

## Assessing Risks and Planning for Controls

Every small farm, ranch, and other agricultural business involves a chain of activities that leads to delivery of a final product to consumers. These activities can include routine preplanting, cultivating, and harvesting as well as unique value-added processing. Agritourism events also may be offered. For all these enterprises, activities such as employee training, proper labeling, and design of the farm or ranch operation and its physical layout can affect food-safety risks. Each event and activity is a link in a food chain that represents critical points for effectively controlling food-safety risks.

### Preventive Strategies

*Effective strategies for maintaining, improving, and assuring a high level of food safety depend on successfully preventing contamination at each phase from field to fork.* Research clearly demonstrates that once an agricultural product has become contaminated it is very difficult to completely sanitize it. It is therefore critical to focus on *preventing contamination before it occurs.*

In addition to developing effective strategies for providing a high level of food safety, readers of this guide should be aware of the laws and regulatory agencies that address food safety in California. While this guide makes reference to various components of food safety, it does not answer specific questions about regulatory requirements and is not intended to be all-inclusive. See the *Resources* section for an outline of the legal framework affecting food safety in California and for information on other agencies and resources that deal specifically with regulatory issues.

Some of the most pertinent areas of potential risk for direct marketers of agricultural products follow. Additional resources are included under *Self-Evaluation and Planning Worksheets* on page 25, including several worksheets for assessing preparedness and level of assurance

with respect to food-safety hazards. The accompanying flowchart outlines the principal steps involved in assessing, planning, and implementing a successful food-safety program.

Farm and ranch direct marketing often involves unique activities not common to other agricultural enterprises. These activities may require special attention when assessing areas of potential risks to food safety. Small farms and ranches

may also have unique conditions and situations that call for further careful planning. Finally, diverse marketing strategies add even more layers of complexity to assessment and planning. The requirements to ensure food safety at farmers markets differ somewhat from those developed for

community-supported agricultural operations (CSAs) or farm subscription services. Likewise, on-farm venues may include animal contact areas and other unique situations. All of these activities and situations should be assessed for potential risks to food safety. The following section identifies a number of specific activities that offer opportunities for improvement in risk management.

### In the Field Composts and Manures

Growers are increasingly using organic mulches and composts as part of their overall approaches to soil management and fertility. While these practices have a number of benefits, they also introduce potential biological food-safety risks that require specific assessment and careful management. Disease-causing organisms can be found in soil, animal waste, and decomposing plant material. Production of compost from these materials must be properly managed to destroy pathogens and produce a product that is safe for use on food crops and in areas where customers visit, such as u-pick fields and grassy picnic areas. Likewise, on-farm composting operations must be managed to minimize

For detailed self-assessment materials focused on production-related risks to food safety, see *UC Good Agricultural Practices Self-Audit* available in both CD and PDF format from the University of California food-safety website at [www.ucfoodsafety.ucdavis.edu](http://www.ucfoodsafety.ucdavis.edu).

potential risks from cross-contamination caused by wind, water, and residues on equipment. The *UC Good Agricultural Practices Self-Audit* (see the *Resources* section) offers the following guiding principles for using composted manure.

- Learn proper compost management for pathogen reduction and document the method of pathogen elimination for applied compost.
- Document or obtain documentation about the specific compost management steps employed for each lot.
- Maximize the time between applications of compost to production areas and harvest.

The California Compost Quality Council administers compost quality guidelines and operates an independent quality-verification program for compost producers. Information on proper on-farm composting procedures that reduce the risk of pathogen survival, cross-contamination, and other hazards is available; see the *Resources* section under compost and manure handling.

### Agricultural Chemicals

All agricultural chemicals such as fertilizers and pesticides should be approved for the crop or situation in which they are used. Users of these materials should read labels carefully and use the products only in the approved manner. Specific attention should be given to dilution rates, toxicity levels, and “days before harvest” warnings on labels and to the directions for treatment in case of accidental poisoning. All equipment and containers used should be labeled and dedicated to such use to avoid cross-contamination. Likewise, dispose of empty containers appropriately. *Containers used to store hazardous chemicals should not be reused for any other purpose.*

Employees should be made aware of risks and trained in proper use of agricultural chemicals as well. Contact the *California Department of Pesticide Regulation* for specific information on using pesticides and for a list of approved products by crop. Manufacturers also supply material safety data sheets for chemical products they sell. These can be kept on file along with instructions for different product-use procedures in a reference binder on handling chemicals.



For more information on agricultural chemicals and food safety, see the *UC Good Agricultural Practices Self-Audit* listed in the University of California (UC) section of the *Resources*.

### Restrooms and Hand-Washing Facilities for Employees and Customers

Restrooms with hand-washing facilities are essential at all types of direct-marketing venues. According to guidelines for certified farmers markets in California by the California Conference of Directors of Environmental Health (CCDEH), an approved toilet and hand-washing facility should be available within 200 feet of the market or as approved by the enforcement officer. General considerations for customers should account for accessibility that meets a wide range of needs, including those of handicapped persons and children.

