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Systematic Approach to Meeting the Needs of School Garden Clients

Abstract

Educators use school gardens to incorporate science, technology, engineering, and math programming into their curricula. Extension agents are called on to assist with planning and long-term support of these gardens, often working with educators who have no horticultural experience. University of Georgia Extension's school garden team created a multitiered approach to serving these gardeners while ensuring efficient use of Extension agents' time and resources. This approach includes a beginning-steps publication, hands-on garden training, and school garden associations. The result is more sustainable school gardens with limited frustration on the parts of school gardeners and Extension agents.

Keywords: [STEM programming](#), [school gardens](#), [Georgia school gardens](#), [STEM gardens](#)

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Introduction

School systems across the United States encourage science, technology, engineering, and mathematics (STEM) certification for their schools, often administered through state boards of education. In Georgia, STEM certification centers on integrated curricula and project-based learning (Cullars, 2018). Research has shown that connecting theory with hands-on, project-based applications can raise student achievement test scores (Foutz, Navarro, Hill, & Thompson, 2011). These efforts are often supported by federal programs that can provide materials and funding (Kuenzi, 2008).

Broadly, agriculture has been used successfully for STEM programs connecting math and science to real-world application (Campbell, Wilkinson, Shepherd, & Gray, 2015). School gardens, as a component of agriculture, often are a STEM focus, and Extension agents often are called on to assist schools in building and using school gardens. Providing such assistance can be problematic for a rural agent whose focus must be on row crops or livestock or time-consuming for any agent whose county has many school gardens. Our school garden team at University of Georgia Extension found that applying a measured, deliberate approach to interacting with educators on school gardening projects is an effective way to meet the needs of these types of clients without overwhelming county agents.

A Multistep Approach

Step 1: Starting Strong with the Basics

Often one teacher without any horticultural experience is given the task of developing a school garden. Or one enthusiastic teacher has spearheaded a school garden project while trying to convince administrators that the garden will be easy to start and maintain. Because educators may underestimate the complexity of creating and maintaining a school garden, scenarios such as these can take a substantial amount of time from any involved Extension agent, can cause frustration on all sides, and often end in failure.

As a response, our school garden team developed a publication that covers the basics of beginning a school garden. The publication, "Steps to Starting a School Garden" (<http://extension.uga.edu/publications/detail.html?number=C1101>), is provided to educators who want assistance at the beginning of a garden project. The interested educator carefully considers all the aspects presented in the publication before continuing with the project and asking for in-depth involvement from an Extension agent. Agents have found that use of this publication has resulted in time savings for them and increased overall school garden success.

The steps covered in the publication are

- assembling a group of enthusiastic teachers and staff,
- drafting a garden plan,
- garnering administrative support,
- gathering parental support,
- choosing the best garden site,
- working with landscape maintenance crews, and
- connecting with local professionals.

By completing all steps listed, the gardeners demonstrate their commitment to the project and are ready to create their garden space with the assistance of local Extension personnel.

Step 2: Applying a Team Approach to Educating the Educators

During the summer months, our team hosts workshops specifically designed for school gardeners who have some experience. Working with Extension educators in the field, we address challenges school gardeners face that home gardeners do not. For example, most school gardens are not in use during the summer months. This affects plant choice and poses a challenge for summer garden care. Teacher gardeners also must plan the garden to be useful with classroom curricula. Topics covered in our workshops include

- soil health,
- pest management,

- composting,
- plant choice for the school year,
- summer garden care,
- food safety, and
- tying the garden to curricula.

To best use agent talents and resources, we generally host the trainings regionally. This regional training approach ensures that no one agent is overwhelmed with educating the many, or few, school gardeners in his or her district. Also, the agents instruct in their specialties. Agents who are soil health experts teach soil building, whereas entomologist agents teach pest management. Family and consumer science agents focus on food safety concerns with food gardens. Ideally, the workshops are hosted in a garden where hands-on experiences are easy to provide.

One bonus of this training system is that teachers connect with other educators outside their schools. For example, a fourth-grade teacher from Elementary School A may meet a fourth-grade teacher from Elementary School B. During the workshop the two can share experiences and curriculum ideas. These types of interactions create a network of teachers who support each other and collaborate after the workshops. Of educators surveyed from June 2015 through July 2017, 95% reported that the training was extremely useful and that they would recommend it to others.

Step 3: Creating a School Garden Association

After school gardens become established, teachers tend to want to expand a garden's footprint. They are interested in increasing the use of the garden at the school, creating community events in the garden (such as art shows or student concerts), and finding funding opportunities. Additionally, they are willing to progress into more advanced garden practices, such as cover cropping and vermiculture.

Several counties in our state have created community and school garden associations made up of gardeners, the local Extension agent, and other interested parties. These groups meet once a quarter, and often the local Extension agent leads the group at its inception. Administration is turned over to other leaders in the group over time. The meetings are structured to include an educational component and time for networking. The Extension agent can deliver the educational component or can spend a few minutes updating the gardeners about upcoming Extension events. These associations become support systems that allow teacher gardeners to exchange ideas and work together.

Conclusion

School gardens can be a challenge for the gardener and the assisting Extension agent, whether he or she is in an urban district or a more rural area. As Extension professionals, we want to see school gardens succeed. A deliberate, planned approach is an effective step toward that goal.

Our multistep system starts with a publication explaining school garden basics, advances to hands-on workshops

for intermediate gardeners, and culminates with the formation of a school garden association that provides advanced gardening support. This system works in meeting the needs of school gardeners while ensuring efficient use of Extension agents' time and resources. This model can be replicated easily in other states.

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