

CALIFORNIA STRAWBERRY COMMISSION FOOD SAFETY PROGRAM

Good Agricultural Practices: Growing the World's Safest Strawberries

Consumers trust their retailers to provide safe, quality food products. Retailers trust their supply sources. It falls to the grower to follow food safety practices that may help reduce the risk of contamination before produce leaves the field. The California Strawberry Commission's Food Safety Program (FSP) is designed to help you examine and improve safety practices, and meet the generally accepted standards of Good Agricultural Practices (GAPs).

The purpose of the Commission's SFSP is to further enhance the industry's commitment to produce strawberries in a safe and responsible manner and provide the consumer with the highest level of confidence that the strawberries they purchase are safe to eat.

The Basic Principles of Good Agricultural Practices (GAPs):

1. **The best way to prevent corrective action by state and federal governments is to prevent microbial contamination of fresh strawberries.**
2. **Use GAPs.** To minimize microbial food safety hazards in strawberries, growers should use the GAPs outlined in this program and apply them to the areas of their operation over which they have control, such as sources of water, field sanitation, worker hygiene standards, etc. Managing and predicting potential sources of contamination is an essential step in producing a safe strawberry.
3. **Anything that comes into contact with strawberries has the potential to infect.** The source and quality of each contact dictates the potential for contamination. Water (used for irrigation and pesticide mixing) is a primary source of contamination.
4. **All pesticides must only be used in strict accordance with manufacturer recommendations.** Pesticides must comply with state, federal and local ordinances.
5. **Non-composted manure is a source of human pathogens and should not be used in strawberry fields.** Any practice using manure and/or compost should be closely managed.
6. **Worker Health and Hygiene practices play a critical role in minimizing potential contamination.** The availability of clean toilet facilities, hand washing stations, and keeping track of employee general health are all part of good employee hygiene practices.
7. **A food safety program and trace-back practices establish accountability.** The ability to trace back product from the consumer to the retailer to the shipment to the farm to the harvester is essential for quickly isolating the problem area and protecting the entire crop and industry. Documentation must be kept to help prove proper attention has been paid to risk prevention.

Note: It is recommended that documents be kept readily accessible and organized, including receipts, memos, inspection and laboratory reports, and other written information that may be requested by an investigator. For more information about the Food Safety Program, call the California Strawberry Commission at (831) 724-1301.

GROWER GUIDELINES: WORKER HEALTH AND HYGIENE

Have CAL-OSHA's Injury and Illness Prevention Program (IIPP) in Place and Documented

Growers must follow CAL-OSHA's mandatory IIPP, made up of these eight basic elements:

1. Identify the person given the authority to implement and maintain the program.
2. Enforce safety policies, practices and procedures.
3. Communicate to the employee what is required regarding safety.
4. Inspect operations and facilities on a regular basis to identify potential workplace hazards.
5. Investigate injuries and illnesses to identify causes.
6. Correct hazards that have been found during inspections and/or investigations.
7. Train employees in both general safe work practices and specific hazards of job assignments.
8. Document steps taken and maintain the injury and illness prevention program.

This program's documentation should be included within each operation's food safety program and this IIPP should be reviewed with all new employees as they are hired. For more requirements on when employees should receive program review and information on the program itself, please visit:

<http://www.dir.ca.gov/title8/3203.html>

Train Workers in Good Hygiene, and Document the Training

Begin with a written employee training program. Document all training and steps taken to help enforce compliance with local, state and federal worker hygiene practices.

Hand Washing is a Factor in Keeping Food Clean

Hand washing is the single most important factor in helping to reduce microbiological risk. Past outbreaks of food borne illness associated with fresh and minimally processed produce have usually been the result of produce becoming contaminated with fecal material. Growers should place a high priority on ensuring the use of practices that minimize the potential for direct or indirect contact of fecal material and fresh produce. Steps to minimize this risk include:

- Have written training procedures on the importance of hand washing and personal hygiene. Document the frequency and content of training meetings.
- Remind employees daily of the importance of hand washing. Have adequate hand washing stations available.
- Document your policy on maintenance of hand washing facilities, including:
 - a. Sanitation procedures for rinsing and cleaning wash water tanks.
 - b. Frequency of water level checks (must have sufficient water at all times and use a minimum 15-gallon water tank).
 - c. Procedures to be sure that potable water, soap and single use towels are always available (see page 28 for a checklist.)
- Place signs in appropriate places indicating water is for "hand washing purposes only."

Proper Hand Washing Procedures

Proper and frequent hand washing is one of the best ways to keep you and your family healthy, and the food you harvest safe. For a hand washing procedures checklist, see page 32. Hands should be washed before and after eating and smoking.

Proper hand washing before the workday, and after using the bathroom, eating, drinking, or smoking is a simple six-step process:

1. Wet hands with clean water.
2. Apply antibacterial soap.
3. Scrub hands and fingernails for a minimum of 15-20 seconds.
4. Rinse off soap thoroughly with clean water.
5. Dry hands with single-use paper towels.
6. Discard used towels in the trash.

