



Food Safety for Vegetable Gardens

Tips for Schools, Child Care and Long Term Care Facilities



Assuring Safe and Healthy Garden Produce

Raw uncut produce used in schools, child care, and long-term care facilities can come from any source, as long as it's grown safely. Gardens provide children, students, and residents a way to take part in their own food production. Growing your own vegetables, fruits and herbs is economical and the results are nutritious and delicious. But before starting your garden, it is important to understand how to grow safe produce to use in your operation.

Food safety risks from produce are a concern. In fact, nearly half of all outbreaks are due to contaminated produce (CDC). Foodborne illness can happen to anyone, but it is particularly harmful for some, including the very young, adults over 65 years old and anyone with a compromised immune system. These individuals are more susceptible and suffer far worse consequences from foodborne illness, including hospitalization and even death. This guidance will provide you with the steps you need to assure a safe and healthy bounty for your community.

Garden Location, Soil and Water Use

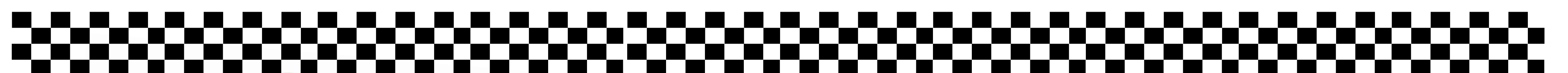
Locate gardens away from sources of potential contamination (dumpsters, utilities, animals, water runoff, standing water, and septic systems). Septic systems should be properly installed and maintained. The leach field should be as far away from your edible garden as possible. And don't forget to contact your utility companies or call 811, the national "Call Before You Dig" number, a few days before digging to ensure that you avoid gas and electrical lines.

Create reasonable barriers to keep wild animals, such as birds, deer, rodents and other wildlife away from the gardens. Contamination from animal feces poses a significant risk to those that consume your garden's bounty. Barriers may include fencing or cages over produce items such as strawberries and leafy greens, removing excessive vegetation that may provide harborage for rodents and birds. Compost piles should be located away from your garden so as not to attract pests.

Consider having your soil tested to determine levels of contaminants such as chemicals, pesticides, lead, etc., especially if located near high motor vehicle traffic zones. Your local CSU Cooperative Extension Office will provide information about soil testing services available in your area. Visit extension.colostate.edu for more information.

Consider purchasing soil that has been commercially packaged and labeled for growing food crops. Soil purchased from a commercial source is less likely to contain contaminants and ensures traceability. Be sure to use non-toxic, non-leaching materials for raised-beds, containers, stakes, or trellises. Do not use articles that contain contaminants such as pressure-treated wood, used tires, single-use plastics, old railroad ties, etc.

Contaminated water is one of the most likely contributors to foodborne illness associated with fresh produce. Be sure to use drinking water for surface application on leafy greens and edible parts of plants and for washing your produce. Wells and springs should be properly designed and maintained to prevent contamination. Well and spring water and water stored in cisterns should be tested at least annually, for potentially harmful organisms, such as fecal coliforms, to make sure they meet the standards of the Environmental Protection Agency (EPA). Keep your water testing records for a year or longer. Contact your local CSU Cooperative Extension Office at extension.colostate.edu or the Laboratory Services Division of the Colorado Department of Public Health and Environment at www.colorado.gov/cdphe/lab for assistance.



For additional assistance, contact the Division of Environmental Health and Sustainability at 303.692.3645 or cdphe_iepu@state.co.us



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Compost and Manure

Composting is a highly complex process that requires strict attention to specific procedures and conditions. Harmful pathogens might be introduced through animal products and waste and compost containing these materials must be properly managed to ensure their destruction. This fact sheet summarizes key points of composting but is not comprehensive. Contact your local CSU Cooperative Extension Office or a composting expert for assistance. Visit extension.colostate.edu

Do not use raw manure or animal or human waste in your compost pile, as it is likely to increase the risk of contamination from pathogens. Add only plant products, such as fresh fruit and vegetable waste, to your compost pile. Grass clippings, leaves, and twigs also can be added. Cafeteria waste is not recommended, as it might contain animal products that need specific conditions to safely compost. Purchasing traceable, commercially prepared compost, if manure-based compost is desired.

Wear gloves when handling compost material. Locate your compost pile in a secure location away from potential contamination, such as a dumpster, standing water or water runoff. Restrict access by animals as much as possible.

Chemical and Fertilizer Use

It is best if you can avoid using any pesticides or herbicides due to potential health hazards to children and residents. Check with your county Cooperative Extension Office for the best non-chemical method of control for local pest problems. If you do choose to use chemical pesticides or herbicides, always read and follow the labeled instructions. Children should never handle or use these products and should be restricted from accessing areas where these products have recently been applied.

Fertilizers should only be used in accordance with labeled instructions and secured in a safe and locked location when not in use. Children should not handle fertilizers. Download current Material Safety Data Sheets (SDS) for fertilizers and pesticides for safe handling and storage instructions and what to do in the event of an incident or exposure. More information is available at:

<http://www.osha.gov/dsg/hazcom/index.html>. Dispose of unused pesticides and fertilizers and their containers according to the manufacturer's instructions.

Wherever you get your produce, ask about where it's grown, how it's watered and fertilized and how pests are controlled. Knowing this information will help you make smart choices about the fruits, vegetables, and herbs you serve in your community and keep your students and residents safe.

Personal Hygiene and Handling Produce

Poor personal hygiene is the cause of many foodborne outbreaks. It is essential that anyone handling fresh produce practice frequent and effective handwashing techniques. Hands should be washed using soap and warm, running water. Hands should be lathered, to include all surfaces including wrists, between fingers and under nails for at least 20 seconds. Promote good hygiene in children and students working in the garden, particularly when handling pets and domestic animals and eating produce freshly picked from the garden.

Fresh produce should be thoroughly washed before consuming. Produce can be washed in a clean and sanitized sink designated for food preparation. Keep produce that will be consumed raw away from raw or undercooked animal-derived foods. Surfaces used to prepare produce should also be clean and sanitized. You can use the same approved food contact sanitizer you already use in your kitchens or prepare your own with 1 tsp of bleach per 1 gallon of water. Use kitchen test strips to assure the solution is 50-200 ppm chlorine solution or another approved food contact sanitizer. Don't forget to keep your garden harvest tools, including gloves and containers cleaned and sanitized, so that they don't become sources of contamination.

