

## Hazard Analysis and Critical Control Points: A Risk Management Process

FDA has adopted a food-safety program developed nearly thirty years ago for the space program and applied it to its oversight and regulation of several food production industries, including meat, poultry, seafood, canned food, and juice. The agency intends to eventually use it for much of the U.S. food supply.<sup>8</sup> The program focuses on *preventing hazards* that could cause food-borne illnesses by applying science-based controls at critical stages of the food chain, from raw materials to finished products. While the program may sound high-tech, its principles are actually fairly simple and logical and can be applied to virtually any system of food production and marketing regardless of size. The system is known as **Hazard Analysis and Critical Control Point** or **HACCP** (pronounced “hassip”).

HACCP involves seven basic principles.

- ➔ **Analyze hazards.** Potential hazards associated with a food process and measures to control those hazards are identified. The hazard could be biological, such as a microbe; chemical, such as a toxin; or physical, such as glass or metal fragments.
- ➔ **Identify critical control points.** These are points in a food chain—from field preparation to harvesting and shipping to consumption by the consumer—at which potential hazards can be controlled or eliminated. Examples are fertilizer application, pesticide spraying, harvesting, cooling, packaging, inspecting, transporting, and displaying.
- ➔ **Establish preventive measures** with critical limits for each control point. For fresh produce, for example, this might include setting maximum storage temperatures and times or adding a sterile rinsing step to ensure elimination of any harmful microbes.
- ➔ **Establish procedures to monitor** critical control points. Such procedures can include

determining how and by whom product storage time and temperature should be monitored. Another example is assigning the task of monitoring pesticide application rates and times to a specific employee—in other words, assigning responsibility.

- ➔ **Establish corrective actions** to take when monitoring shows that a critical limit has not been met—for example, reprocessing or disposing of food if the maximum storage temperature is exceeded.
- ➔ **Establish procedures to verify** that the system is working properly—for example, testing time-and-temperature recording devices to verify that a cooling unit is working properly or checking the flow rate on a sprayer.
- ➔ **Establish effective recordkeeping** to document the HACCP system. This includes records of hazards and their control methods, monitoring of safety requirements, and actions taken to correct potential problems.

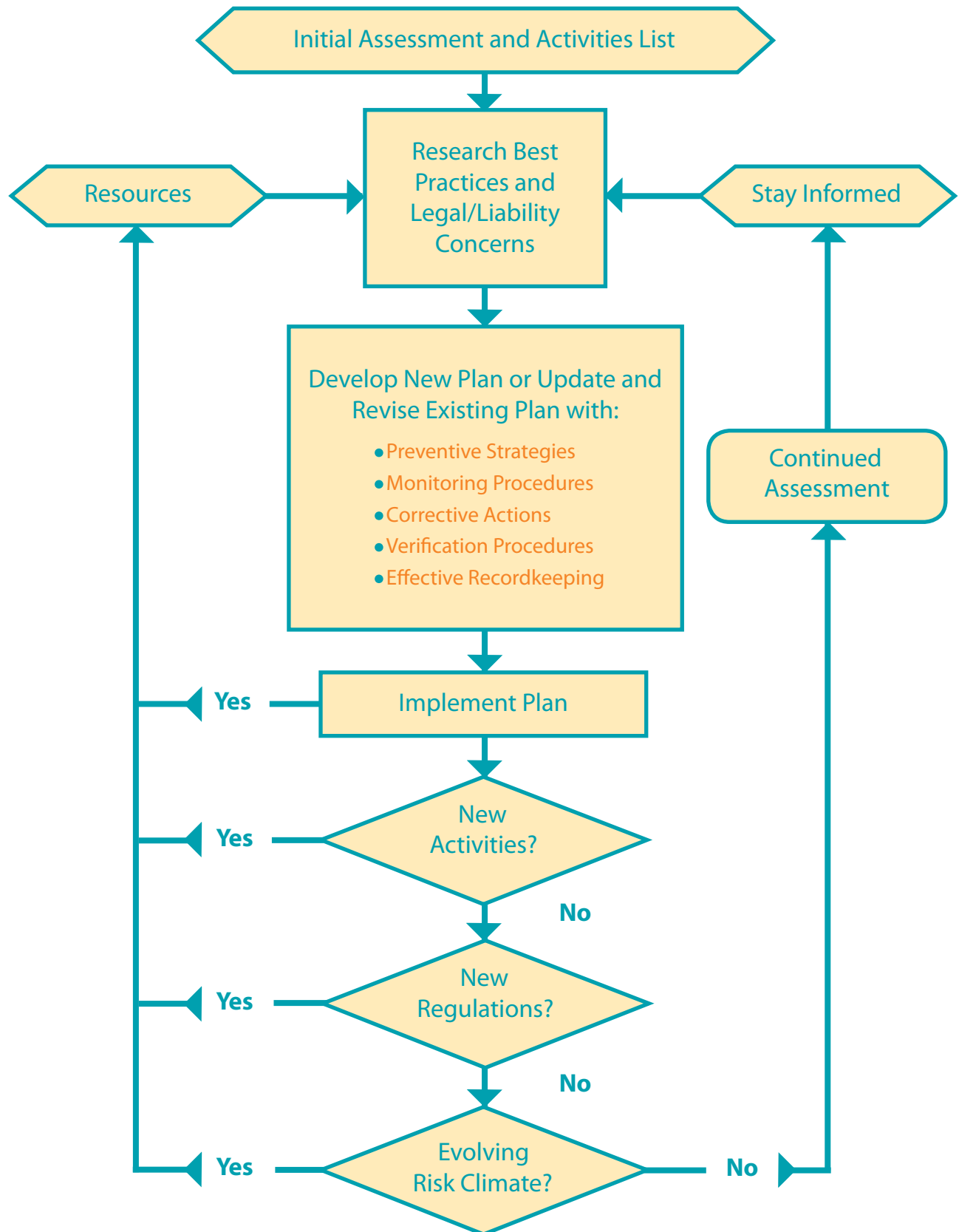
Actions taken on each of these principles must be backed by sound scientific knowledge, such as published microbiological studies on time and temperature factors for controlling food-borne pathogens. Working with trained agricultural and food-safety professionals will help ensure access to up-to-date and accurate information, tools, and technologies.

