

Food Safety on the Farm: Good Agricultural Practices and Good Handling Practices – Packing Facility Sanitation¹

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As part of the Food Safety on the Farm series, a collection that reviews the generally recognized principles of GAPs as they relate to produce, primarily at the farm level and with particular focus on fresh Florida crops and practices, this publication focuses on GAPs and GHPs relating specifically to packing facility sanitation. The publications in this series can be found online at the EDIS website at http://edis.ifas.ufl.edu/topic_series_food_safety_on_the_farm.

Introduction

Good agricultural practices (GAPs) and good handling practices (GHPs) encompass the general procedures that growers, packers and processors of fresh fruits and vegetables should follow to ensure the safety of their product. GAPs usually deal with preharvest practices (i.e., in the field), while GHPs cover postharvest practices, including packing and shipping. This factsheet covers GAPs relating to packing facility sanitation. There are seven other Florida Cooperative Extension factsheets in the 'Food Safety on the Farm' series that focus on specific aspects of the GAPs program and how they relate to Florida crops and practices.

Microbial Hazards

Poor sanitation in a packing facility environment greatly increases the risk of contaminating fresh produce. Anything that comes in contact with produce can be a source of

pathogens, from equipment surfaces to the water supply. To lower the potential for contamination, it is important to take a proactive role in maintaining high sanitation standards as part of standard operation procedure throughout the packing operation.

Regulatory Background

Title 21 of the Code of Federal Regulations, part 110, section 20 provides GAPs for facilities and grounds of food plants. Included are requirements for proper storage of equipment, grounds sanitation, and pest control (1). Florida has adopted similar requirements for postharvest practices in chapter 5K-4 in the Florida Administrative Code (2). For Florida tomato growers, the Florida Department of Agriculture and Consumer Services implemented Tomato Good Agricultural Practices (T-GAPs) and Tomato Best Management Practices (T-BMPs) on July 1, 2008 for the purpose of enhancing the safety of tomatoes in all steps of production (3). T-GAPs and T-BMPs regarding packing facility sanitation can be found in the *Tomato Best Practices Manual* (4).

In response and recognition of growing food safety issues, the Food Safety Modernization Act was passed by Congress and signed by the President in January 2011. The new law requires companies to implement a food safety program that significantly minimizes potential hazards and risk of

1. This document is FSHN12-05, one of a series of the Food Science and Human Nutrition Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Original publication date March 2012. Visit the EDIS website at <http://edis.ifas.ufl.edu>.
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foodborne illness. Taking immediate steps to implement packing facility sanitation GAPs will benefit companies and overall produce safety.

How to Control Potential Hazards

GAPs are critical for reducing potential hazards and protecting consumers from foodborne disease. Of the numerous GAPs that can be implemented to minimize contamination of produce, the following have been recommended by the U.S. Food and Drug Administration for produce packing, facility maintenance and pest control (5).

General Packing Considerations

As part of general packing GAPs, workers involved in handling fresh produce should practice good hygiene. For more information, see *Food Safety on the Farm: Good Agricultural Practices and Good Handling Practices – Worker Health and Hygiene*, a factsheet in this series by Schneider and others (6).

- **Remove as much dirt and mud as practical from fresh produce outside of packing facilities or packing areas**—since produce may be exposed to manure and fecal material in the soil, removing dirt outside the packing facility minimizes the accumulation of potential pathogens inside the facility.
- **As part of the sorting and grading process, remove injured and decayed produce** from the rest of the crop to prevent potential spread of pathogens to uninfected produce.
- **Take steps to prevent airborne contaminants from entering open packing facilities**—situate packing facilities away from livestock, poultry, and manure storage and treatment facilities since these may be a source of airborne contaminants.
- **Repair or discard damaged containers—inspect containers regularly.** Storage containers that are damaged so that they cannot be thoroughly cleaned should be discarded.
- **Clean and sanitize pallets, containers, and bins before using them to transport fresh produce**—take care not to cross-contaminate produce by exposing transport containers to soil and manure.
- **Protect unused, cleaned, and new packing containers from contamination when in storage.** Sources of

contaminants include pests, dirt, and water condensation from overhead equipment and structures.

General Considerations for Facility Maintenance

Produce is highly susceptible to contamination during postharvest handling due to frequent and long contact with processing and wash water and equipment surfaces. Recirculated water has the chance to cross-transfer pathogens to crops, and thus must be continuously sanitized. Regularly cleaning packing and storage facilities can also help prevent contamination. Equipment used in sorting, grading and packing produce should be designed so that they can be adequately cleaned. The following GAPs should be considered in maintaining facility sanitation:

- **Ensure and maintain processing and wash-water quality** through practices such as periodically sampling and testing water, changing water as necessary, and sanitizing water contact surfaces. Refer to *Food Safety on the Farm: Good Agricultural Practices and Good Handling Practices – Water*, a factsheet in this series by Schneider and others for more information (7).
- **Keep equipment or machinery that comes in contact with fresh produce clean**—all equipment and protective clothing, such as aprons and gloves, can accumulate and trap soil and pathogens over time. Therefore, they should be cleaned regularly, inspected for defects, and replaced if damaged.
- **Clean packing areas at the end of each day;** removing visible mud and debris as well as sanitizing the washing, grading, sorting and packing lines eliminates environments for microbial survival and growth.
- **Inspect the cooling system daily** to ensure proper functioning of the equipment and clean regularly.
- **Clean produce storage areas regularly;** removing visible debris, dirt, and unnecessary items from storage areas on an ongoing basis can help prevent contamination. Take steps to minimize dust and other airborne contaminants.

Pest Control

Animals can be vectors for diseases by carrying and transferring pathogenic microorganisms to the produce they come in contact with. Exclude pets throughout the packing-house. To minimize the potential for contamination, take precautions against a variety of different pests, including

mammals, birds, snails, reptiles and insects. Consider the following GAPs:

- **Establish a pest-control system.** A stand-alone pest control program with licensed operators, as part of a larger food safety system, can help reduce the risk of contamination by requiring frequent monitoring and cleaning of affected areas in all facilities. Follow up with the person in charge of pest control to ensure that GAPs are being followed and the process is working.
- **Maintain the grounds in good condition.** Discourage pests from inhabiting, feeding and breeding around produce fields by keeping grounds free of waste, litter and other unnecessary items, such as old, unused equipment and product remnants. Keep grasses cut short, and maintain adequate surface drainage to prevent standing water and plant stress.
- **Monitor and maintain facilities regularly.** As part of a pest control program, regularly inspect all facilities for evidence of pests. Maintain a clean facility by removing dead animals promptly, cleaning soiled surfaces and minimizing potential nesting and hiding places for pests.
- **Block access of pests into enclosed facilities.** Close off holes in walls, doors, floors, vents, etc. that pests could use to enter the facility. Use screens, wind curtains, and traps when necessary.
- **Use a pest control log.** Keep a log that records inspection dates and what has been done to fix any pest problems. Monitor affected and treated areas often to see if more effective steps need to be taken.

References

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