

## California Small Farm Food Safety Guidelines

Fruit and vegetable consumption has grown significantly in the past two decades as the health benefits of these crops have been emphasized. Unfortunately, the incidence of food borne illnesses has also increased. In some cases, the financial impact on the growers of the crops associated with these incidents has been devastating. This means that it is important for all growers to be aware of food safety practices that minimize contamination of their crops with human pathogens. The most important disease organisms are *Salmonella*, *E. coli* O157:H7, *Listeria*, *Shigella* and *Bacillus cereus*. The primary pathways for these pathogens to enter the field or packing shed are: contaminated irrigation or processing water, poor field/packing shed worker hygiene, improperly aged or treated organic soil amendments (manure, etc.), domestic or wild animals entering the field, contaminated harvest equipment, inadequate or unsanitary processing and storage conditions and improper transportation.

The following checklist of recommendations should be considered during crop production, harvest, processing and transport.

### Prior to Planting

- ☐ Keep records of all farm activity, especially food safety practices.
- ☐ If manure will be used as a fertilizer, apply untreated manure in the fallow period after the last harvest and incorporate it as soon as possible.
- ☐ Be sure that there is a buffer between the production field and manure/compost storage, concentrated animal feeding operations, grazing or open range areas, surface water, sanitary facilities and composting operations.
- ☐ Test irrigation water and, if contaminated, find the source and fix it or request that your water supplier do so.
- ☐ Train your employees about hygiene (handwashing, etc.) and other aspects of food safety that apply to them. Do follow-up training during the growing season.
- ☐ Evaluate fields for evidence of animal entry. If you see animal signs use mitigation procedures (fences, noisemakers, etc.).
- ☐ Assess adjacent lands for possible sources that might contaminate the production field, and take corrective actions if needed.

### During the Growing Season

- ☐ Provide proper sanitation and hand washing facilities in an area outside of the field.
- ☐ Provide an area outside of the field for eating, breaks, smoking and storage of personal items.
- ☐ Do not allow pets or other domestic animals to wander in the field and continue to look for signs of wild animals. Minimize standing water in the field because it attracts wildlife.
- ☐ If you side dress with composted manure try to minimize manure contact with the crop and incorporate it, if possible.

- ☐ Clean and sanitize tractors and other implements that were used in manure application and incorporation prior to entering the field.
- ☐ Test irrigation water as close to point-of-use as possible at least once during the growing season, and more often if you use surface water.
- ☐ Ensure that water used for spray applications of pesticides and fertilizers is not contaminated.
- ☐ Consider using drip irrigation wherever possible. It minimizes the risk of contamination because above-ground plant parts are not directly wetted.
- ☐ Sick employees should not have direct contact with produce. Assign them other duties while they are sick or send them home. Employees who cut themselves should wear gloves and use bandages until the wound is healed.

## Harvest

- ☐ Continue to emphasize worker hygiene, monitor employees for symptoms of illness and for wounds.
- ☐ Clean and sanitize harvesting equipment at least once a day or more often, if needed.
- ☐ High-pressure wash, rinse and sanitize all crop production bins.
- ☐ Cover clean bins to avoid contamination.
- ☐ Do not allow workers to stand or place personal items in bins.
- ☐ Remove field soil from the outside of bins prior to moving them into packing areas.
- ☐ Emphasize hygiene to U-Pick customers.
- ☐ Use clean water and ice made from clean water during field processing.
- ☐ Remove or prevent the harvest of any potentially contaminated produce if signs of animal intrusion are detected.

## Postharvest Processing and Storage

- ☐ Clean facilities, equipment and food contact surfaces thoroughly and then sanitize just before the first use and then once a day during use or more often, if needed.
- ☐ Provide sanitary and hygiene facilities and an area for smoking, meals, breaks and personal item storage for employees away from processing and storage areas. Continue to monitor use.
- ☐ Use a potable water source for processing and use ice made from potable water.
- ☐ Wash, rinse and sanitize storage facilities.
- ☐ Fix or fill in any cracks or defects in the processing and storage building to keep out pests.
- ☐ Establish an ongoing pest control program (rodents, birds etc.).
- ☐ Ensure that refrigeration equipment is working properly. Measure and record temperatures at least once daily.
- ☐ Do not wear field clothes, especially shoes and boots, in the packinghouse.
- ☐ Use chlorinated water and other labeled disinfectants to wash produce.
- ☐ Store packaging materials in a clean, covered area.