A hand-washing facility.



Hand-washing facilities should also be located near animal contact areas such as petting zoos and pony rides. Sinks should be of an appropriate height and clearly marked. Hand-washing signs should provide information in English as well as in other languages when customers and employees may not speak primarily English. Sample signs are available in the *Appendix* of this document and from various agencies indicated in the *Resources* section.

For farm-stay establishments, CCDEH provides the following additional guidelines:

An example of an on-farm hand-washing station for visitors.



- ➔ Clean toilet facilities should be provided for use by employees.
- ➔ Toilet rooms shall be separated from other areas by a well-fitting self-closing door.
- ➔ Toilet rooms shall not be used for storage of food, equipment, or supplies.
- ➔ Toilet paper shall be provided in a permanently installed dispenser at each toilet.
- ➔ Hand-washing facilities shall be provided within or adjacent to toilet rooms.
- ➔ Hand-washing facilities shall be equipped with an adequate supply of hot and cold running water.
- ➔ Hand-washing cleanser and single-use sanitary towels or hot-air blowers shall be provided in dispensers at or adjacent to hand-washing facilities.

In addition, kitchens built or extensively remodeled after January 1, 1996, require a separate hand-washing sink. Older kitchens may use the domestic sink for hand washing. Soap and single-use paper towels in dispensers are still required.

Managing these and other potential risks to food safety requires a program of hazard analysis and control that fits the specific farm or ranch's needs and also adapts to a changing food-safety climate. The HACCP model, which is the most popular and universal food-safety program that meets these conditions, is discussed in detail on page 21.

### U-Picks

U-pick operations involve unique activities that bring customers into the field and orchard and

therefore require special attention to maintain adequate food-safety conditions. For example, consumers should be informed that the produce they pick is not considered “ready to eat” and may require washing before consumption. Consumers should also be required to wash their hands before beginning to harvest and after eating or using the bathroom. Adequate hand-washing facilities should be provided in key areas such as bathrooms, around eating and picnic areas, at exits of petting zoos and animal contact areas, and at entrances to harvesting areas. These locations should be clearly marked and include signs on hand-washing policies and procedures.

Another concern with u-picks is excluding pets from crop areas. Signs should be posted to inform customers of the policy and it should be strictly enforced. Exceptions may be made for guide dogs.

Other precautions at u-picks include clearly marking those fields open to harvesting and those which are off-limits due to recent spraying or compost applications and providing restrooms and potable water. Signs should warn customers of any sources of water that are not potable. If there are animals on the farm, see the preceding section on compost and manure handling and the following discussion of live animals.

### Live Animals, Petting Zoos, and Other Animal Contact Areas

Live animals, including both pets and livestock, are a common element at many agritourism

[Kids petting baby animals at Impossible Acres in Yolo County.](#)





For information on animals and disease risk, see *Guidelines for Reducing the Risk of Disease at Petting Zoos, Animal Exhibits and Other Areas*, a California Department of Health Services publication available at ➡ [www.dhs.ca.gov/ps/ddwem/environmental/Institutions/PDFs/GuidelinesReducingRiskPetZoosMD.PDF](http://www.dhs.ca.gov/ps/ddwem/environmental/Institutions/PDFs/GuidelinesReducingRiskPetZoosMD.PDF) or from the department's Institutions

farms and ranches. Petting zoos, pony rides, and other events and activities that bring customers into direct contact with live animals have also become popular at both farmers markets and agritourism venues. While these opportunities enrich customer experiences at the farm or market by providing “authentic” experiences, they also require some additional attention to food-safety risks. In particular, hand-washing facilities should be available near the site of animal contact and visitors should be required to wash their hands immediately after engaging in any activities with animals. No food or eating should be permitted around animal contact areas.

Another important concern is the risk of cross-contamination from animal waste. Pets and all other animals should be kept away from crops in the field. Any crop that can come in contact with the soil, including root crops, lettuce and other greens, cole crops, bush berries, and even tree crops such as nuts that may be shaken

to the ground during harvest, is vulnerable to contamination from feces from pets, livestock, and wild animals. This is especially true close to and during harvest time. Areas where animals and their waste are kept should be isolated from crop areas, packing sheds, and any other locations where food is produced, processed, stored, or consumed. Contaminated dust can be blown onto nearby crops and run-off can contaminate fields and water supplies. Animal containment facilities should be located away from wellheads and other vulnerable water-system points, including ponds, irrigation ditches, canals, and natural waterways. See the *UC Good Agricultural Practices Self-Audit* in the *Resources* section for more information on wellhead placement and maintenance to minimize contamination risks.

