



SCHOOL GARDENS

Using Gardens to Grow Healthy Habits in Cafeterias, Classrooms, and Communities



SCHOOL FARMS spanning acres in Minnesota, indoor tower gardens in Vermont, raised beds in New York City, aquaponic systems in the Virgin Islands, native food gardens in tribal communities...across the nation schools are growing gardens to provide food for child nutrition programs, connect children to the source of their food and create hands-on interdisciplinary classrooms.

School gardens pre-date the National School Lunch Program; the Federal government has been encouraging school gardening since the early 1900s, even building a "School Garden Army" during World War I and supporting victory gardens at schools during World War II. Today, the **2015 USDA Farm to School Census** indicates there are over 7,000 school gardens across the nation. USDA encourages school gardens by providing grant funding, guidance and resources, and support for food service personnel who are interested in purchasing products from a school garden.

Space for Gardens in All Seasons

School gardens come in all shapes and sizes, and districts with varying levels of land are finding ways to establish gardens both within and outside school grounds. Gardens can be as simple as a few containers on a windowsill or cover acres, and gardens can thrive in all climates. Program operators find that even small gardens help children gain familiarity and comfort with the fruits and vegetables they are seeing more of at meal times.

New York City Public Schools' Garden to Cafe program exposes students to the source of their food in the most populated city in our nation. Partnering with various non-profit organizations and community members, New York City students have classes and work in the gardens year round. School garden produce makes its way into meals and taste tests in over 50 public school cafeterias across the city.

Districts are also overcoming growing season challenges in creative and innovative ways. Even in the northern part of Vermont, where the ground is frozen much of the school year, tower gardens make it possible for students to garden all year long.

In Milton, Vermont the food service director used grant funds to purchase three indoor tower gardens for the cafeteria. Even during frigid winters, herbs grown in the towers are incorporated into school meals, and students get to see the tower gardens growing during lunch every day.



Using School Garden Produce in the Cafeteria

Food service directors use school garden products in the cafeteria every day, from herbs to spice up a pizza, to serving garden-grown lettuce on the salad bar, to roasting vegetables for the main meal. For more information on procuring from school gardens and using school food service funds to support garden activities, please refer to [Farm to School and School Garden Expenses Memo \(SP 06-2015\)](#), as well as, [School Garden Q&As Memo \(SP 32-2009\)](#) and the school garden section of the [Procuring Local Foods for Child Nutrition Programs](#).

Gardens as Classrooms

School gardens are living laboratories that create teaching opportunities ripe for nutrition and agriculture education and experiential education across all disciplines.

In Martin Luther King Middle School in Berkeley, California all 6th, 7th and 8th grade students are taught science standards using the Edible Schoolyard, a one-acre organic garden and kitchen classroom. The school has seen increases in science test scores since using the model.

In West Virginia, the local FFA program educates young farmers about entering careers in agriculture by growing, marketing and selling produce and eggs for schools.

In North Carolina, a non-profit organization, Growing Minds, develops school garden lessons for preschool through 5th grade that align with state standards for literature, science and math.

USDA has free resources for nutrition education lessons in the garden through [Team Nutrition](#), and lists garden-based curricula on the [USDA Farm to School Resources page](#). For additional free lessons, the [Edible Schoolyard](#) has a searchable database of shared lessons and curricula.

Food Safety in the Garden

Food Safety is a priority for all food served in child nutrition programs and products that come from school gardens are no exception. Food from school gardens has the shortest physical distance to travel from harvest to plate, so its safety can be managed directly and with more direct oversight than food that travels long distances – a food safety benefit. While safe growing, harvesting and storage practices should be followed when implementing school gardens, there is no research that indicates produce from school gardens carries greater food safety risk than produce from other sources.

4 Steps to Maintaining Food Safety in the Garden

1. **Garden Planning:** Below are basic garden safety considerations for planning a garden.

- **Soil:** Those planting gardens in urban areas are especially encouraged to have a qualified laboratory check for lead and other industrial contaminants in soil. Land Grant Universities, Cooperative Extension Offices and local health departments are great resources to learn about soil safety; for contaminated soils, schools can bring in soil from an outside source and plant in raised beds.