- ☐ Do not load refrigeration rooms beyond their cooling capacity.

### Transportation

- ☐ Ensure that transport vehicles are clean and sanitary.
- ☐ Be sure that vehicles that have carried live animals or harmful substances (pesticides, etc.) are thoroughly washed, rinsed and sanitized before shipping produce.
- ☐ Use refrigerated trucks when possible.
- ☐ Be sure that each package leaving the packing area can be traced to the field of origin and date of packing.

### Additional Information

#### Record Keeping

This is very important in documenting the steps you take to ensure that you have complied with food safety recommendations. Some of the important things that need to be recorded are:

- ☐ Planting date(s) – varieties, suppliers, etc.
- ☐ Applications of fertilizer, pesticides or any other inputs.
- ☐ Water testing dates and results.
- ☐ Employee training – type of training (general safety, food safety etc.), dates, who was trained, follow-up training.
- ☐ Animal entry – dates when checked or observed, type(s) of animal signs, what action(s) you took to try to solve or mitigate the problem.
- ☐ Equipment maintenance – dates, type of maintenance, which piece of equipment, cleaning.
- ☐ Harvest date(s) – sanitation of harvest implements and harvest containers.
- ☐ Cleaning schedule for processing and storage facilities.
- ☐ Pest control program in processing and storage facilities – who does the program, treatment or trapping dates.
- ☐ Maintenance of refrigeration equipment and temperature of storage rooms.
- ☐ Dates of farmers' markets or other marketing options.
- ☐ Package identification.

### Hygiene

To prevent field and packing shed workers from contaminating crops:

- ☐ They should be trained in hand washing - use plenty of soap and water, wash for at least 20 seconds, clean under fingernails and between fingers, rinse under clean water and dry hands with a single-use towel. Wash hands before they start work, after each break, after handling unsanitary items such as animals, manure, etc. and after using the toilet.

- ☐ They should not eat, chew gum, use tobacco, spit, urinate or defecate while in growing/processing areas.
- ☐ They should use the toilet/hand washing facilities and use them properly.
- ☐ Workers who show signs of diarrhea, vomiting, fever, jaundice or infected wounds should not handle fresh produce.
- ☐ They should use single-use cups or fountains for drinking water.
- ☐ The grower, packer or labor contractor should also provide signs that reinforce good hygiene, both in the field and in the packing shed.

## Water Testing

Water needs to be tested to know whether it is contaminated with unacceptable levels of bacteria. While there is no standard for food safety testing levels, a number of commodity groups have used the recreational water standard as a safe level. Water should be tested as near to the point-of-use as possible. All of the water used to produce and process crops should be tested (pesticide spray water, water used in processing, etc.).

## Manure

Unprocessed manure is a perfect medium to support bacterial growth. Many food safety programs do not allow the use of unprocessed manure. Only properly composted or aged manure can be used. They also require that root crops not be grown for one year after manure application. If untreated manure must be applied shortly before planting, apply and incorporate at least two weeks before planting and don't harvest the crop for 120 days after application. If the 120 day waiting period is not feasible, apply only properly composted or aged (at least one year) manure. Composted manure use as a side dressing is very difficult. If you must use it this way, do all you can to reduce manure-crop contact and, if possible, incorporate it as soon as you can.