The guidelines for certified farmers markets require that no live animals, except for guide or service dogs, be allowed within twenty feet of any area where food is stored or held for sale. At agricultural home stays, pets are allowed inside but no live animals should be in any portion of the premises where food is used, stored, served, or offered for sale.

## Produce and Other Foods

### Produce Sampling

Sales of many fresh and processed agricultural products benefit from opportunities for consumers to sample at a market or farm stand.

#### Guidelines for Preparing and Distributing Food Samples in a Sanitary Manner

- Samples shall be kept in approved, clean, covered containers.
- Clean, disposable plastic gloves shall be used when cutting food samples.
- Produce should be cleaned and washed with potable water.
- Potable water shall be available for hand washing and sanitizing as approved by the local enforcement agency.
- Potentially hazardous food samples shall be maintained at or below 45°F. All other food samples shall be disposed of within two hours after cutting.
- Utensil and hand-washing water shall be disposed of in a facility connected to the public sewer system or in a manner approved by the local environmental health agency.
- Utensils and cutting surfaces shall be smooth, nonabsorbent, and easily cleaned or disposed of as approved by the local environmental health agency.

Adapted from *Environmental Health Requirements for Certified Farmers' Markets* by the California Conference of Directors of Environmental Health, Carmichael CA, 1999.



An example of a sanitary arrangement for preparing food samples.



With the exception of mobile food facilities operating adjacent to a certified farmers market, preparation of food samples is the only type of food preparation permitted at certified markets in California. Hot food samples are not permitted and potentially hazardous foods must be kept below 45°F.

One prevalent practice that vendors have used to facilitate sanitary and effective sampling is to prepare samples in advance of the market using approved procedures. Samples are then stored in closed containers in an ice chest. This saves time at the market and assures vendors that the produce offered to customers for sampling is of the highest quality and safety.

### Instructions for Sanitary Food Sampling from *FarmersMarket.Org*

– [www.farmersmarket.org/Health/LA\\_Health.htm](http://www.farmersmarket.org/Health/LA_Health.htm)

Provide sanitizer solution: 100 ppm chlorine, 200 ppm quaternary ammonium, or 25 ppm iodine positioned at produce stand or central produce preparation site. Utensils used continuously for slicing (e.g., knives) shall be stored in container of sanitizing solution while not in use. See below for sanitizer solution ratios and water replenishing times.

- 100 ppm Chlorine = 1/2 ounce per gallon\* for 4 hours at individual sinks, 2 hours for centralized sinks.
- 200 ppm Quaternary Ammonium = 1/2 ounce per gallon\* for 4 hours at individual sinks, 2 hours for centralized sinks.
- 25 ppm Iodine = 1/2 ounce per 2.5 gallons\* for 4 hours.

\* Note: 1/2 ounce = 1 tablespoon = 2

### Mobile Food Facilities

Other types of food preparation are permitted at mobile food facilities operated by vendors under the authority of the farmers market's management to sell in an area adjacent to the market. Mobile food facilities may also be used at on-farm events and other agritourism venues. Sampling from such facilities is permitted but may be more tightly restricted than sampling by agricultural vendors within a farmers market. California's Uniform Retail Food Facilities Law (CURFFL) in Articles 11 and 12 addresses these requirements, and local environmental health agencies should be contacted regarding approved equipment



and procedures. A checklist of the physical requirements for a mobile food facility is provided in the *Appendix* to guide self-assessment for operators.

### Storing Hot Foods and Other Products

Product storage and display at direct markets encompass a broad range of situations. Good practices and specific requirements for a variety of storage situations include the following.

- ➔ All food should be stored at least six inches off the floor or ground. This includes produce in boxes not yet opened for sale as well as products on display.
- ➔ Bulk, ready-to-eat agricultural products such as dried fruit and shelled nuts must be protected from contamination. Acceptable methods include prepackaging in an approved facility or displaying food in approved containers with lids.
- ➔ Dispensing methods for bulk sales of ready-to-eat agricultural products should prevent direct hand contact through use of disposable gloves, scoops, or other utensils. All equipment and methods must be approved by the local enforcement agency.
- ➔ Potentially hazardous foods must be held at 45°F or below at farmers markets and below 41°F at agricultural home stays. Hot foods at agricultural home stays must be kept at or above 140°F.
- ➔ Potentially hazardous frozen foods should be stored and displayed in their frozen state until ready to thaw. Ice chests with dry ice provide a mobile storage system for frozen products. Safe thawing methods are discussed later under *Refrigeration and Freezing* on page 15.
- ➔ Sneeze guards should be used to prevent contamination of all products sold as “ready to eat,” including baked goods and produce cut for sampling. Ready-to-eat foods are discussed later in this section. Information on approved sneeze guards should be available from the local county health department.
- ➔ Equipment for on-farm storage of produce and other food products should be dedicated to that purpose and provide ade-