### Critical Control Points

The *flowchart* on the next page outlines the HACCP plan and includes references to points where different activities may affect other events. The chart is followed by a *Control Points Table* that outlines many of the common food-safety risks that occur at each phase of an agricultural direct-marketing operation. The exposures are listed by hazard type—biological, chemical, and physical. A blank table is also provided so users can fill in their own control measures at each phase and for each class of food-safety hazard. Completing the table will help users organize their control strategies visually, aiding in risk assessment.

<sup>8</sup> U.S. FDA. “HACCP: A State-of-the-Art Approach to Food Safety” *FDA Backgrounder*, October, 2001. Available online in March 2004 at [www.cfsan.fda.gov/~lrd/bghaccp.html](http://www.cfsan.fda.gov/~lrd/bghaccp.html).

## HACCP Critical Control Points



## Control Points Table

Potential Risks			
Hazard Phase	Biological	Chemical	Physical
<b>Preproduction</b>	Livestock, wild animals, improperly composted manure, natural soil organisms.	Residues from previous use history or current pesticide and fertilizer use.	Stones and sticks or "trash" from previous crops, syringes, other debris in compost.
<b>Production</b>	Same as above plus contaminated irrigation water.	Fertilizers and pesticides.	See above.
<b>Harvest</b>	Improper worker hygiene; dirty bins, containers, and harvest equipment; domestic and wild animals.	See above plus equipment leaks and cleanser residues.	See above plus poorly maintained or damaged/worn-out equipment, workers' personal articles (jewelry, pens, etc.).
<b>Postharvest</b>	Contaminated wash/rinse or cooling water, including ice; improper worker hygiene; dirty bins, containers, and sorting equipment; staging areas next to cull or compost piles or livestock areas.	Contaminated wash/rinse or cooling water, including ice; residues from pest control in and around packing shed/buildings; residues in bins and containers.	See above.
<b>Processing</b>	Improper canning temperatures or pH, flies or other vermin around drying racks, employee hygiene.	Residues and water or other additives used in processing.	Damaged containers and equipment, including jars and packaging materials; fragments from walls or ceilings; employees' personal items.
<b>Storage</b>	Vermin such as mice or insects; improper temperatures or humidity; dirty bins and other types of cross-contamination.	Residues from cleansers and pesticides used to control vermin, residues or cross-contamination from other materials stored in the same facility.	Damaged bins, fragments from walls or ceilings, vermin nesting materials.
<b>Transportation</b>	See above.	See above plus residues from previous transport of chemical materials in vehicles.	Damaged pallets, bins, and containers; fragments from vehicles.
<b>Marketing</b>	Employee and consumer handling, improper sampling hygiene, improper temperature control.	Sanitizing and cleaning residues on display and sampling equipment.	Damaged display equipment; employees' or customers' personal items, including coins.
<b>Preparation</b>	Poor worker hygiene, dirty equipment, cross-contamination, improper cooking time or temperature, poor kitchen sanitation.	Residues on equipment, food additives.	Damaged equipment (both cooking and serving), fragments from walls or ceilings, employee's personal items.
<b>Consumer</b>	Inadequate or improper consumer education such as "refrigerate after opening" and "discard date" advisories.	Inadequate or improper consumer education such as "wash before consuming" advisories.	Inadequate or improper consumer education such as "may contain pits or shell fragments" warnings.