## Other Sources of Information

The following web sites have additional information on food safety:

<http://sfp.ucdavis.edu/pubs/articles/foodsafetybeginsonthefarm.pdf>

<http://www.caleafygreens.ca.gov/food-safety-practices/downloads>

<http://www.fda.gov/Food/FoodSafety/Product-SpecificInformation/FruitsVegetablesJuices/GuidanceComplianceRegulatoryInformation/ucm171695.htm>

[http://agr.wa.gov/inspection/FVinspection/docs/GHP\\_GAP\\_Presentation.pdf](http://agr.wa.gov/inspection/FVinspection/docs/GHP_GAP_Presentation.pdf)

<http://agr.wa.gov/inspection/FVinspection/GAPGHP.aspx>

[http://www.gaps.cornell.edu/Eventscalendar/USDA\\_GAP\\_GHP\\_Audit\\_Matrix\\_PP.pdf](http://www.gaps.cornell.edu/Eventscalendar/USDA_GAP_GHP_Audit_Matrix_PP.pdf)

[http://oregon.gov/ODA/ADMD/gap\\_ghp.shtml](http://oregon.gov/ODA/ADMD/gap_ghp.shtml)

<http://datcp.wi.gov/OnFarmFoodSafety/ResourcesTools/index.aspx>

<http://www.kimberly.uidaho.edu/potatoes/gap.htm>

<http://www.mifffs.org/tools/GAPAuditVerification.pdf>

#### References

U.S. Food & Drug Administration Guidance for Industry: Guide to Minimize Microbial Food Safety Hazards of Tomatoes: Draft Guidance. July, 2009

Commodity Specific Food Safety Guidelines for the Production and Harvest of Lettuce and Leafy Greens. California Leafy Green Handler Marketing Board. January, 2012

Food Safety Begins on the Farm: A Growers Guide. Cornell University. 2000

# CFM - Additional Information

## Organic:

Organic is a term that is regulated by the California Organic Foods Act of 2003. In order for someone to use the term organic they must comply with all regulations contained in this act. Users of the term organic must be registered with the California Department of Food & Agriculture (CDFA). Producers whose gross sales exceed \$5000 must also comply with the regulations of the National Organic Program and be certified by a certifying organization. Both the state organic registration and organic certificate (if applicable) must be present and posted at the certified farmers' market. Producers who sell both organic and conventional products must clearly identify and separate their products. Using variations on the term organic (e.g. "transitional organic", "better than organic", "organic methods") is prohibited by law. Producers selling organic products are subject to random residue sampling.  
<https://organic.cdfa.ca.gov/main.aspx>

## Eggs:

All shell egg producers are required to register with CDFA and comply with all applicable laws and regulations. The certificate will show the number of birds and projected volume of eggs (cartons or dozens) to be packed. Shell eggs must be properly labeled either on the carton or on a sign at the point of sale for bulk displays. Labels must state all of the following: name, address, zip code, size, grade, quantity, the words "keep refrigerated," and either the USDA plant of origin code number, the USDA Shell Egg Surveillance number, (if applicable) or California state handler code, sell-by date, Shell Egg Food Safety Compliant (or "CA SEFS Compliant" for short) and the Julian date of pack.  
<https://www.cdfa.ca.gov/ahfss/mpes/>

## Avocados:

All California produced avocados sold must be certified or issued an exemption permit by the CDFA Avocado Inspection Program. Avocado producers must have documentation of either certification or exemption permits.  
[https://www.cdfa.ca.gov/is/i\\_&c/avocado.html](https://www.cdfa.ca.gov/is/i_&c/avocado.html)

## Nursery Stock:

All producers selling nursery stock as a certified producer must also have a nursery stock license.  
<https://www.cdfa.ca.gov/plant/pe/nsc/nursery/regcert.html>

## Packaged Commodities:

Products sold in closed packaging (including bags that are tied closed) are not exempt from standard pack regulations and must be labeled with the proper IRQ (identity, responsibility and quantity) as required by the California Code of Regulations.

- Identity: The usual or common name of the commodity in the package.
- Responsibility: The name and address of the company or individual responsible for the package and its contents.
- Quantity: The amount of the commodity in the package.