Temperature control in outdoor settings such as at a farm stand or market stall can be achieved in several ways. One of the most effective and basic first steps is to keep produce shaded with a canopy, umbrella, or constructed stand or stall. Another step is to use a spray bottle of potable water to keep produce moist and provide some evaporative cooling. Displaying produce on clean ice is another approach. Ice can be brought to a market or farm stand in coolers if an ice machine is not available. Coolers with ice can also be used to store potentially hazardous products at

quate climate control and protection from vermin. Such facilities should be located safely away from animal containment areas and areas where wastes, composts, and chemicals are kept. See the *UC Good Agricultural Practices Self-Audit* available in both CD and online PDF format from the University of California’s food-safety website at ➔ [www.ucgaps.ucdavis.edu](http://www.ucgaps.ucdavis.edu) for more information.

### Community-Supported Agriculture Delivery Points

Often, delivery is an area of potential risk that is poorly controlled by the farm or ranch. Delivery sites can include a front porch of a house, a car port, or a lobby in an apartment complex or high-rise office building. At a minimum, the sites should be clean and shaded or air conditioned and customers should be informed that they should pick up and refrigerate produce promptly upon delivery. It is a good idea to have a subscriber on site who monitors pick-ups and removes any boxes left unclaimed beyond a certain time. Keep in mind that other storage requirements such as keeping boxes off the floor still apply.

### Storage of Other Items

*Items other than food should be displayed and stored in an area separate from food and only insecticides, rodenticides, and other pesticides that are specifically approved for use in a food facility should be used. All poisonous substances,*



detergents, bleach, cleaning compounds, and other injurious or poisonous materials must be used and stored in containers specifically and plainly labeled as to contents, hazards, and use. All poisonous substances and materials also must be stored and used in a manner that is not likely to cause contamination of food, food contact surfaces, utensils, or packing materials.

➔ Specific requirements for using and storing nonfood products can be found in CURFFL, Sections 114025 (a)(b)(c), 114080 (b)(4)(B), and 114395.

Adapted from *Bed and Breakfast/Agricultural Homestay Food Establishment Guidelines*, California Conference of Directors of Environmental Health, Carmichael CA, 2000.

## Value-Added and Processed Foods

Value-added agricultural products continue to grow in popularity as consumer demand at farmers markets becomes more sophisticated. Likewise, value-added products make excellent gifts and souvenirs for customers to take home after experiencing a farm stay or visit to an agritourism venue. Value-added products also offer benefits to producers, such as increased and more diversified product sales, a way to preserve highly perishable produce, and an outlet for quality produce that does not meet cosmetic standards for fresh market sales. Producing value-added products, however, demands special attention to potential food-safety risks specific to the type of produce and processing used. Some of these concerns are discussed briefly by product or process type.

### Salad Mixes and “Ready to Eat” Claims

Salad mixes that consist of different types of lettuce and other greens combined into one product have become popular at many markets. However, any processing of produce beyond trimming—chopping or shredding or selling a salad mix as “washed, ready to eat”—is considered food preparation and is subject to CURFFL requirements for processed food. These requirements include stainless steel washing facilities and a variety of other conditions that are not typical of a packing



shed that was not designed for processing. Ready-to-eat foods must also be displayed with sneeze-guard protection and sanitized serving utensils. Peeled, sliced, and cut vegetables and salad greens for bulk sale that are not intended to be consumed as ready to eat should be prominently marked with signs declaring “wash before eating.”

Another food-safety concern with salad mixes is an assurance that the mix is free of weeds and also does not contain small stones, twigs, or other physical hazards.

### Processed Fruits, Vegetables, and Nuts

Most value-added agricultural products sold directly to consumers involve processed fruits, vegetables, nuts, seeds, or grains. These types of value-added products are considered “non-certifiable agricultural products” at certified farmers markets but may still be sold at farmers markets and directly to consumers through other authorized direct-marketing venues.

These items include processed products such as fruit and vegetable juices, shelled nuts, jams and jellies, flour, dried soup mixes, and wine. Although these products are not certified, they must have been produced or derived from plants produced by the grower and those

## Other Resources for Canning Information

*Master Food Preservers – University of California Cooperative Extension*

Contact your County Extension office or visit the statewide program website at

➔ <http://ucanr.org/CES.CEA.shtml>.

*Federal Requirements and Good Manufacturing Practices*

FDA Center for Food Safety and Applied Nutrition ➔ <http://vm.cfsan.fda.gov/~comm/lacf-toc.html>.

plants or fresh certifiable products must be listed on the grower's Certified Producer's Certificate. Examples are apples listed for apple juice or fresh apricots listed for dried apricots.

