

TOMATO BEST PRACTICES MANUAL

Revised 2024

**A Guide to Tomato Good Agricultural Practices (T-GAP)
Tomato Best Management Practices (T-BMP)**

I. Purpose and Background

The purpose of the outlined practices in this document is to enhance the safety of fresh tomatoes produced, packed, repacked, distributed, and sold in Florida or from Florida (the Florida Tomato Industry). The original Tomato Best Practices Manual document, developed by the Florida Tomato Industry from 2004-2007, was a compilation of previously published guidelines, research on tomatoes and recommendations of food safety professionals and was completed and enacted into a formal regulation by the Florida Department of Agriculture and Consumer Services (the Department) in 2007, taking effect July 1, 2008.

No outbreaks of foodborne illness associated with Florida tomatoes have occurred since 2008 when these preventive produce safety practices were adopted by the Florida Tomato Industry and then the Department adopted the requirements into mandatory state regulation.

Since the enactment of the federal Food Safety Modernization Act (FSMA) in 2011 with the later promulgation of the Produce Safety Rule (PSR), Standards for the Growing, Harvesting, Packing and Holding of Produce for Human Consumption, and the Preventive Control Regulation, in November 2015, tomatoes as well as other fruits and vegetables are required to comply with the federal regulations and food safety requirements contained within. The Department assures compliance with the FSMA PSR by inspection and enforcement through the US Food and Drug Administration (FDA).

To ensure the continued safety of Florida tomatoes, the Florida Tomato Industry, in addition to the FSMA Produce Safety Rule requirements, shall continue to require certain food safety provisions in the 2008 Tomato Best Practices Manual which are stricter than the requirements of the federal FSMA Produce Safety Rule. The Tomato Best Practices Manual is revised to retain critical requirements stricter than the FSMA Produce Safety Rule for preventive food safety for tomatoes relating to water, education, and handling and revised to eliminate the requirements that are contained within the mandated federal FSMA Produce Safety Rule.

For tomatoes and other fruits and vegetables to be safely consumed, many practices to prevent and reduce microbial or chemical contamination must be followed in the production, handling, packing, distributing, transporting, selling, and serving of product. The purpose of these practices will therefore be to: 1) enhance the safety of tomatoes to the consuming public by the implementation of safer handling, production and packing practices; 2) prevent or minimize contamination of tomatoes either in the natural environment in which they are grown or in the handling, packing, repacking or selling of tomatoes once harvested since once contaminated removing or killing pathogens is difficult; and 3) provide the necessary education and training on food safety practices to workers at all levels.

II. Compliance of the Florida Tomato Industry with the revised Tomato Good Practices Manual with retained stricter than food safety requirements and with the FSMA Produce Safety Rule

All fresh tomatoes originating from, produced, packed, repacked, distributed and sold in Florida or from Florida (the Florida Tomato Industry) shall comply with the revised Tomato Best Practices Manual which retains the stricter than federal PSR rule provisions relating to water supply in field, greenhouses, and packinghouses; food safety education every two years; sanitation practices in packing tomatoes in field or packing houses; and truthful representation. The Florida Tomato Industry, in addition, shall comply with the FSMA Produce Safety Rule (PSR), excluding the farms eligible for qualified exemptions and monetary thresholds. The Florida Department of Agriculture and Consumer Services (the Department) inspects at least annually for compliance with the Tomato Best Practices Manual. Compliance with FSMA PSR is administered by the Florida Department of Agriculture and Consumer Services (the Department) through the US Food and Drug Administration (FDA).

The requirements of the 2008 Tomato Manual - Tomato Good Agricultural Practices (T-GAP) and Tomato Best Management Practices (T-BMP) established for the production and handling of tomatoes in Florida through all channels of commerce are deleted if contained within the federal FSMA Produce Safety rule. The more stringent requirements of the 2008 Tomato Manual relating to water quality and use, education, dump tank sanitizer provisions, and resource and guidance documents for the production and handling of tomatoes in Florida through all channels of commerce are retained and required.

III. Education Requirements for Growers, Packers, Repackers and Workers

1. To ensure that safety practices will be enhanced, regular education is required throughout the tomato industry to provide the knowledge of food safety practices for all in the industry.
2. All commercial tomato producers, packers, and repackers in Florida shall require any employee who is responsible for supervising food safety protocols in a tomato field, packinghouse, or repacking facility, to attend an in-person T-GAP / T-BMP training course at least once every two years.
3. UF/IFAS will hold two T-GAP / T-BMP courses each year in rotating locations to provide flexibility for companies to meet this requirement.
4. Certification of course completion will be documented by FDACS and the certificates must be maintained by attending companies for a period of three years.

IV. Requirements of the Department. The specific requirements under Rule 5G-6, Tomato Inspection will continue relating to:

1. Industry will reimburse the Department for the cost of annual regulatory inspections as specified by state rule 5G-6.005.

2. Regulatory compliance with the food safety practices required by FSMA Produce Safety Rule and the Tomato Best Practices Manual as revised and adopted in Rule 5G-6.009 will be verified by Department inspections.
3. Annual permitting and registration required under Rule 5G 6.007 will be followed.
4. Penalty guidelines and procedures for violations will be conducted by the Department as outlined in 5G-6.013.
5. Exemptions are outlined in Rule 5G-6.011.