<https://www.cdfa.ca.gov/dms/>

## Scales:

Scales used to sell any agricultural products by weight must be type approved, tested and sealed by a county sealer.  
<https://www.cdfa.ca.gov/dms/>

**If you need more information on any of these topics please let us know.**



# Pesticide

# info

WHAT YOU SHOULD KNOW ABOUT PESTICIDES



## California Department of Pesticide Regulation

1001 I Street  
P.O. Box 4015  
Sacramento, CA 95812-4015  
916-445-4300  
www.cdpr.ca.gov

### BRANCHES

**Enforcement**  
916-324-4100

**Northern Regional Office**  
916-324-4100

**Central Regional Office**  
559-243-8111

**Southern Regional Office**  
714-279-7690

**Environmental Monitoring**  
916-324-4039

**Fiscal Operations**  
916-324-1350

**Information Technology**  
916-445-4110

**Medical Toxicology**  
916-445-4233

**Product Compliance**  
916-445-4159

**Pest Management and Licensing**  
916-445-3914

**Licensing/Certification**  
916-445-4038

**Personnel**  
916-322-4553

**Pesticide Registration**  
916-445-4400

**Worker Health and Safety**  
916-445-4222

## County plays key role in regulating pesticides

The size and diversity of California agriculture, and the State's increasing urbanization, require a more complex partnership between state and local pesticide regulatory authorities than anywhere else in the nation. The Department of Pesticide Regulation (DPR) works closely with California's County Agricultural Commissioners (CACs), who are the primary local enforcement agents for pesticide laws and regulations.

CACs seek compliance through education, including presentations to community and industry groups, training sessions for pesticide users, informal or formal compliance actions (such as warning letters), and corrective interviews.

When an enforcement action is needed, the CAC has various options. This includes revoking or suspending the right of a pest control company to do business in the county; prohibiting harvest of a crop that contains illegal residues; and issuing civil and criminal penalties.

Farmers must obtain site-specific permits from their CAC to buy or use many agricultural chemicals. The commissioner must evaluate the proposed use to determine if the pesticide can be used safely, particularly in sensitive areas, such as near wetlands, residential neighborhoods, schools, or organic fields. State law requires commissioners to ensure that applicators take precautions to protect people and the environment.

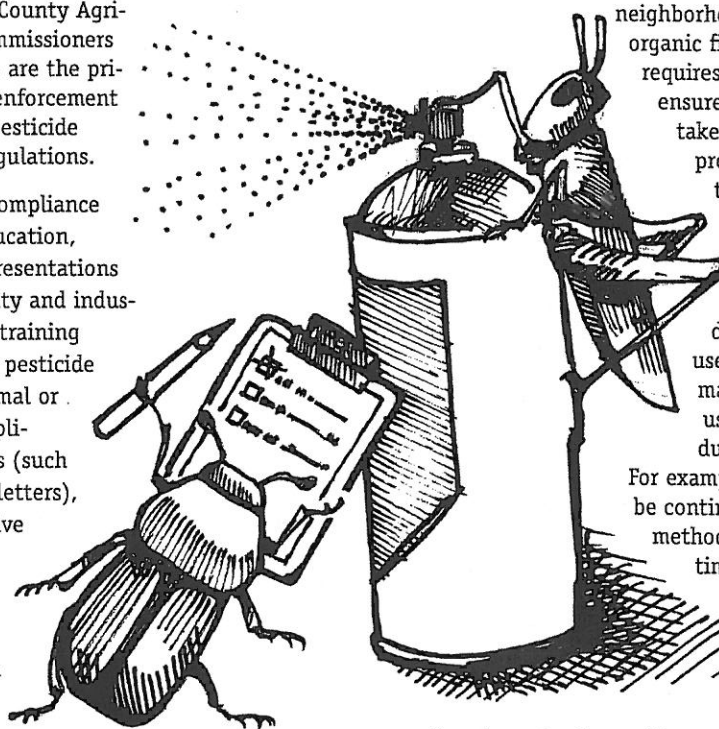
Based on this evaluation, the CAC may deny a permit to use a pesticide, or may require specific use practices to reduce any hazards.

For example, a permit may be contingent upon the method of application, time of day, weather, and use of buffer zones. When such permit conditions are in place,

they have the force of law and are strictly enforceable.

