



San Francisco Department of Public Health Fact Sheet for Culinary Gardens Operated in Conjunction with Permitted Food Facilities



INTRODUCTION

Fresh fruits and vegetables are important for health and wellbeing, and the American consumer enjoys one of the safest supplies of fresh produce in the world. However, over the last several years, the detection of outbreaks of foodborne illness associated with both domestic and imported fresh fruits and vegetables has increased.

The California Retail Food Code (CalCode) requires all foods used in a food facility to be from an approved source, which means foods are produced in accordance with the applicable health and safety regulations. Culinary gardens, which grow on the same site as a permitted food facility and provide produce only to that facility, are often too small to be regulated by the California Department of Food and Agriculture. Also, they rarely fall under the regulatory authority of the local Department of Agriculture, which means there isn't a mechanism to approve the grown-on-site produce for use in the food facility. Recognizing the relatively low risk of these gardens and the importance of locally grown produce, the Department of Public Health has created a registration program for gardens to ensure the produce from these gardens is as safe as possible for use in the food facility.

This guidance document provides best management practices (BMPs) that should be included in the operation of culinary gardens. This document focuses on issues concerning small culinary gardens but may not address all health and safety considerations of a specific operation. Additional resources are included at the end of this document that may assist the operator in addressing microbial food safety hazards not discussed here.

How can foods become contaminated?

Typical Sources of Contamination:

Soil	Irrigation Water	Animal manure
Inadequately composted manure	Wild and domestic animals	Inadequate field worker hygiene
Harvesting equipment	Transport containers	Wash and rinse water
Unsanitary handling	Equipment used	Cross contamination
Ice	Improper storage conditions	Run-off from adjacent areas

BEFORE YOU GROW

- **Select a location that is not on or adjacent to a septic disposal field, animal housing, pastures or barnyards and where contaminated water from these sites cannot enter the field via runoff due to rainfall or drainage pathways.**
- **The location should be under control of the owner/operator at all times.**

- Only grow produce in ‘raised beds’ that use soil purchased from a commercial outlet. No native San Francisco soil may be used as much of it is contaminated with lead (to learn more, look at the brochure listed under “ADDITIONAL RESOURCES.”)

DURING PRODUCTION

- **Water used in culinary gardens must be potable, meaning the water is from a permitted water system, such as the City/County of San Francisco, or from wells that have been tested and have been shown to be free of pathogens.** Surface water is much more susceptible to contamination. Gray water is not an approved water source for culinary gardens. **If using rainwater for irrigation, facility must comply with local rainwater collection policies. More information can be found at <http://www.sfwater.org/index.aspx?page=178>**
 - If irrigation water is not from a permitted water system, the well should be tested by a local lab to ensure it is free from coliform. Coliform are organisms whose presence may indicate that sewage or other contamination is reaching the water and could contaminate the produce.
- **Use and handle manure and fertilizers to minimize contamination.**
 - Never use biosolids or incompletely composted manure on a culinary garden.
 - Maximize the time between application of compost and harvest of crop and minimize manure-to-produce contact.
 - Follow manufacturer recommendations when using any commercial fertilizer.
- **Register any pesticide use with the San Francisco Agricultural Commissioner and identify any other uses of pesticides in the vicinity applied by other parties, such as pest control operators or gardeners.**
- **Minimize contamination from animals.**
 - Exclude domestic and other small animals from garden by fencing garden beds.
 - To the extent possible and as allowed by law, establish good agricultural practices to deter or redirect wildlife to other areas.
 - Minimize vegetation at the edges of small fruit and vegetable patches and remove decaying fruit and vegetables, which can provide nesting places and food for rodents and other vectors.
- **Emphasize worker hygiene and training**
 - All workers must be trained and have a good working knowledge of basic sanitation principles as they relate to the assigned tasks.
 - Workers must have access to handwashing stations equipped with a basin, warm water, liquid soap and paper towels that drain to an approved septic/public sewer system.
 - Managers must be trained to identify the symptoms of infectious diseases, such as Hepatitis A virus, Norwalk, and Shigella. Employees with these symptoms should not be allowed to have any contact with produce, utensils or other food contact surfaces of equipment.
 - Lesions must be effectively covered or workers with lesions should not be allowed to have any contact with produce, utensils or other food contact surfaces or equipment.
 - Provide convenient and supplied bathroom facilities.
- **Be aware of visitors so they are not exposed to fertilizers or pesticides and so the visitors do not become a source of contamination to the garden.**



DURING HARVEST

- **Maintain equipment in a sanitary manner.**
 - Clean and sanitize storage facilities and produce contact surfaces prior to harvest.
 - Clean harvesting equipment each day.
- **Emphasize worker hygiene and training.**
- **Keep animals out of fields and orchards.**
- **Remove as much dirt and mud from the produce as possible before it leaves the field. If produce is washed in the field, ensure that it is not contaminated in the process.**