These processed agricultural products may include or have added to them a limited number of ingredients or additives that act only as preservatives or are essential in preparation of the product. Examples include pickles and cucumbers in a brine or vinegar solution, flavorings added to shelled nuts that do not change the visual identity of the product, sulfites added to dried fruits and vegetables, and sugar, fruit juice, and pectin added to fruit to make jams and jellies.



Processing and storage facilities must be under regulation by an authority acceptable to the California Department of Health Services to ensure that sanitary conditions are followed during processing. For processed fruits,

vegetables, juices, jams, and preserves, this is the local environmental health authority.

**Canning.** One popular method of adding value to agricultural products is canning. Jams, jellies, pickles, and preserves are a few examples of types of value-added products that can be made from fresh produce grown on a farm or ranch. Canning extends the shelf life of agricultural products and makes ideal gift items that customers can transport easily. Canning involves two primary food-safety concerns. *First, because all canned foods are processed foods, operators producing these*

*types of value-added products must use a certified kitchen and obtain a permit from the health department in the county where the product is made and in every county in which it is sold. Second, manufacturing some canned products, particularly low-acid foods, also requires registration with the California State Cannery Inspection Program.*

To can foods safely, a certain amount of thermal processing is usually required. The amount and type of processing depends not only on the final product but on the nature of the produce being processed. In particular, the acidity or pH of the produce determines what kind of processing is required to ensure safety.

**Why Acidity?** Acidity is one environmental factor that affects how easily certain pathogens can reproduce or grow in a food medium. Acidity is generally reported using the pH scale, which varies from zero to fourteen. A substance with a pH of less than seven is acidic. Seven is neutral, and a substance with a pH greater than seven is basic. According to FDA's *Current Good Manufacturing Practice Regulations*, "(a) Acid foods or acidified foods means foods that have an equilibrium pH of 4.6 or below."<sup>6</sup> Of particular importance to canning is the bacterial pathogen *Clostridium botulinum*, which produces toxins that cause the severe illness known as botulism. *Clostridium botulinum* is not favored in acidic environments and, therefore, the type of processing used to reduce the risk from this pathogen depends on the acidity of the raw produce and other ingredients used in the value-added product being canned.

<sup>6</sup> U.S. FDA, Center for Food Safety and Applied Nutrition. *Industry Affairs Staff Booklet*. Washington DC, 1999. Available online at [vm.cfsan.fda.gov/~lrd/part110t.html](http://vm.cfsan.fda.gov/~lrd/part110t.html).



### *Approximate pH of Foods and Food Products.*

The pH or acidity of a food is generally used to determine the processing requirements and applicability of specific regulations.

Approximate ranges of pH values for common food products are provided by FDA in a table available online at

➔ <http://vm.cfsan.fda.gov/~comm/lacf-phs.html>.

**California Cannery Regulations.** Low-acid and pH-control canned foods (low-acid foods that are acidified, such as pickles) are regulated by the California Cannery Inspection Program, which offers a website regarding regulatory requirements for commercial production of thermally processed low-acid canned foods and pH-control foods in California: ➔ [www.dhs.ca.gov/ps/fdb/html/food/indexcan.htm](http://www.dhs.ca.gov/ps/fdb/html/food/indexcan.htm). All operators who produce shelf-stable products (excluding low-water-activity foods such as flour, baking mixes, and nuts) should become familiar with these regulations. Some annual fees are required to register with this program. The fees are based on the size of the business, and some exemptions apply to very small operations.

➔ California Department of Health Services  
Food and Drug Branch  
Cannery Inspection Program  
PO Box 997413, MS-7602  
Sacramento, CA 95899-7413  
Phone: 916.650.6500  
Fax: 916.650.6650  
Email: [fdbinfo@dhs.ca.gov](mailto:fdbinfo@dhs.ca.gov)

**Refrigeration and Freezing.** Refrigerated and frozen foods require additional labels that clearly indicate to consumers that the product must be stored under refrigerated conditions. Labels on frozen foods should include thawing directions. For information on safe thawing procedures, visit the Food Safety and Inspection Service website at ➔ [www.fsis.usda.gov](http://www.fsis.usda.gov). Click on “Fact Sheets” and look under “Safe Food Handling” for the document titled “The Big Thaw—Safe Defrosting Methods for Consumers,” which explains the three safe ways to defrost food—in the refrigerator, in cold water, and in a microwave.

All produce that will be frozen or refrigerated should be processed in accordance with

regulations that ensure safe handling and stored and displayed at safe temperatures. County health inspectors can provide information on safe temperatures for storing refrigerated foods. In general, most potentially hazardous foods (e.g., meat, fish, and cut or peeled fresh produce) should be kept at or below 45°F. As with all processed foods, health permits are required of operators who produce frozen or refrigerated foods.