If you use gloves, they must also be kept clean during the workday. Wash gloves thoroughly and frequently. Take your gloves off and wash your hands as described above. Washing your hands before placing gloves back on reduces the risk of contaminating the inside of the gloves. Hand sanitizers (liquid

WORKER HEALTH AND HYGIENE

or gel) are fine provided they are used after hands are washed, rinsed and dried using anti-bacterial liquid hand soap. Hand sanitizers are intended to supplement, not replace hand washing.

Drinking Water

A written policy must be in place to meet drinking water requirements:

- All drinking water must be potable (i.e. city/municipal water).
- Single use cups or a drinking fountain must be provided.
- Water containers must be cleaned and rinsed daily and must be kept covered and protected to prevent persons from dipping the water by hand or otherwise contaminating it.
- Drinking water must be changed daily and the water's source must be documented.

Have a First-Aid Kit Ready at All Times

There shall be adequate first-aid materials immediately available at the farm headquarters and/or on worker transportation buses. Keep in mind the number of employees on a crew and have ample materials to suit that crew's needs. Such materials shall be kept in a sanitary and usable condition.

A frequent inspection shall be made of all first-aid materials, which shall be replenished as necessary. In the case of employers whose workers are widely scattered in small crews that are contacted by a traveling foreman, adequate protection may be accomplished by having a first-aid kit in the foreman's car or vehicle.

At remote locations, provisions must be made in advance for prompt medical attention in case of serious injuries. This may be accomplished by on-the-site facilities or proper equipment for prompt transportation of the injured person to a physician or communication system for contacting a doctor or combinations of these that will avoid unnecessary delay in treatment. There shall be at least 1 employee for every 20 employees at any remote location with training for the administering of emergency first aid.

Medical Leave and Illness

- Have a written medical leave and illness reporting policy in place. Establish and communicate a clear policy that will allow workers, who report or are observed to have symptoms of illness or diarrhea, to be reassigned to activities that do not involve food or food surface contact. In the absence of such a policy, it is probable that a worker will not report an illness to prevent loss of wages. Do not allow sick workers to harvest strawberries. Encourage workers to report sick workers.
 - This includes employees with infectious diseases, ill health accompanied by diarrhea, fever, sore throat, open lesions. These employees should not work in contact with strawberries or any equipment used in the packing or sorting of fresh or frozen strawberries, and alternative work should be provided.
 - Have designated tasks available for sick workers, such as picking up trash, weeding, etc. Ultimately, reassign sick employees to duties that do not require direct contact with strawberries.
- All incidences of bleeding are to be reported to supervisors. Any product or packaging materials contaminated by or in contact with blood must be segregated and disposed of immediately. Tools contaminated by or in contact with blood must be properly sanitized immediately.
- Workers with minor cuts should have those well washed, covered with first aid materials, and then enclosed with rubber gloves.
- Supervisors should exhibit good personal hygiene. Encourage supervisors to set a good example.

WORKER HEALTH AND HYGIENE

Typical Signs of Infectious Diseases

The pathogens *Salmonella typhi*, *Shingella* species, *E. coli* 0157:H7 and Hepatitis A virus have a high infectivity, and the ability to produce severe disease. Any worker showing symptoms of an active case of illness that may be caused by any of these pathogens should be excluded from work assignments that involve direct or indirect contact with fresh produce. Below is a partial list of infectious and communicable diseases that are transmitted through food.

Disease	Symptoms
Hepatitis A	Fever, Jaundice
<i>Salmonella typhi</i>	Fever
<i>Shingella</i> species	Diarrhea, Fever, Vomiting
Norwalk and Norwalk-like viruses	Diarrhea, Fever, Vomiting
<i>Staphylococcus aureus</i>	Diarrhea, Vomiting
<i>Streptococcus pyogenes</i>	Fever, Sore Throat with Fever

Reference:

- FDA Guide to Minimize Microbial Food Safety Hazards in Fresh Fruits and Vegetables, Section IV, Worker Health and Hygiene: <http://vm.cfsan.fda.gov/~dms/prodguid.html>
- California Department of Industrial Regulations Title 8, Section 3457: First Aid Kit: <http://www.dir.ca.gov/Title8/3439.html>
- CDHS Code Section 112015: <http://www.dhs.ca.gov/ps/fdb/PDF/fsact.pdf>
- California Department of Industrial Regulations Title 8, Section 3457: Field Sanitation and Worker Hygiene: <http://www.dir.ca.gov/Title8/3457.html>

SHIPPER/PROCESSOR GUIDELINES: WORKER HEALTH AND HYGIENE

Train workers and document their training in proper hygiene practices to minimize the risks for microbiological contamination and safeguard the worker's health and safety. Implement general sanitation and personal hygiene practices with a written employee training program. Document all training and steps taken to ensure compliance with local, state and federal worker hygiene practices. All individuals (inspectors, buyers, employees, etc.) prior to handling fruit should practice personal hygiene and wash their hands. A proper hand washing procedures checklist is located on page 32.