A blank copy of this form is provided on the following page so you can fill in your own control points table.

## Control Points Table

Identify Potential Risks in Your Operation			
Hazard Phase	Biological	Chemical	Physical
Preproduction			
Production			
Harvest			
Postharvest			
Processing			
Storage			
Transportation			
Marketing			
Preparation			
Consumer			

Use this table in conjunction with the Control Points Table on the preceding page.

## Self-Evaluation and Planning Worksheets

The self-evaluation worksheet in this guide can assist you in identifying your strengths and weaknesses with respect to managing food-safety risks for each type of hazard and at every phase of an operation. Completing this short self-evaluation is a good place to start the process of developing or improving your food-safety risk management plan.

For each phase, rate your satisfaction with the controls you have in place for the three classes of food-safety hazards. For example, if your operation has made significant strides to ensure successful control of biological hazards during production—such as careful management and application of compost, adequate containment of livestock and their waste products, and use of clean irrigation water from a protected source—then place a check mark in Box 4 indicating a Very Satisfied level of assurance. In contrast, if exposure to food-safety risks during the marketing phase of your operation has not received much attention until now, you might place check marks in Boxes 1 or 2 for all three classes of food-safety risk in the Marketing row of the table.

After completing the self-assessment table, use it as a guide to assist you with planning to improve your management of



food-safety risks. The worksheet that follows allows you to group various phases of your operation by level of assurance from your self-assessment. This process generates a priority list from which to plan.

On the final worksheet, you can organize your activities chronologically into a timetable. Use this timetable to implement your management plan for addressing food-safety risk.



## Self-Evaluation Checklist

Rate your level of assurance with respect to food-safety hazards at each step of operation as follows:

4 = Very Satisfied    3 = Some Level of Uncertainty    2 = Needs More Attention    1 = No Controls

Assessment Phase	4	3	2	1	4	3	2	1	4	3	2	1
Preproduction												
Production												
Harvest												
Postharvest												
Processing												
Storage												
Transportation												
Marketing												
Consumer Education												
Product Labeling												
Employee Training												
Restroom Facilities												
Signs and Postings												
Food Preparation												
Kitchen Facilities												
Food Storage Areas												
Animal Contact Areas												
Recordkeeping												

## Prioritizing Actions

*From the Self-Evaluation Checklist*

### Level 1: Immediate Attention

Research Best Management Practices and begin to implement.

NO CONTROLS

### Level 2: Short-Term Goals

Revisit Best Management Practices for these topics and make modifications accordingly.

NEEDS MORE ATTENTION

### Level 3: Fine Tuning

As time permits, research these topics in more detail. Make necessary adjustments.

SOME LEVEL OF UNCERTAINTY

### Level 4: Continue monitoring and self-assessment regularly.

VERY SATISFIED

D  
E  
C  
R  
E  
A  
S  
I  
N  
G  
  
P  
R  
I  
O  
R  
I  
T  
Y



# Timetable for Implementation

Use this form to begin building a timetable for implementing food-safety practices.  
This table will summarize your activity plans for improving food safety in your operation.

Next Three Months	Activity Plan
Next Six Months	Activity Plan
Next Year	Activity Plan



### Gateway to Government Food-Safety Information

[www.foodsafety.gov](http://www.foodsafety.gov)

### Agencies with Authority over Food Safety Regulations

The following agencies regulate growing or processing of the indicated food products. Acceptance of an approved source is up to the local environmental health agency.

#### Legend of Agencies

1. County Agricultural Commissioner
2. California Department of Health Services, Food and Drug Branch
3. California Department of Fish and Game
4. California Department of Food and Agriculture (CDFA), Meat and Poultry Inspection Branch
5. California Department of Food and Agriculture (CDFA), Bureau of Milk and Dairy Foods Control
6. U.S. Department of Agriculture, Food Safety and Inspection Service (FSIS)
7. Local environmental health agency

Product	Regulatory Authority
Fruits and Vegetables – fresh, whole	1
Fruits and Vegetables – processed	2 or 7 <sup>a</sup>
Nuts – fresh, whole	1
Nuts – processed	2 or 7 <sup>a</sup>
Sprouts	1
Shell Eggs	1
Honey	1
Juice	2 or 7 <sup>a</sup>
Jams and Preserves	2 or 7 <sup>a</sup>
Low-Acid Canned Foods	2
Poultry – live	none
Poultry – processed	4 <sup>b</sup> or 6
Fish and Shellfish	2 and 3
Red Meat – fresh	6
Red Meat – processed (cured,	4 and 6
Dairy Products	5

<sup>a</sup> In most cases the state Food and Drug branch regulates wholesale operations. Food processors who sell only at retail are usually regulated by the local environmental health agency.