V. PART A. Tomato Good Agricultural Practices (T-GAP) for Field and Greenhouse Production Retained Provisions

- A. The Florida Tomato Industry retains the stricter requirement for water quality and usage for field, greenhouse and field packing use:
 1. Water
Water applied to tomatoes in any foliar application for any use after plant establishment in the field or greenhouse shall contain no detectable generic *E. coli*.
 2. Field Packing
The packing of tomatoes in the field (or field pack tomatoes) is not permitted unless the product is in compliance with the FSMA Produce Safety Rule and the provisions of the Tomato Best Practices Manual.

VI. PART B. Tomato Best Management Practices for Packing House Operations and Post Harvest Handling (T-BMP) Retained Provisions

- A. Florida retains the portions of Part B, Tomato Best Management Practices for Packing House Operations and Post Harvest Handling (T-BMP) relating to water, sanitation, dump tanks, and proper labeling that are more stringent than the requirements of the FSMA Produce Safety Rule (PSR).

1. Water Used in Packing House and Post Harvest

- a. The quality of water used in washing tomatoes after harvest is critical. Only water that contains no detectable generic *E. coli* shall be used in the packing facility. Documentation of required microbial test results for the source water shall be maintained and producible in a reasonable amount of time.
- b. The dump tank shall be cleaned, and the water changed daily.
- c. Comply with Good Manufacturing Practices (GMPs) as adopted in 5G-6.009 (1).
- d. Untreated surface waters are not permitted for any use in packinghouses or other postharvest contact.
- e. If using a dump tank, water temperatures shall be maintained 10°F above the incoming fruit pulp temperature to minimize the risk of intrusion of microorganisms into the tomatoes to the degree possible.

- 2. Current Approved Methods for Sanitization of Dump Tanks and Flume Water in Packing Houses, Chlorination Procedures and Other Approved Methods**
- a. Chlorination Method
 - i. A minimum of 150 ppm free chlorine, used in the following manner:
 - (1) pH 6.5-7.5
 - (2) Water temperature 5°C/10°F above pulp temperatures
 - (3) Time – maximum of 2 minutes
 - b. Monitoring Required
 - i. Free chlorine concentration, water temperature and pH must be monitored at start-up and every hour by hand thereafter and recorded in writing.
 - ii. When electronic monitoring of oxidant concentrations in handling water is used, the monitoring shall be verified against a chemical test that measures free-chlorine and pH at start-up and every 2 hours thereafter.
 - iii. When water temperature and pH monitoring are done electronically, verification procedures must be conducted.
 - c. Approved Sanitization Products
 - i. Peroxyacetic Acid - Peroxyacetic acid products currently registered by the Department, pursuant to Section 487.041, Florida Statutes, and Rule 5E-2.031, F.A.C., may be used for sanitization if labeled for this use. The directions for concentration of product and adequate contact time must be followed closely and recorded in writing.
 - ii. Aqueous Chlorine Dioxide - Aqueous chlorine dioxide products currently registered by the Department, pursuant to Section 487.041, Florida Statutes, and Rule 5E-2.031, F.A.C., may be used for sanitization if labeled for this use. The directions for concentration of product and adequate contact time must be followed closely and recorded in writing.
 - iii. Free chlorine - Products delivering free chlorine for overhead spray application may be used if the products are currently registered by the Department, pursuant to Section 487.041, Florida Statutes, and Rule 5E-2.031, F.A.C., labeled for this use, and used at the concentration of product and contact time stated on the label. Records of procedure must be followed closely and documented in writing.
 - iv. Gas-phase and Aqueous Ozone – Gas-phase or aqueous ozone may be used for tomato packing if it can be shown through a reproducible scientific study that the product, if used at a stipulated agent concentration and contact time can achieve a minimum 3 log reduction of Salmonella or like organisms. Additionally, the ozone generator must bear an EPA establishment number and must be labeled for this use on fruits and vegetables and the user must meet

OSHA standards for worker protection. Label directions must be followed, and procedures documented in writing.

- v. Other Chemical Usage – Any other chemical product, proposed for use for tomato packing, must be registered by the Department pursuant to Section 487.041, Florida Statutes, and Rule 5E-2.031, F.A.C., and labeled for this use. Additionally, it must be shown through a reproducible scientific study that the product or process used can achieve a minimum of 3 log reduction of Salmonella or like organisms. Label directions must be followed, and procedures documented in writing.

3. Product Labeling and Containers

- a. Reuse of final tomato packing containers to pack additional tomatoes is prohibited.
- b. The address on the container must be the address of the packer packing the contents or the individual grower.
- c. Tomatoes will have positive lot identification.
- d. Containers will be identified as to the lot of product along with the name of the producer or packing facility.

4. Repacking Tomatoes

- a. Tomatoes undergoing repackaging shall not be commingled with tomatoes from other producers or lots.
- b. Bulk or loose tomatoes must be repacked in sanitized containers or into new containers that will carry forward appropriate identification.
- c. Prepackaged and/or consumer packed tomatoes may be repacked into the same containers (if in good condition), new or sanitized containers.
- d. Containers shall have positive lot identification.

5. Traceback and Recall

- a. All who handle tomatoes in accordance with these BMP's must be able to identify and traceback product for which they have handled in some manner so that product may be traced back and, if necessary, recalled from the point of production to the point of retail sale.

6. Transparency

- a. All producers, packers and repackers of tomatoes shall maintain adequate records of operating procedures to allow for transparency and documentation of handling procedures and shall make these readily available to regulatory officials as required.