**Drying.** Sun drying and dehydrating are processing methods that can add value to agricultural products that have a short shelf life. Smoking fish and meats to make products such as lox and jerky is a similar processing method. Sun drying, dehydrating, and smoking all dramatically reduce the amount of water present, greatly extending shelf life and convenience. The availability of water controls the ability of many biological pathogens to live and reproduce. It also controls the activity of enzymes that contribute to ripening and the eventual break-down of fruits and vegetables. When a food is dehydrated enough to stop both bacterial and enzymatic attacks, it usually can be stored without refrigeration for extended periods of time.

However, such foods are still vulnerable to contamination prior to processing, during processing, and during transport, storage, and marketing. The product to be processed should be clean and free from biological, chemical, and physical contamination. For example, insect-damaged fruits and vegetables should not be used. Actual processing of foods to be dried must be carried out in a certified facility. Cut produce should be protected from flies, birds, mice, and other disease-carrying organisms at every step in the process. Dried products should be stored in airtight containers that protect them from possible contamination. If products are packaged, they should be properly labeled. If they are marketed in bulk, display containers should have lids and approved serving utensils must be used to prevent contamination during sale.

For more information on the use of sulfites and labeling concerns, call 1.800.332.4010, or visit  
➔ [www.fda.gov](http://www.fda.gov).

**Sulfites.** Additives such as sulfites are sometimes used in processing dried and other processed products, including wine. FDA



requires that the presence of sulfites be disclosed on labels of packaged food. This information should be included in the ingredient portion

of the label, along with the function of the sulfiting agent (for instance, a preservative).

When food is sold in bulk (a barrel of dried fruit or of loose raw shrimp, for example), a sign or other type of label that lists the food's ingredients on the container or at the point of sale is required so that consumers can determine whether the product has been treated with a sulfiting agent.

**Juice and FDA.** The *Juice HACCP* (hazard analysis and critical control points) *Small Entity Compliance Guide* from FDA's Center for Food Safety and Applied Nutrition explains in plain language the legal requirements concerning safe and sanitary processing of fruit and vegetable juices (Title 21, Part 120 of the Code of Federal Regulations). It is available free from ➔ <http://vm.cfsan.fda.gov/~dms/juicgui7.html>.

Retail establishments and businesses that sell juice directly to consumers and do not sell or distribute juice to other businesses are exempt from the juice HACCP regulation but must comply with applicable state regulations.

The Milk and Dairy Food Safety branch of the California Dept. of Food and Agriculture ensures that milk, milk products, and other dairy products are safe and wholesome, meet state and federal microbiological and compositional requirements, and are properly labeled.

## Cheese, Yogurt, and Other Dairy Products

*Dairy products such as pasteurized milk, cheese, and yogurt are considered potentially hazard-*



*ous foods and must be stored and displayed at or below 45°F at all times.* At certified farmers markets, dairy products are considered noncertifiable agricultural products. They must have been produced or derived from animals raised or produced by the vendor.

Any processing of dairy products, such as the manufacture of yogurt, must be done in an approved facility. The California Department of Food and Agriculture's (CDFA's) Bureau of Milk and Dairy Foods Control has regulatory authority over dairy products in California.

## Herbal Teas and Supplements

Caution should be used in marketing herbal tea mixtures or other herbal products, including oils and supplements that may be taken internally. Research herb species and cultivars carefully for known toxicities and allergens and label products carefully in accordance with FDA and other agency requirements. Fields should be kept as free from potentially hazardous weeds as possible and harvested herbs should be inspected for accidental contamination with weeds or other plants not intended to be used with the product.

## Flavored Olive Oil

Another popular value-added product is olive oil infused with herbs or other flavors such

### California Dept. of Food and Agriculture

#### Dairy Marketing and Milk Pooling Branches

560 J Street, Suite 150, Sacramento

Mail – 1220 N Street, Sacramento, CA 95814

Website – [www.cdfa.ca.gov/dairy](http://www.cdfa.ca.gov/dairy)

Email – [dairy@cdfa.ca.gov](mailto:dairy@cdfa.ca.gov)

Branch Phone Numbers:

Dairy Marketing – 916.341.5988

Milk Pooling – 916.341.5901

Milk and Dairy Food Safety – 916.654.0773

#### Shell Egg Quality Control Program

Mail – 1220 N Street, Sacramento, CA 95814

Phone – 916.445.0425

Website – [www.cdfa.ca.gov/is/fveqc/eggs.htm](http://www.cdfa.ca.gov/is/fveqc/eggs.htm)

#### USDA Dairy Website

as chili and garlic. These products currently are not regulated as processed foods but do potentially pose some food-safety risks. In particular, the anaerobic environment present in oils can lead to development of botulism when other conditions are met. Seek a recommendation from your local health authority before producing this type of product for sale.

## Other Products

Cosmetics, decorations, and other products that contain hazardous materials that may be accidentally consumed should be appropriately labeled. For example, herb and chili wreaths intended for decorative purposes only that have been treated with a preservative or that incorporate nonfood items such as inedible flowers or seed pods should be labeled with a tag or package label advising customers of these conditions.