<sup>b</sup> The exemption from CDFA inspection of poultry does not apply when sales occur at certified farmers markets. Inspection must be requested from CDFA.

Source: California Conference of Directors of Environmental Health, [www.ccdeh.com/committee/food/documents/Guidelines/Certified\\_Farmers\\_Markets.pdf](http://www.ccdeh.com/committee/food/documents/Guidelines/Certified_Farmers_Markets.pdf).

## Legal and Regulatory Agencies Involved with Food Safety

### Federal Government

Code of Federal Regulations  
Title 21 – Food and Drugs  
Chapter I – Food and Drug Administration  
Part 110 – Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food

The full document is available at [www.dhs.ca.gov/ps/fdb/PDF/fsgmp.pdf](http://www.dhs.ca.gov/ps/fdb/PDF/fsgmp.pdf).

### California Health and Safety Code

Sections of California's Health and Safety Code that govern retail food inspection activities in California are:

- ➔ *The California Uniform Retail Food Facilities Law (CURFFL)* – California Health and Safety Code, Sections 113700–114475 as amended. A copy of this law as of 2004 can be found at [www.dhs.ca.gov/ps/fdb/pdf/curffl2004.pdf](http://www.dhs.ca.gov/ps/fdb/pdf/curffl2004.pdf).
- ➔ *The Food Sanitation Act* – California Health and Safety Code, Sections 111950–112055 as amended. A copy of this law as of 2004 can be found at [www.dhs.ca.gov/ps/fdb/pdf/food%20sanitation%20act.pdf](http://www.dhs.ca.gov/ps/fdb/pdf/food%20sanitation%20act.pdf).
- ➔ *The Sherman Food, Drug, and Cosmetics Laws* – California Health and Safety Code, Sections 109875–111915. A copy of this law as of 2004 can be found at [www.dhs.ca.gov/ps/fdb/pdf/Sherman%202005.pdf](http://www.dhs.ca.gov/ps/fdb/pdf/Sherman%202005.pdf)

### Definition of "Potentially Hazardous Food"

Section 113845. "Potentially hazardous food" means food that is in a form capable of (1) supporting rapid and progressive growth of infectious or toxigenic microorganisms that may cause food infections or food intoxications, or (2) supporting the growth or toxin production of *Clostridium botulinum*. "Potentially hazardous food" does not include foods that have a pH level of 4.6 or below, foods that have a water activity value of 0.85 or less under standard conditions, food products in hermetically sealed containers processed to meet the commercial sterility standard as defined in Section 113.3(e) of Title 21 of the Code of Federal Regu-

lations, or food that has been shown by appropriate microbial challenge studies approved by the enforcement agency not to support the rapid and progressive growth of infectious or toxigenic microorganisms that may cause food infections or food intoxications or the growth and toxin production of *Clostridium botulinum*.

### California Conference of Directors of Environmental Health (CCDEH)

[www.ccdeh.com](http://www.ccdeh.com)

The legal section of the California Conference of Directors of Environmental Health's (CCDEH's) website links directly to corresponding sections of the California Department of Health Services' Food-Safety Program website, which is updated whenever changes are approved through legislation: [www.ccdeh.com/commtee/food/documents/default.htm](http://www.ccdeh.com/commtee/food/documents/default.htm).

CCDEH is comprised of environmental health directors from sixty-two jurisdictions, including counties and cities, and associate membership is open to all environmental health professionals. A manager and the executive director are based in Sacramento to support the association's legislative and administrative functions. In addition, there is an executive committee comprised of four officers, each representing a region of California, and four regional representatives.

CCDEH's website offers numerous food-safety publications, including guidelines for various kinds of facilities and operations and references to legal documents that apply to environmental health. Guidelines for the following operations are available at the website.

- ➔ certified farmers markets
- ➔ bed and breakfasts and ag home stays
- ➔ temporary food facilities
- ➔ planning for mobile food facilities

### California Cannery Inspection Program

[www.dhs.ca.gov/ps/fdb/HTML/Food/indexcan.htm](http://www.dhs.ca.gov/ps/fdb/HTML/Food/indexcan.htm)

The California Department of Food and Agriculture's California Cannery Inspection Program website is a guide to regulatory require-

ments for commercial production of thermally processed low-acid canned foods and pH-control foods in California.