AFTER HARVEST

- **Again, employee hygiene and training is critical.**
- **All produce used in a food facility must be washed thoroughly in potable water to remove soil and other contaminants before being cut, combined with other ingredients, cooked, served or offered for human consumption in ready-to-eat form.**
 - Any chemicals used to wash or peel produce shall meet the requirements specified in 21 Code of Federal Regulations 173.315.
 - Vigorous washing of produce not subject to bruising or injury increases the likelihood of pathogen removal. Brush washing is more effective than washing without brushes.
 - Brushes used in brush washing must be cleaned and sanitized frequently.
- **Consider the wash water temperature for certain produce.**
 - Removing field heat is a primary consideration in maintaining the quality of many types of produce, and for some types of produce (apples, celery, tomatoes) the temperature of wash water should be greater than that of the produce or a pressure differential results that can cause water to be pulled into the plant material, causing pathogens to move into the produce, which may not be removed by washing. Denser products (such as carrots) do not appear to be affected by water temperature differences.

CONCLUSION

While locally grown fresh fruits and vegetables provide many benefits, good management practices must be maintained in culinary gardens to prevent illness in our food facilities. Many of the risks associated with mass production, storage and transportation are not of issue for on-site culinary gardens; however, worker hygiene and localized land practices are still sources of potential contamination that could result in foodborne illness.

This guidance document provides some basic principles for registered culinary gardens. Operators are encouraged to utilize this guide to evaluate their gardens and assess site-specific hazards so they can develop and implement reasonable and cost effective agricultural and management practices to minimize microbial food safety hazards.

Once good agricultural practices are in place, it is important that the operator ensure that the process is working correctly. Operators should follow-up with supervisors or the person in charge to be sure that regular monitoring takes place, equipment is working, and good agricultural and management practices are being followed.

HELPFUL INFORMATION

Copies of Federal regulations in the Code of Federal Regulations (CFR) may be purchased from the U.S. Government Printing Office or by telephone purchase at (202) 512-1800.

The CFR is also available at local branches of the U.S. Government Printing Office Bookstores. Information on location of regional branches is available on the WWW at the following address:

<http://www.cfsan.fda.gov/~lrd/ob-reg.html>

Sections of the CFR that are referenced in the guide can be viewed and printed from the WWW at the following address: <http://www.access.gpo.gov/nara/cfr/index.html>.

1. How to obtain FDA regulations

Title 21, Code of Federal Regulations: 21 CFR 100-169 and 21 CFR 170-199

Sections of Title 21, such as 21 CFR 110.10, that are referenced in the guide can be viewed and printed from the WWW at the following address: <http://www.access.gpo.gov/nara/cfr/>.

You may purchase 21 CFR 100-169 or 21 CFR 170-199 from the U.S. Government Printing Office or by telephone purchase at (202) 512-1800. FDA regulations may also be purchased at local branches of the U.S. Government Printing Office Bookstores.

2. How to obtain EPA regulations

EPA regulations may be obtained by contacting the U.S. EPA/NCEPI, P.O. Box 42419, Cincinnati, OH 45242-2419. Telephone: 1-800-490-9198; FAX (513) 489-8695. You must give the EPA catalog number for the publication. Electronic versions of additional EPA documents, such as criteria and supporting documents, are available at <http://www.epa.gov>.

3. How to obtain California Retail Food Code Regulations

A copy of the CRFC can be found at <http://www.cdph.ca.gov/services/Documents/fdbRFC.pdf> or by contacting San Francisco Department of Public Health, Consumer Protection

4. How to obtain information on rain water collection and use

The San Francisco Public Utilities Commission regulates rainwater collection and use. More information can be found at: <http://www.sfwater.org/index.aspx?page=178>

ADDITIONAL RESOURCES

1. SFDPH. Best Practices for Reducing Lead Exposure from Gardening.
http://www.sfdph.org/dph/files/EHSdocs/ehsCEHPdocs/Lead/GardenfortheEnvironment_Brochure.pdf
2. U.S. EPA. Ambient Water Quality Criteria for Bacteria, EPA Office of Water Regulations and Standards, EPA 832-B-92-005, January 1986.
3. USDA. List of Proprietary Substances and Nonfood Compounds Authorized for Use Under USDA Inspection and Grading Programs.
4. U.S. EPA. Domestic Septage Regulatory Guidance, A Guide to the EPA 503 Rule. EPA, Office of Water Regulations and Standards, 832-B-92-005, September 1993.
5. Reiners, S., A. Rangarajan, M. Pritts, L. Pedersen, and A. Shelton. "Prevention of Foodborne Illness Begins on the Farm." Cornell Cooperative Extension, Cornell University, Ithaca, NY.
6. USDA Agricultural Marketing Service program "Qualified Through Verification for Fresh Cut Produce" is available from: Branch Chief, Processed Products Branch, Fruit and Vegetable Programs, Agricultural Marketing Service, USDA, P.O. Box 96456, Rm. 0726, South Building, Washington, DC, 20090-6456. (202) 720-4693.
7. Cornell University Department of Food Science, Good Agricultural Practices Network:
<http://www.gaps.cornell.edu/>