

Safe Gardening Guidelines

School and youth gardens are great environments for learning and fun. But to keep the garden experience positive and safe, you need to pay attention to some basic safety guidelines as you plan and later enjoy the garden with kids. The following suggestions will reduce the chances of injuries and illness and help everyone involved in your garden program bring in a healthy harvest!

PLANNING AHEAD

Start with a Safe Site

Learn the history of your site, if possible. This can give you clues to possible hazards to be concerned about such as industrial contaminants or lead in the soil, or the likelihood of flooding.

No matter where your garden is located, it's always wise to start out with a soil test that includes testing for contaminants such as lead and other heavy metals. Although this type of contamination is often associated with urban soils, it's also possible for suburban and rural area soils to be contaminated by lead paint residues, pesticides, or car exhaust drift from the days of leaded gasoline. Contact your local Extension Service for information on soil testing, the cost of which is usually very reasonable.

Also, assess the garden site's surroundings and take into consideration what might be carried into the garden along with water runoff from areas nearby, such as parking lots or agricultural fields or pastures.

Select a Safe Water Source

Use a potable (drinking water safe) water source to irrigate your edible garden. Water provided by your municipality is generally a safe source. If the water you're using comes from a private well or untreated surface water source such as a pond or river, have it tested regularly for bacterial and other types of contamination. Your local health department can provide you with information on water testing.

However, recent news about lead contamination of water supplies may have you wondering about the safety of your water supply. Even if the water delivered to your building doesn't have excessive lead levels, the water coming out of a faucet may have high levels due to the building's plumbing. So it's a good idea to test the water at the outlet that is used to provide water to the garden, especially if this outlet is also used to provide drinking water, such as filling jugs to provide drinking water to students out in the garden. For more information, see the EPA's Testing Schools and Child Care Centers for Lead in the Drinking Water.

Use Rain Barrel Water Safely

Water collected in rain barrels is not potable and may contain harmful bacteria and other contaminants, especially if it's water collected from rooftops. The safest course is to use rain barrel water only for irrigating non-edible crops. If you decide to use water from rain barrels on edibles, have the water tested regularly and clean and sanitize the barrels frequently.

Use Manure with Caution

While animal manures are time-honored soil builders, they may also harbor human pathogens that can cause serious illness. Fresh raw manure is riskiest and should never be used in the school garden, even when plants are not present. Aged and composted manures, while safer, may still contain pathogenic organisms, so the safest course is to forgo their use as well, especially when gardening with children. If you do decide to use composted manure, we recommend only using commercially composted manure products (not home composted manure) from a reputable company whose label indicates that it has been treated to be pathogen-free. As an added precaution, consider applying commercially composted manures only in the fall after crops are harvested or at least 120 days before planting an edible crop. Dog, cat, pig, and human manure, even if composted, should never be used.

Compost Correctly

While it's convenient to place compost bins near the garden, be sure to locate them where runoff from the bins will not drain into areas where edible plants are growing. If this is difficult to do on your site, consider using a completely enclosed, tumbler-type composter.

Keep bins enclosed or bury food wastes in the center of the pile to avoid attracting animals like rats and raccoons to the pile. Don't add cafeteria waste that could contain meat scraps, dairy products, or other foods of animal origin to your compost bin.

We do not recommend adding any animal manures to your compost pile. While "hot" composting (where temperatures in all parts of the pile reach 130 degrees F or higher) will kill many pathogens, it can't be relied on to kill all the harmful bacteria that animal manures may harbor. Hot composting is a batch process that requires stockpiling materials and then building a pile with the correct proportion of green and brown materials to fuel rapid decomposition. Instead many gardeners practice add-as-you-go "cold" composting – simply piling materials in any proportion as they accumulate and letting them breakdown slowly with time. These cold piles never reach temperatures that will reliably kill off pathogens.

Exclude Animal Visitors

Do your best to keep both wild and domestic animals from your garden site, as the waste they leave behind can be a source of pathogens. How you accomplish this will depend on what is roaming around your neighborhood. A tall or wide fence is most effective at keeping deer out; a lower wire mesh fence will exclude rabbits and woodchucks, but needs to extend underground about 6 inches to prevent them from tunneling under. Most kinds of fencing will exclude dogs, but it's much more difficult to keep free-roaming cats out; if cats are a big problem, repellents applied regularly along a fence line may be helpful. Don't locate bird feeders or birdhouses within the garden area.

Consider Livestock Additions Carefully

Keeping animals such as chickens and goats along with a school garden can add an engaging dimension to a garden program, but their addition requires careful planning and strict attention to safe practices because of the potential for these animals to transmit serious diseases such as Salmonella. The Centers for Disease Control and Prevention recommend that live poultry not be allowed in schools and daycare settings with children younger than 5 years of age because of this risk. Find more information from the CDC on Animals in Schools and Daycare Settings. A Guide to Raising Chickens in District School Gardens from the District of Columbia Dept. of Health is another helpful resource.

STAY SAFE WHILE GARDENING

Make sure kids stay safe and have fun while gardening by following these guidelines:

- Record all allergies, including food and insect, and provide a first aid kit and drinking water.
- Students should wear proper shoes to protect their feet from cuts and stings. Bare feet, sandals, or flip flops should not be allowed.
- Students should wear hats and sunscreen while gardening.
- Only healthy students should participate in gardening activities. Any students exhibiting symptoms of illness, or with sores or cuts on exposed portions of the hands and arms should be excluded from garden lessons until their health improves.
- All students should wash their hands thoroughly before and after working in the garden.
- Students should be encouraged to walk on pathways when they are available.
- Plan for adequate adult supervision at all times when students are in the garden area.
- Instruct students in the safe use and handling of all garden tools and equipment.

- Make sure there is a secure place to store tools, fertilizers, and garden chemicals out of reach of students when the garden area is unattended.
- Students should not pick and eat unwashed fresh produce while working out in the garden.
- Be aware that exposure to the sap, leaves, and stems of certain plants can cause mild skin irritation or contact dermatitis in sensitive individuals.

Make sure everyone who plans and works in the garden, including garden coordinators, teachers, adult volunteers, and students, is familiar with safe gardening practices. An informational meeting at the beginning of the season can be a good way to let teachers and adult volunteers know not only what the expected practices will be, but the reasons behind them. When folks understand how these practices help to keep everyone safe, they are more likely to remember and comply with them. Many of these recommendations are really common sense, but it's easy to forget or let things slip at times. Children, especially, respond to routine. If fun in the garden always starts and ends with handwashing, they'll be less likely to think of it as a chore and more as a just a regular part of their garden experience. Posting a safety checklist on a garden bulletin board and holding age-appropriate activities for kids relating to garden safety will help everyone stay on track throughout the growing season and keep the school garden experience safe and fun!

For more on food-safe harvesting practices, see *Safe Harvesting*.

For more information on food-safe practices for school gardens, check out these helpful resources:

- Food Safety for School and Community Gardens (North Carolina State University Extension)
- Food Safety Tips for School Gardens (USDA)
- Food Safety in the School Garden (University of Maryland Extension)
- Five Steps to Food Safe Gardening (University of Maine Extension)