## University of California and Cooperative Extension Resources

### University of California

#### UC Small Farm Center Website

[www.sfc.ucdavis.edu](http://www.sfc.ucdavis.edu)

#### UC Food-Safety Website

<http://ucfoodsafety.ucdavis.edu>

Research and extension faculty at UC Davis host this site but current information from all UC campuses is included. Viewers can link to presentations, publications, and other websites with information related to food production, harvest, and processing. The site emphasizes microbial food safety but many other subjects related to food (such as biotechnology, food quality, and food security) are also addressed.

#### UC Good Agricultural Practices (GAP) Self-Audit and Website

<http://ucgaps.ucdavis.edu>

#### UC Good Agricultural Practices Self-Audit

Available in both CD and online PDF format, this is a very useful resource for farmers and ranchers.

Links also include presentations, publications, and other websites with information related to the production, harvest, and processing of foods.



#### UC FoodSafe Program Website

<http://foodsafety.ucdavis.edu>

### Cooperative Extension Specialists

University of California

One Shields Avenue

Davis, CA 95616

#### Trevor V. Suslow, Ph.D.

Department of Vegetable Crops, UC Davis

Dr. Suslow's research and extension program centers on studying the effects of microflora on the postharvest quality of perishable produce and emphasizes three broad areas of postharvest pathology:

- ➔ Integrated systems for controlling microbes that cause decay after harvest in whole and fresh-cut produce.
- ➔ Integrated technologies that maintain quality while produce is shipped and distributed.
- ➔ Diagnostic tools that predict a products' tendency to lose quality or spoil.

Email: [tvsuslow@ucdavis.edu](mailto:tvsuslow@ucdavis.edu)

Phone: 530.754.8313 / Fax: 530.752.4554

#### Linda J. Harris, Ph.D.

Department of Food Science and Technology, UC Davis

Dr. Harris' areas of expertise include food microbes, communications, fruits and vegetables, dairy products, meats, and poultry. Her research and extension program broadly covers microbial food safety. She provides educational programs related to all aspects of the food chain and primarily researches antimicrobial treatments that increase the microbial safety and quality of food.

Email: [ljharris@ucdavis.edu](mailto:ljharris@ucdavis.edu)

Phone: 530.754.9485 / Fax: 530.752.4759

### General Food Safety

Video – Consumer Trends in Food Safety;  
Interactive Workshop: Planning the Future of Food Safety Education

[www.ocav.usda.gov](http://www.ocav.usda.gov)

### Food Safety Preparation and Storage Sample Images

English: [www.fsis.usda.gov/oa/pubs/image\\_library/fightbac.htm](http://www.fsis.usda.gov/oa/pubs/image_library/fightbac.htm)

Spanish: [www.fsis.usda.gov/oa/pubs/cfg/downloadart\\_sp.htm](http://www.fsis.usda.gov/oa/pubs/cfg/downloadart_sp.htm)

Cooking for Groups:  
A Volunteer's Guide to Food Safety  
[www.fsis.usda.gov/oa/pubs/cfg/cfg.htm](http://www.fsis.usda.gov/oa/pubs/cfg/cfg.htm)

## Food Labeling

### U.S. Department of Agriculture Food Labeling Fact Sheet

[www.ams.usda.gov/nop/FactSheets/LabelingE.html](http://www.ams.usda.gov/nop/FactSheets/LabelingE.html)

### Food Labeling Information at the UC Food Safety Website

[www.ucfoodsafety.ucdavis.edu/Getting\\_Started\\_In\\_The\\_Food\\_Business/Labeling\\_Issues.htm](http://www.ucfoodsafety.ucdavis.edu/Getting_Started_In_The_Food_Business/Labeling_Issues.htm)

This web page includes a collection of links to various federal, state, and other sources of information about requirements regarding labeling for food operations, including labeling related to allergenic substances, refrigerated foods, nutrition content, and UPC codes required for retail sales.

### Network of Food Compliance Professionals

[www.foodcompliance.com](http://www.foodcompliance.com)

This website is designed to be a resource for food-safety compliance professionals and offers information regarding labeling regulations by agencies such as USDA and FDA.