Hand Washing is a Factor in Keeping Food Clean

Past outbreaks of food borne illness associated with fresh and minimally processed produce have usually been the result of produce becoming contaminated with fecal material. Growers should place a high priority on ensuring the use of practices that minimize the potential for direct or indirect contact of fecal material and fresh produce. Steps to minimize this risk include:

- Have written training procedures on the importance of hand washing and personal hygiene. Document the frequency and content of training meetings.
- Remind employees daily of the importance of hand washing. Have adequate hand washing stations available.
- Document your policy on maintenance of hand washing facilities, including:
 - Sanitation procedures for rinsing and cleaning wash water tanks.
 - Frequency of water level checks (must have ample water at all times).
 - Procedures to ensure that potable water, soap and single use towels are always available (see page 28 for a checklist.)
- Place signs in appropriate places indicating water is for "hand washing purposes only."

Proper Hand Washing Procedures

Proper hand washing has been identified as the single most important factor in reducing the microbiological risk to individuals and food. Proper and frequent hand washing is one of the best ways to keep you and your family healthy, and the food you harvest safe. For a hand washing procedures checklist, see page 32. Hands should be washed before and after eating and smoking.

Proper hand washing before the workday, and after using the bathroom, eating, drinking, or smoking is a simple six-step process:

1. Wet hands with clean water.
2. Apply antibacterial soap.
3. Scrub hands and fingernails for a minimum of 15-20 seconds.
4. Rinse off soap thoroughly with clean water.
5. Dry hands with single-use towels.
6. Discard used towels in the trash.

If you use gloves, they must also be kept clean during the workday. Wash gloves thoroughly and frequently. Take your gloves off and wash your hands as described above. Washing your hands before placing gloves back on reduces the risk of contaminating the inside of the gloves. Hand sanitizers (liquid or gel) are fine provided they are used after hands are washed, rinsed and dried. Hand sanitizers are intended to supplement, not replace hand washing.

Medical Leave and Illness

- Establish and communicate a clear policy that will allow workers who report, or are observed to have symptoms of illness or diarrhea, to be reassigned to activities that do not involve food or food surface contact. In the absence of such a policy, it is probable that a worker will not report an illness to prevent loss of wages. Do not allow sick workers to work around strawberries. Encourage workers to report sick workers.
 - This includes employees with infectious diseases, ill health accompanied by diarrhea, fever, sore throat or open lesions. These employees should not work in contact with strawberries or any equipment used in the packing or sorting of fresh or frozen strawberries, and alternative work should be provided.

WORKER HEALTH AND HYGIENE

- All incidences of bleeding are to be reported to supervisors. Any product or packaging materials contaminated by or in contact with blood must be segregated and disposed of immediately. Tools contaminated by or in contact with blood must be properly sanitized immediately.
- Workers with minor cuts should have those well washed, covered with first aid materials, and then enclosed with rubber gloves.

Typical Signs of Infectious Diseases

The pathogens *Salmonella typhi*, *Shingella* species, *E. coli* 0157:H7 and Hepatitis A virus have a high infectivity, and the ability to produce severe disease. Any worker showing symptoms of an active case of illness that may be caused by any of these pathogens should be excluded from work assignments that involve direct or indirect contact with fresh produce. Below is a partial list of infectious and communicable diseases that are transmitted through food.

Disease	Symptoms
Hepatitis A	Fever, Jaundice
<i>Salmonella typhi</i>	Fever
<i>Shingella</i> species	Diarrhea, Fever, Vomiting
Norwalk and Norwalk-like viruses	Diarrhea, Fever, Vomiting
<i>Staphylococcus aureus</i>	Diarrhea, Vomiting
<i>Streptococcus pyogenes</i>	Fever, Sore Throat with Fever

Reference:

- FDA Guide to Minimize Microbial Food Safety Hazards in Fresh Fruits and Vegetables, Section IV, Worker Health and Hygiene: <http://vm.cfsan.fda.gov/~dms/prodguid.html>
- FDA, 21 CFR 110.20(a)(1)-(4) (Grounds) and (b)(1)-(7) (Plant construction and design). California, CDHS Code, Sections 111950-111960 and Sections 111970-112010 (Maintenance of facilities, construction, and design). CDHS code, Sections 112040-112050 (Inspection of buildings): <http://www.dhs.ca.gov/ps/fdb/PDF/fsact.pdf>
- CDHS Code Section 112015: <http://www.dhs.ca.gov/ps/fdb/PDF/fsact.pdf>
- CDIR Title 8, Section 3457: Field Sanitation and Worker Hygiene: <http://www.dir.ca.gov/Title8/3457.html>