is a guidance document and not a regulation, the guide does not have the force and effect of law and thus is not subject to enforcement.

Good Worker Health & Hygiene Practices: Training Manual for Produce Handlers.

University of Florida, IFAS Extension

Amy Simonne, Jeffrey Brecht, Steve Sargent, Mark Ritenour, and Keith R. Schneider

<http://edis.ifas.ufl.edu/FY716>

The employee training tool was developed for Florida owners, managers, and supervisors. Materials are based on the FDA-GAPs, FDA-GMPs, FDA Model Food Code, recommendations from the American College of Occupational and environmental Medicine, and other publications from government agencies. It also includes posters, videos, fact sheets, and check lists for managers.

FDA Farm Investigation Questionnaire: Worker Health and Hygiene.

Department of Health and Human Services, Food & Drug Administration. 2005.

http://www.fda.gov/opacom/morechoices/fdaforms/FDA-3623b_508.pdf

Example of the form used for an investigation of an outbreak linked to fresh fruits and vegetables.

Field Sanitation Standards.

US Department of Labor, Occupational Safety and Health Administration

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10959

References

Hart Research Associates and Public Opinion Strategies. Memorandum: Results of a National Survey on Produce Safety.

<http://www.producesafetyproject.org/tools/pdf/files/0007.pdf>. 9-17-08. pages 1-4.

Li-Cohen AE, Bruhn, CM. Safety of consumer handling of fresh produce from the time of purchase to the plate: A comprehensive Consumer Survey. *J. Food Prot.* 2002 August; 65(8) 1287-96.

Matthews, Karl (Editor). *Microbiology of Fresh Produce: Emerging Issues in Food Safety*. Blackwell Publishing Company. 2006.

Rangarajan, A., E.A Bihn, M.P.Pritts, and RB Gravani. *Food Safety Begins on the Farm: A Grower Self Assessment of Food Safety Risks*. Department of Food Science and Department of Horticulture. Cornell University, Ithaca, NY. 2003.

Sivapalasingam, S. Frieman, C.R., Cohen, L., and R.V. Tauxe. 2004. Fresh Produce: A growing cause of outbreaks of foodborne illness in the United States, 1973-1997. *J. Food Prot.* 67(10):2342-2353.

U.S. Department of Health and Human Services, Food and Drug Administration, U. S. Department of Agriculture, Center for Food Safety and applied Nutrition, *Guide to Minimize Microbial Food Safety Hazards of Fresh-cut Fruits and Vegetables, Appendix B*, (Washington, D.C.: U.S. Department of Health and Human Services, 2008.