## Markets and Ag and Nature Tourism Venues

### California Federation of Certified Farmers Markets

[www.cafarmersmarkets.com](http://www.cafarmersmarkets.com)

### Guidelines for Certified Farmers Markets from the California Committee of Directors of Environmental Health

[www.ccdeh.com/committee/food/documents/Guidelines/Certified\\_Farmers\\_Markets.pdf](http://www.ccdeh.com/committee/food/documents/Guidelines/Certified_Farmers_Markets.pdf)

### Guidelines for Reducing the Risk of Disease at Petting Zoos, Animal Exhibits, and Other Areas

[www.dhs.ca.gov/ps/ddwem/environmental/Institutions/PDFs/GuidelinesReducingRiskPetZoosMD.PDF](http://www.dhs.ca.gov/ps/ddwem/environmental/Institutions/PDFs/GuidelinesReducingRiskPetZoosMD.PDF)

### Hand-Washing Signs for Petting Zoos and Animal Contact Areas

[www.cdfa.ca.gov/fe/HandwashSigns.htm](http://www.cdfa.ca.gov/fe/HandwashSigns.htm)

### UC Small Farm Center Website

[www.sfc.ucdavis.edu](http://www.sfc.ucdavis.edu)

## Producers of Agricultural Products

### Video – Food Safety Training Program for Sprout Producers

California Department of Health Services, Food and Drug Branch, and the U.S. Food and Drug Administration

Developed in cooperation with the Centers for Disease Control, university researchers, and industry representatives, the video can be useful to retailers, regulators, and others who want to better understand current recommendations for best production practices, including legal requirements and guidelines, seed production, sprout production, disinfection treatments, sampling and microbial testing, and personnel practices.

California Department of Health Services  
Food & Drug Branch (MS 7602)  
PO Box 997413  
Sacramento, CA 95899-7413  
Phone: 916.650.6500

## Production of Value-Added Products

### Value-Added Products and Food-Safety Website – Washington State University

<http://agsyst.wsu.edu/foodsafety.htm>

The website offers copies of *Producing Value-Added Products For Market: Start With Food Safety* (EB1902), a publication by B. Susie Craig and Sandra G. Brown that can be downloaded at <http://cru.cahe.wsu.edu/CEPublications/eb1902/EB1902.pdf>.

### Laboratory for Research in Food Preservation

Keith Ito, Director, UCLRFB

Email: [kito@nfpa-food.org](mailto:kito@nfpa-food.org)

6363 Clark Avenue, Dublin, CA 94568-3097

Phone: 925.828.1790 / Fax: 925.833.8795

### Value Added Processing Website – Oregon State University Extension Service

<http://oregonstate.edu/dept/foodsci/foodweb/main.htm>

Contact Yanyun Zhao, Associate Professor/  
Value-Added Product Specialist.

Email: [yanyun.zhao@oregonstate.edu](mailto:yanyun.zhao@oregonstate.edu)

Assists the food industry to develop and enhance quality and safety and increase the value of fruit and vegetable products.

### National Food Processors Association's Center for Technical Service and Assistance

[www.nfpa-food.org](http://www.nfpa-food.org)

The center, which is funded by the state's Can-  
nery Inspection Program, provides laboratory  
assistance and consulting in food safety, process  
authority, food microbiology, food chemistry,  
sanitation, environmental engineering, and  
waste management. Products typically analyzed  
include canned and acidified foods—primarily  
miscellaneous vegetables and specialty foods  
(sauces, salsas), animal foods, olives, and fish.

### Sulfites: Safe for Most, Dangerous for Some

[www.fda.gov/fdac/features/096\\_sulf.html](http://www.fda.gov/fdac/features/096_sulf.html)

A 1996 article by Ruth Papazian from *FDA  
Consumer Magazine* regarding the risks of sulfite  
use.

## Compost and Manure Handling

### California Compost Quality Council (CCQC)

[www.crra.com/ccqc/ccqchome.htm](http://www.crra.com/ccqc/ccqchome.htm)

A unique alliance of compost producers, scien-  
tists, farmers, landscape contractors, and recy-  
cling advocates who administer compost qual-  
ity guidelines in California. The council operates  
an independent verification program through  
which compost producers can assure consum-  
ers that quality claims have been verified.

### University of California Good Agricultural Practices (GAP) Self-Audit and Website –

<http://ucgaps.ucdavis.edu>

From here link to presentations, publications,  
and other websites with information related  
to food production, harvest, and processing,  
including composting and soil amendments in  
the *GAP Self-Audit*.

## Food HACCP Videos and Slides Online

[www.foodhaccp.com/online.html](http://www.foodhaccp.com/online.html)

All resources at this site, including the following,  
are available free of charge.

