School Garden Best Practices
A Guide for Coordinated School Health

Benefits of School Gardens

School gardens provide an impactful experience for students to explore exactly where their food comes from. Unlike lectures or worksheets on healthful practices, gardens provide a hands-on learning environment, where working in a garden is a real-world activity, therefore encouraging students to explore and reason independently on their own[1]. According to a study from Columbia University, students in schools that provide frequent high-quality opportunities for hands-on nutrition learning eat up to three times more fruits and vegetables at school — regardless of whether that food was grown in the garden[1]. In addition, having a school garden on campus encourages nutrition education curriculum to be prioritized in classrooms throughout the school year. These repeated exposures to school gardens help students build emotional connections and pride in growing food, therefore making them more open-minded to try new dishes including the produce they have watched grow[1].

How Does School Gardening Promote Farm to School?

Farm to School is comprised of three main initiatives in schools: school gardens, education, and local procurement. **School gardens are the gateway to exploring all three of these Farm to School initiatives,** as students can physically engage with the garden, learn about the process of growing food, and can consume their campus grown produce in the cafeteria. By establishing the presence of school gardens on a school's campus, nutrition education can be implemented by multiple staff members across the school building. Examples of this include classroom teachers taking their students outside to explore the garden, health educators implementing nutrition education lessons pertaining to campus grown produce items, and school cafeteria staff increasing lunchroom participation by offering foods aligned with campus grown produce.

Types of School Gardens

Outdoor Raised Garden Beds

Raised garden beds are the most common type of school garden implemented. Although they increase the initial investment of time and money, raised bed gardens are generally easier to maintain and allow young gardeners to spend more time learning in the garden, rather than struggling with challenges like difficult soil conditions and weeds[2]. They also provide garden programs with a more permanent presence encouraging participants and administrators to view the garden as an important resource that should be used often and sustained over time[2].

Hydroponic Towers

Hydroponics, in its simplest form, is growing plants by supplying all necessary nutrients in the plants' water supply rather than through the soil[3]. In traditional gardening, plants get root support, nutrients, water, and oxygen from the soil[3]. Hydroponic growers don't use soil and instead provide water and the right balance of nutrients directly to the plants' roots, enabling the plants to concentrate their energy on producing leaves and fruits rather than forming extensive root systems to search for water and nutrients[3].

Container Gardens

Container gardens provide a unique opportunity because they can be utilized indoors, outdoors, and can be moved to another location during summer break months. By utilizing common containers such as pots and buckets, a movable garden can be established! Container gardens are an inexpensive way to introduce students to gardening while also not forcing a teacher outside of their comfort zone, the classroom.

Successful CSH School Garden Initiatives

Cumberland County Schools: *Marsha Polson, Cumberland County School Garden*

Cumberland County Schools has three school gardens in use within their district. In establishing these gardens, all local stakeholders were aware and onboard to establish the garden before funds were procured. The most vital partner for helping students learn the value of fresh produce has been collaborating with the nutrition department in the district. That way the district can purchase vegetables from the gardens and the learning experience comes full circle. For student engagement, both the CTE initiatives in the elementary and high school use the garden for teaching purposes. Also, afterschool programming has been very successful in implementing garden activities. One of the biggest challenges for the garden is keeping the momentum of the program going. To combat that, Cumberland County CSH has purchased the *OrganWise Guys* curriculum for local use that incorporates learning activities related to produce from the garden.

Germantown Municipal Schools: *Andrew Martin, GMSD Hydroponic Garden*

Germantown Municipal Schools has three school gardens in use within their district, with the most success coming from elementary school gardens. Teachers utilize the gardens on a weekly basis and tie it into their curriculum. Teachers allow students to read in the garden and use the science aspects of gardening in their classroom to teach valuable skills. Also, the gardens have been used to provide community engagement events that have brought families out, such as *"Bring Your Grandparents to the Garden Day."* One of the biggest challenges has been maintaining adequate funding for maintenance and materials for the garden to flourish throughout the year. To overcome that, hydroponic tower gardens are being implemented to provide year-round utilization and Germantown Municipal Schools CSH is preparing to write for grant opportunities next year to expand the gardens to two more elementary schools

Lawrence County Schools: *Jenny Golden, Lawrence County Schools CSH*

Lawrence County Schools has five school gardens in place within their district, three high school gardens and two elementary school gardens. A variety of stakeholders are involved with the gardens including students, teachers, FFA clubs, Agriculture clubs, and principals. Teachers spend time with their classrooms in the gardens to teach Agriculture units and learn firsthand in the garden. Some of the biggest challenges with the school garden have been needing a larger space for planting, having water access near the gardens, and sharing the responsibility evenly with multiple classrooms. To address this, multiple teachers have been able to use classroom time to manage and care for the garden.