## Occasional Events

Hosting occasional on-farm events such as seasonal harvest festivals is a good way to offer agritourism without making it a full-time activity. Such events give customers a chance to see and experience a farm or ranch in operation and learn about where food comes from in a

fun and engaging way. Operators can benefit from the added publicity, increased customer loyalty, and perhaps additional income from admission fees while also enjoying meeting new people and a change of pace. Well planned and managed special events can be enjoyable and rewarding for all.

Before starting a special event, operators should apply the same logic to analyzing food-safety hazards as is recommended for general operations. Begin by listing all activities that will take place and the hazards that could be present in each situation. Then list the safeguards that are already in place and those that need to be added or augmented. Some important concerns for special events on the farm or ranch include:

- ➔ How many people will attend?
- ➔ Will prepared foods be served?
- ➔ Is there access to potable water?
- ➔ Are there adequate restroom and hand-washing facilities?
- ➔ Will customers be in contact with live animals?
- ➔ What areas should not be accessible (for example, compost piles, chemical storage areas, recently sprayed fields)?
- ➔ Are there enough signs and postings educating customers about good food-safety practices and facilities such as restrooms and hand-washing stations?
- ➔ Will it be necessary to obtain a permit from the local environmental health authority?

### Agricultural Home Stays

Agricultural home stays receive a number of exemptions that do not apply to other food establishments.

Exemptions provided to agricultural home stays do not remove the requirement that the owner or an employee of a food-service establishment shall have passed an approved and accredited food-safety certification exam.



## Handling Money and Equipment

### Handling Money

The transfer of money from customer to vendor at direct markets often involves hand-to-hand contact as well as other potential sources of cross-contamination. This activity can therefore pose risks to food safety. Ideally, at least one employee at a market or farm stand is dedicated to carrying out customer transactions.

This eliminates the need for frequent hand washing and/or excessive use of disposable gloves as an employee switches from handling money to handling produce.

In addition, produce should not be displayed or stored directly beneath areas where customer transactions take place unless it is covered or otherwise protected as previously suggested on

page 12 under storing products. This reduces the risk of coins or other personal objects falling in and potentially becoming a physical hazard.



### Reusing Boxes and Containers

Reusable boxes, crates, tubs, and bins should be washed frequently and inspected for signs of biological and chemical contamination as well as for physical damage. See the UC Good Agricultural Practices website, [www.ucgaps.ucdavis.edu](http://www.ucgaps.ucdavis.edu), for information on washing procedures. Physical damage increases the risk of contamination from debris, and defects such as cracks and gouges provide areas for microbes and chemical residues to collect. Damaged containers also may injure the skin of produce or packaging, increasing the risk of biological contamination. Broken pallets may damage produce and packaging materials and should be repaired or replaced immediately.

### Customer Education

Markets and community-supported agriculture operators can include food-safety tips and information in newsletters. Labels should include

all required FDA elements. Master gardeners may offer workshops and information on food-safety topics such as canning and drying.

### Newsletters and Fact Sheets

Newsletters and fact sheets are excellent ways to inform and remind customers as well as employees about food-safety risks and safe handling practices. Often this information is available from local agencies such as county Cooperative Extension offices, statewide programs, and regulatory and enforcement authorities. Federal agencies such as USDA, FDA, and CDC also provide a wide range of useful products geared towards educating the public about safe food-handling and storage procedures.

➔ [www.usda.gov](http://www.usda.gov)   ➔ [www.fda.gov](http://www.fda.gov)  
➔ [www.cdc.gov](http://www.cdc.gov)   ➔ [www.cdffa.ca.gov](http://www.cdffa.ca.gov)

Newsletters provide opportunities to remind customers of food-safety issues. Examples of topics to cover in newsletters and fact sheets include:

- ➔ Safe handling and storage of fresh fruits and vegetables.
- ➔ Why wash produce before eating?
- ➔ Safe handling and storage of meat, eggs, and dairy products.
- ➔ Minimum cooking times and temperatures required to kill pathogens.
- ➔ Storing processed foods before and after opening.
- ➔ Canning and freezing requirements.

### Demonstrations and Food-Safety Events

A wide variety of food-safety principles and methods can be taught at farmers markets through demonstrations and other events that feature experts in food preparation and storage. Proper procedures can be demonstrated, equipment can be displayed, and customers can be given the opportunity to ask questions and pick up fact sheets or other information on food-safety topics.

## Documentation and Liability Issues

### Labeling

Labels on packaged foods provide a critical opportunity to educate customers about a product and how to use and enjoy it safely. Labeling requirements may be affected by regulatory agencies such as FDA, USDA's Food Safety and Inspection Service (FSIS) and Organic Program, state and local health departments, and California's Weights and Measures division. Some of the requirements related to food safety address topics such as ingredient lists, "sell-by" or "discard" dates, "refrigerate after opening," and other handling recommendations and warnings.