### Slide Presentations

- ➔ Basic Microbiology – *Linda Harris, UC Davis*
- ➔ Cold Storage Sanitation – *Trevor Suslow, UC Davis*
- ➔ Hand Sanitation – *Trevor Suslow, UC Davis*
- ➔ ORP (Oxygen Reduction Potential) Basics for Mushrooms – *Trevor Suslow, UC Davis*
- ➔ Pathogen Testing – *Linda Harris, UC Davis*
- ➔ Food-Safety Systems – *Luke LaBorde, Pennsylvania State University*
- ➔ Key Sanitation Areas – *Luke LaBorde, Pennsylvania State University*

### HACCP Video in Spanish

By Dr. M. Brashears in connection with  
University of Nebraska.





## Appendix

### Checklist for Physical Requirements for Mobile Food Facilities

The following information summarizes requirements for mobile food facilities from Section 114260 of the California Health and Safety Code as of March 2005. The code can be found at [www.leginfo.ca.gov/cgi-bin/calawquery?codesect=114260](http://www.leginfo.ca.gov/cgi-bin/calawquery?codesect=114260).

#### Types of Mobile Food Facilities

- A = Mobile food facilities that handle only prepackaged food and produce that is not potentially hazardous.
- B = Mobile food facilities that handle prepackaged potentially hazardous food, whole fish and whole aquatic invertebrates, or bulk-dispensed beverages that are not potentially hazardous. Tamales are considered prepackaged if they are dispensed to customers in their original inedible wrapper.
- C = Mobile food facilities that handle food that is not prepackaged, is not potentially hazardous, and requires no preparation other than heating, baking, popping, blending, assembling, portioning, or dispensing; preparation of ingredients that are not potentially hazardous into a food that is not potentially hazardous; and/or churros, hot dogs, cappuccino, and other coffee-based or cocoa-based beverages that may contain cream, milk, or similar dairy products and frozen ice cream bars.

These are the only foods that may be prepared or dispensed on a mobile food facility. Except for preparation of churros, cooking processes (including barbecuing, broiling, frying, and grilling) are not permitted on a mobile food facility.

#### Regulations That Affect Type A, B, and C Facilities

- Name, address, phone number of the owner/operator/permittee and business name attached to both sides of the facility and legible. Facility's name shall be in letters at least three inches high and rest of information shall be in letters at least one inch high. Letter color must contrast with the exterior of the mobile food facility.
- All equipment, cabinets, and compartments must be smooth, readily accessible, and easy to clean. No unfinished wood surfaces. Construction joints must fit tightly and be

sealed. Equipment and utensils must be made of durable, nontoxic materials.

- All food must remain on the mobile food facility except for approved restocking of product.
- All remaining food products must be stored only in an approved commissary.
- Food, food-contact surfaces, and utensils must be protected from contamination. All single-service utensils must be protected from contamination in approved dispensers. Food contact surfaces and utensils must be cleaned and sanitized in accordance with Section 114090.
- All food must be obtained from an approved source.
- Condiments must be protected from contamination and self-serve condiments must be prepackaged or in approved dispensing devices.
- Must operate within 200 feet of approved and readily available toilet and hand-washing facilities.
- Must operate out of a commissary that is stored at or in an approved location that protects it from unsanitary conditions.

#### Regulations That Affect Type B and C Facilities

- Potentially hazardous food must be maintained at or below 41°F (refrigerated) or at or above 135°F at all times.
- Potentially hazardous food held at or above 135°F must be destroyed at the end of the operating day.
- All wastewater must be drained by approved methods at the commissary.
- All new and replacement gas-fired appliances must meet applicable ANSI standards. All new and replacement electrical appliances must meet applicable Underwriters Laboratory (UL) standards.

#### Regulations That Affect Type C Facilities

- Bulk beverage dispensers must be filled only at the commissary unless a hand-washing sink that is large enough to accommodate the largest utensil and vessel is available.
- When food that is not prepackaged is handled for display or sale, food holding and

handling compartments must be completely closable. Openings must be large enough to allow assembly while still providing protection and compartment closures must fit tightly to prevent contamination.

- ➔ Ready-to-eat foods that are not prepackaged must meet the following requirements.

**Sinks** – Must have a one-compartment metal sink supplied with hot (120°F) running water and cold (less than 101°F) running water through a mixing-type faucet. The sink must be large enough to accommodate cleaning of the largest utensils. The sink, hand-washing cleanser, and single-service towels must be easily accessible and unobstructed.

**Potable Water** – Minimum water heater capacity is one-half gallon. The potable water tank and delivery system must be constructed of approved materials, provide protection from contamination, and be adequate to handle the level of food handling activity. Hand-washing minimum capacity is five gallons. Additional capacity must be supplied for other uses such as steam tables and utensil and equipment cleaning.