Lebanon Special School District: *Ronie McPeak, LSSD Students Learn Gardening at School*

Lebanon Special School District has three school gardens in their first year of implementation at three elementary schools. LSSD has partnered with a community organization that provides maintenance of the garden and provides educational learning opportunities for classrooms to partake in. With this partnership, LSSD CSH is able to help provide funding for garden objectives and provide an avenue to connect classrooms with a passionate community partner for garden education. Some of the biggest challenges with the school garden have been getting the word spread to teachers about this opportunity to have instructor-led garden lessons and increasing teachers' confidence in engaging with the garden. To address this, teachers that are passionate about the garden have been identified and a team of volunteer teachers is being developed to help build self-efficacy in the teachers to engage their classroom with the garden.

Maury County Schools: *Laurie Stanton, Maury County Schools Community Garden*

Maury County has eight school gardens in their district ranging from elementary schools to alternative schools. The gardens that are most successful are gardens having principal and community partner support. Maury County's CSH assistant provides maintenance to some of the gardens to help them continue their presence in schools. Some of the biggest challenges with the school gardens has been not having any staff in the summer to tend to the gardens. To overcome this, at one school in particular the school garden has become part of a community revitalization effort and has local community volunteers. Also, hydroponics has been an area of interest to provide year-round efforts for gardening that can be tended to in the summer.

Murfreesboro City Schools: *Darla Sampson, MCS Farm to School*

Murfreesboro City Schools has school gardens established at all thirteen of their schools and has a staff of six farmers that tend to the gardens. Classes interact with the school gardens as it relates to science standards, but the primary goal of the program is to serve crops in the cafeteria for lunch. Key stakeholders for this effort include teachers and administrators, as the school gardens and hydroponic towers helped their schools achieve their STEM designations. Murfreesboro City Schools CSH teams up with the district's Farm to School program in order to organize tests from the gardens.

Tools for Implementing School Gardens

Cornell University Vegetable Growing Guide: This interactive database contains information on 58 common garden vegetables with tips regarding sunlight needs, plant lifecycle, and step-by-step guidance for planting.

Farm to School Planning Webinar on School Gardens: This video provides guidance and a variety of examples on successfully implementing a school garden that impacts education and local procurement Farm to School goals.

TDOE Food Safety Checklist for Serving School Garden Produce: This checklist provides questions to confirm the safety of consuming produce from school gardens relating to production practices, product handling, transportation, facilities, and gardener hygiene.

UT Extension Tennessee Vegetable Growing Guide: This guide provides Tennessee region specific information regarding common planting times during the calendar year for a variety of vegetables grown in Tennessee climates.

Whole Kids Foundation School Garden Resource Center: This resource provides step-by-step guidance for planning implementation of your school garden, installing your garden, utilizing your garden with school members, and communicating your success to others.

Funding Sources for School Gardens

KidsGardening Grant: This organization posts youth gardening grant opportunities throughout the year to help programs.

Tennessee Farm Bureau Garden Grant Program: Tennessee Farm Bureau's Agriculture in the Classroom initiative offers grant funding to school organizations looking to implement school gardens on a rolling basis throughout the year.

USDA Farm to School Grant: This annual federal grant window opens in October and closes in January, dispersing grant funds of up to $100,000 per recipient for two consecutive years.

Whole Kids Foundation Nutrition Education Grants: Whole Kids provides annual grant programs for school gardens, salad bar access, school cooking, and more.

References

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2. Raised beds 101. KidsGardening. (2021, December 14). Retrieved January 30, 2023, from https://kidsgardening.org/resources/designing-a-school-garden-raised-beds-101-2/
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