Vendors should be aware of any food-safety issues related to labeling. For example, ingredient lists that alert consumers with allergies to potential hazards and appropriate labels on inedible plant products intended for decoration only can reduce the risks involved with marketing some value-added products. "Refrigerate after opening" warnings can help to avert unnecessary food-related illness. A label showing various steps that ensure safe food handling and other informational graphics are available from USDA at [www.fsis.usda.gov/oa/pubs/image\\_library/flightbac.htm](http://www.fsis.usda.gov/oa/pubs/image_library/flightbac.htm).

Look for short courses and workshops on merchandising and labeling at trade meetings and meetings sponsored by groups such as

chambers of commerce, the U.S. Small Business Administration, Cooperative Extension offices, and USDA. Visit the UC food-safety website's *Labeling Issues* page for more information and links to other resources: <http://ucce.ucdavis.edu/files/filelibrary/5622/13328.pdf>.

For more information, see USDA's 2002 labeling fact sheet at [www.ams.usda.gov/nop/FactSheets/LabelingE.html](http://www.ams.usda.gov/nop/FactSheets/LabelingE.html).

Organic producers should also be aware of labeling requirements by the agency that certifies them (for example, California Certified Organic Farmers and the California Department of Food and Agriculture).

### Recordkeeping

Recordkeeping is a critical step in effectively managing food-safety risks and involves maintaining a broad range of documentation. Good documentation includes records of hazards and methods by which they are controlled; maintenance activities and actions taken to correct potential problems; up-to-date codes and regulations along with certificates, permits, and licenses; production, storage, and sales records; compost, fertilizer, and pesticide application records; and records of all material input purchases, including chemicals, composts, and ingredients used in processing.

### Labeling and Organic Products

- The Organic Foods Production Act and the National Organic Program (NOP) are intended to assure consumers that organic foods they purchase are produced, processed, and certified according to national organic standards. Labeling requirements under the program apply to raw, fresh products and processed foods that contain organic ingredients. Foods that are sold, labeled, or represented as organic must be produced and processed in accordance with NOP standards.
- Except for operations with gross agricultural income from organic sales totaling \$5,000 or less, farm and processing operations that grow and process organic foods must be certified by USDA-accredited certifying agents. A certified operation may label its products or ingredients as organic and may use the "USDA Organic" seal.
- Labeling requirements are based on the percentage of organic ingredients in a product.

Reprinted from the National Organic Program's *Fact Sheet: Labeling and Marketing Information* at [www.ams.usda.gov/nop/FactSheets/LabelingE.html](http://www.ams.usda.gov/nop/FactSheets/LabelingE.html).

Good records not only allow you to monitor and verify your food-safety efforts; they also allow you to trace a problem back to its source, such as to a particular shipment on a given harvest day or a particular batch of compost or delivery of an agricultural chemical from a supplier.

## Liability Insurance

In addition to employing best practices for achieving and maintaining a safe system for employees and consumers, it is prudent to invest in adequate liability insurance to protect your business from claims that may arise in regard to safety. Consult with various insurance carriers and compare rates for cost-effective protection.



## Regulatory Exemptions for Agritourism Operations

Some of the laws and regulations that concern food safety at agritourism events and farmers markets actually increase marketing opportunities rather than restrict them. For example, Article 18 of CURFFL (California Uniform Retail Food Facilities Law) was amended in 1999 to include *agricultural home stays* as a special type of retail food establishment. Under these provisions, agricultural home stays receive a number of exemptions that do not apply to other food establishments. The intent of the exemptions is to provide less restrictive requirements that make it easier to use a private home as a food and lodging establishment when it is located on a farm that produces agricultural products as its primary source of income. Some constraints do apply though. For example, the CCDEH guide states that:

*Such establishments must have six or fewer guestrooms, are restricted to a maximum of fifteen guests, and the lodging and meals must be incidental to, and not the primary function of, the farm or ranch.<sup>7</sup>*

Some of the more important exemptions include:

- An agricultural home stay may serve meals and snacks to its registered guests at any time.
- Floors in the kitchen area do not have to meet the requirements for a full-service restaurant.
- Existing walls and ceilings need not meet standards other than those of cleanliness and sanitation.
- Refrigerators must have an adequate capacity to maintain food at or below 41°F but are not required to meet American National Standards Institute (ANSI) standards for commercial refrigeration.
- A domestic dishwashing machine is acceptable if it is capable of providing heat of at least 165°F to the surface of utensils.

<sup>7</sup> California Conference of Directors of Environmental Health. *Bed and Breakfast/Agricultural Homestay Food Establishment Guidelines*. Carmichael CA, 2000.