### Permit Considerations

When issuing a permit, a Commissioner must consider the need for a particular pesticide and whether a safer pesticide or better method of application could be used and still prove



**County Agricultural  
Commissioners are  
responsible for local  
enforcement of  
pesticide laws and  
regulations**

effective. CACs regulate pesticide use to prevent misapplication or drift, and possible contamination of people or the environment. CAC staffs also enforce regulations to protect ground and surface water from pesticide contamination. To do this, they may work with regional water boards and the State Water Resources Control Board. Some CACs serve as air pollution control officers for their counties.

Among a Commissioner's most important responsibilities is investigating pesticide illnesses and injuries. All reported pesticide-related illnesses and injuries are investigated by the commissioner in the county in which the illness occurred. CAC biologists interview the victims and if the illness occurred at work, the employer. If the law was broken and people made ill, the commissioner takes enforcement action. As part of the investigation, a CAC biologist may take residue samples for laboratory analysis.

In most counties, the CAC is the first contact on many farm-related issues. Commissioners enforce many laws administered by the California Department of Food and Agriculture (CDFA), including those related to pest detection, eradication and exclusion, and to quality standards for fruits and vegetables. CDFA also provides biological control organisms that commissioners may use to solve significant pest problems. Also, CACs work with the State Department of Fish and Game to investigate wildlife losses associated with pesticides and to prevent agricultural runoff into wildlife areas.

### **Wide Range of Duties**

Although in most counties they are called "agricultural" commissioners, CAC duties range far beyond the farm gate. For example, CAC employees check maintenance gardeners to ensure they are licensed to apply pesticides, and that their pesticides are labeled for professional landscaping. CAC biologists inspect home pesticide applications, such as structural fumigations for termites, and check structural pest control employees for proper training and equipment.

Since many pesticides are used in non-agricultural settings – sanitizers in municipal water treatment plants, disinfecting chemicals in food service facilities and hospitals – pesticide laws may overlap other areas where workplace safety is involved. Therefore, CACs may also work with the State Departments of Industrial Relations and Health Services. Commissioners also consult with the State Department of Forestry and its federal counterpart about pesticide use on forest lands.

The County Boards of Supervisors have appointed Agricultural Commissioners in all the state's 58 counties to direct offices staffed by county employees. (A handful of small counties share commissioners, so there are fewer than 58 CACs in the State.) CACs get funding from DPR as well as from their own county government. Other funding comes from grants, fees and fines. CACs enforce state laws and regulations that cover environmental protection, pest prevention, worker and consumer protection, and other special services.

Outside the pesticide arena, County Agricultural Commissioners have various responsibilities, including:

- Sampling imported produce at airports, seaports, and post offices for exotic pests such as the Mediterranean fruit fly. Also checked are shipments of nursery products from areas that may harbor unwanted pests.
- Inspecting nurseries and seed producers to check the viability of rootstock and seed, and inspecting beehives for disease and pest infestations.
- Checking for insect damage, rot and decay at packing stations; inspecting grapes, citrus, and other fruit for sugar content.
- Enforcing the state's organic food laws, and overseeing certified farmers' markets in their counties.
- Preparing an annual county crop report with statistics used by universities, agricultural organizations, lending institutions, and others.
- Ensuring equity in the marketplace by enforcing weights and measures laws and regulations. All but two commissioners also serve as county sealers, who check supermarket scales and gasoline pumps for accuracy.

**If you have safety questions about pesticides, or have questions or concerns about how pesticides are being used in your area, you can find your Agricultural Commissioner's phone number in the county government section at the front of your local white pages, or by calling toll-free 1-87PestLine (1-877-378-5463).**



Single copies of this  
handout are available  
by calling your  
County Agricultural  
Commissioner's office,  
from DPR at  
916-445-3974,  
or can be downloaded  
from DPR's Web site,  
[www.cdpr.ca.gov](http://www.cdpr.ca.gov),  
"Consumer Fact Sheets."

### **Pesticide Complaint?**

**1-87PestLine**  
INFORMATION LINE

**1-877-378-5463**