- **Placement:** Place the garden uphill from contamination sources or on level ground, and away from streets and areas where wild or domestic animals have easy access to the garden.
 - **Water:** Municipal water is safe; properly used and cared for rain barrels can also be water sources. Test all wells and ponds before use.
2. **Harvesting:** Follow safe food practices, including hand washing and using clean containers to harvest.
 3. **Transport/Record keeping:** Keep a simple harvest log to record who was harvesting, what types of products were harvested and when they were harvested.
 4. **Storing:** Follow the same guidelines for storing school garden produce as other produce and products. Please refer to **Best Practices: Handling Fresh Produce in Schools**.

Good Agricultural Practices (GAPs) and Good Handling Practices (GHPs) are industry best practices that can be used. While USDA does not require GAP or GHP certification for school gardens, state or local departments of health, education or agriculture may have specific standards.¹ Dozens of districts and states have created comprehensive school garden food safety manuals and checklists. For examples of strong school garden safety guides, please refer to the **USDA Farm to School Resources page**.

Gardens and Summer Meals

School gardens are often in full bloom during summer months, but summer can be a challenging time to staff gardens. Volunteers and community organizations can help support gardens while schools are out; include summer maintenance in your garden planning by coordinating with summer meal program sites. Connecting gardens with summer meal programs is a perfect way to ensure that gardens receive upkeep during those months and enhance Summer Food Service Program meals.

In Ohio at Marion City Schools, the Summer Food Service Program integrates school gardening activities, like offering free gardening lessons to kids and parents during meal times.

Gardens in Preschool and Early Child Care Settings

Early childhood is the ideal time to establish healthy eating habits. Studies have shown school gardens encourage preference and consumption of fruits and vegetables, increase parental support and involvement, and improve children's enthusiasm about preschool/child care, teamwork skills and self-understanding.

In Arkansas, Feed Fayetteville maintains two preschool gardens and provides bi-weekly garden activities including planting, watering, composting, harvesting, cooking and tasting. The produce is served in the preschool meals and parents are connected by sending recipes and produce from the garden home.

¹ School gardens that sell more than \$25,000 of produce may require GAP certification through the Food Safety Modernization Act (FSMA). Refer to the **Food and Guidance** section of the FDA website for more information on the FSMA Final Rule on Produce Safety.





Staffing School Gardens

It takes more than one person to keep gardens growing strong. School nutrition directors can use program funds to help support garden personnel. Cooperation and partnerships between school personnel, teachers, students, non-profits, parents, volunteers (including AmeriCorps and FoodCorps members) and community members is essential for garden success.

Some school gardens, like the Garden to Cafeteria Program in Denver, Colorado are run cooperatively between community members, non-profits and district personnel. This level of support is ideal, as the year round responsibility of the garden is shared among all stakeholders.

Sibley East High School in Minnesota cultivates over two acres of produce through the school's agriculture department and local FFA chapter. The school farm is staffed by students and teachers. Half of the farm's produce is donated to the cafeteria and half is sold in a community supported agriculture project to community members.

Funding Your Garden

Funding diversity is key when planning a sustainable school garden. Here is some food for thought:

- Matching funding sources with needs is a good start. What is the primary funding need? Supplies? Construction? Staff? Once you know your needs, approach local hardware stores if you need supplies or consider looking for a volunteer agency, if your greatest need is staff.
- Think local! Parent associations, healthy fundraisers, local non-profits and public agencies have all supplied resources to start and sustain school gardens.
- Federal funds, including USDA Farm to School Grants, Team Nutrition funds and even National School Lunch Program funds, can and have been used to support garden supplies, equipment and staff.

Learn More

The **USDA Farm to School Resources page** hosts a curated list of school garden planning, funding, procurement, food safety and curricula resources from across the country. If you have questions, examples, tips or information to share on school gardens please be in touch by emailing us at farmtoschool@fns.usda.gov.



For more information, and to sign up for the bi-weekly e-letter from the Food and Nutrition Service's Office of Community Food Systems, please visit www.fns.usda.gov/farmtoschool.

Questions? Email us at farmtoschool@fns.usda.gov.