**Wastewater** – Wastewater tanks must have a minimum capacity of 7.5 gallons and a capacity that is 50% greater than the supply of potable water. Mobile food facilities using ice to store or display food/beverages must provide additional wastewater

holding capacity equal to 33% of the volume of the ice cabinet to accommodate drainage. Product water used to prepare a food or beverage requires that a volume equal to 15% of the product water used be added to the wastewater capacity. Additional wastewater tank capacity may be required where wastewater production or spillage is likely to occur. Connections to wastewater tanks must preclude contamination of food, surfaces, and utensils. Inlets that supply the potable water must prevent backflow and other contamination.

**Hoses** – Hoses used to fill potable water tanks must be made of food-grade materials and handled in a sanitary manner.

**Facilities that portion or dispense** only foods that are not prepackaged and not potentially hazardous (except ice) are exempt from sink requirements if an approved supply of gloves or utensils or both are supplied to preclude hand contact with food.

**Approved written operational procedures** for food handling and for cleaning and sanitizing food-contact surfaces and utensils must be approved and followed.

**All storage, display, and dispensing methods** must be approved.

**Cappuccino and other coffee/cocoa-based beverages** that contain cream, milk, or other dairy products must be made to order.

## Washing Procedures

**Hands.** Wash hands with warm running water with soap. Scrub hands with soap for at least fifteen seconds, paying careful attention to areas that are difficult to clean such as around and under nails. Rinse hands with warm running water and dry with single-use paper towels.

Wash hands before starting work, after any absence from a work station, after blowing the nose or touching the face or hair, after restroom use, after breaks, after handling dirty or raw materials, after performing maintenance on equipment, and after picking up objects from the floor.

**Bins and Containers.** Bins and containers are a risk to food safety because they hold food

products longer and are often reused several times during a day. It is important to wash bins and containers often—between every load if possible. Employees should remove liners from containers before cleaning and give special attention to cleaning the lids. All containers should be made of nontoxic washable materials like plastic and free of loose materials such as nails, splinters, staples, etc. All bins and containers must be approved for use by FDA or USDA. Recondition, repair, or dispose of all damaged containers. Containers should be color-coded according to their function; those that hold finished products, soiled products, or waste should never be interchanged.

---

From the UC Good Agricultural Practices Self-Audit.

## Sample Hand-Washing Signs

### ANIMAL HANDLING SAFETY TIPS

After petting animals,  
Wash Your Hands!



**ALWAYS**

Use **SOAP** and **WATER**.

**RUB** hands together for **20** seconds.

**WASH** backs of hands, lower forearms,  
wrists, between fingers, and  
under fingernails.



**DRY** hands with a clean paper towel.

### When visiting animals

## HEALTH AND SAFETY

**Animals can carry diseases.**  
**Please follow these safety measures**  
**when visiting our animal areas:**

- Do not eat or drink in animal areas.
- Do not allow children to climb on pens and animal enclosures.
- Toys, pacifiers, blankets, and other personal items can be contaminated. Keep personal items away from the animals' environment. Wash contaminated items before returning to children.
- Always wash hands with soap and water after touching animals, their enclosures, and food containers and after contact with animal bedding, feces, or pens.
- Always wash hands before drinking, eating, smoking, or preparing food.



## Touch Tocar



## Wash Lavar





## Acknowledgment

**Carol Fitzgerald**

California Department of Health Services  
Environmental Health Services Section

## Photography

**Chris Lewis**

Small Farm Center, University of California Davis

**Peggy Greb**

USDA Agricultural Research Service  
Photograph of apples on page 2

## Editing and Layout

**Natalie Karst**



*The University of California prohibits discrimination against or harassment of any person employed by or seeking employment with the University on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (special disabled veteran, Vietnam-era veteran or any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized). University policy is intended to be consistent with provisions of applicable state and federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action Director, University of California, Agriculture and Natural Resources, 300 Lakeside Drive, 6th Floor, Oakland, CA. 94612-3550. (510) 987-0096.*



In partnership with the U.S. Department of Agriculture's Risk Management Agency, the University of California Small Farm Center is developing and publishing a series of educational materials focused on managing risks and reducing potential liability for small- and family-scale operations in the agricultural food chain. This publication focuses on

food safety risks at farmers markets and agritourism venues. See also the first publication in this series—*A Guide to Managing Risks and Liability at California Certified Farmers Markets*.

This publication series represents part of the Small Farm Center's continued commitment to helping producers adopt the most current Best Management Practices in support of their innovative approaches to food production, marketing, and farm management.

