



## SPECIAL SECTION: GREEN SCHOOLS

### How Does Your School Garden Grow?

Community—supported gardens are turning school lots green

By DOROTHY MULLEN

School gardens are taking root all over the Garden State. Sometimes the driving force is a parent, a teacher or even a board member who has been bitten by the gardening bug. The trouble is that there's no defined path from where they are now (no garden) to where they want to be (an attractive, funded, sustainable project).

The hurdles seem endless: The principal is skeptical because she had a weed patch after the last batch of green enthusiasts graduated with their kids. It's not in the budget. Who will take care of all the details and what about summer? It's not in the budget. The teachers are already hard-pressed to get everything done that they have to do. And—in case you haven't heard—it's *not in the budget!*

Nevertheless, school gardens are germinating and something—if not institutional imperatives to make them happen—is driving the trend in spite of the obstacles. It might be that on the other side of the scale is a long list of benefits that inspire teachers to pull on their boots and parents to schedule herb sales.

**The Benefits of School Gardens** There are numerous advantages to school gardens. From an educational standpoint, they are living laboratories that engage all the senses in the learning process. Gardens teach lessons on the life and death consequences of one's actions and reward children who meet their needs with berries, flowers, pungent herbs and tasty vegetables. They help children connect to their food sources and they succeed at

getting them to eat more vegetables.

Gardens demand physical engagement and provide active alternatives to those mind-numbing and fattening hours in front of screens. They provide safe settings for spontaneous play, where wonder at nature emerges.

They teach environmental awareness. As cultural concerns about stewardship of the planet grow, there's no better place than outdoors to teach soil preservation and water conservation, or to instill good habits like composting and recycling.

They teach character and build a sense of community. School gardens are team efforts. And, they're beautiful.

First Lady Michelle Obama is infusing the school garden movement with a sense of urgency, identifying gardens as an important way to combat the epidemics of diabetes and childhood obesity. It is commonly accepted that certain processed foods are driving the obesity and diabetes epidemics. There is a growing body of research indicating that they may also impact brain structure and function and could be affecting the numbers of children with learning issues. (See Campbell-McBride and Simontacchi in the "Resources" box on page 21.). There is also some evidence that food processing has a lot to answer for in terms of trouble with mood, behavior and vulnerability to substances like alcohol. What better place to do primary prevention than in the school garden?

The trend toward school gardens is

not mandated by any education authority. Each school is sorting out for itself how to make a garden happen. Unfunded, and with benefits so diverse and multidisciplinary that no one discipline really owns the movement, it is, nevertheless, unmistakably a movement. And the trend is community supported.

#### Community-Supported School Gardening

Princeton Regional Schools Superintendent Judy Wilson has watched outdoor classrooms sprout up at every school in the district. "Community-supported school gardens are a bright spot in the lean landscape of education budgets," Wilson commented. "Parents, teachers, local business, community volunteers and area foundations have partnered with the district to accomplish together what none of us could have done separately."

In Wilson's district, even the high school has a garden and working in the garden is now a legitimate physical education option for students. Led by teacher Matt Wilkinson, the physical education department at Princeton High School has been able to successfully incorporate a variety of lifetime fitness skills into their gardening curriculum. Body mechanics, physical training methods in non-competitive activities, and relaxation techniques are taught in the "outdoor classrooms," which were originally installed by a team of over 50 community volunteers.

Depending on the contract with the food service, schools may or may not be able to offer their own garden produce



PHOTOS COURTESY OF THE RIVERSIDE SCHOOL

in the cafeteria. Where helping children educate their palates for fresh food is a priority, schools are devising any number of clever ways to get it into them: pesto days when the basil and garlic are harvested; comparative taste testings of the stems, leaves, flowers and fruits of a plant; harvesting time built in to the last 10 minutes of a class; making soup with herbs collected using the portable kitchen cart when rain forces the gardening students indoors; and preparing foods that are central to the stories they're reading or the cultures they're studying.

If the timing of growing means there's produce in the summer, it's a great incentive for volunteers to keep showing up to maintain the gardens. Some gardens donate to local food pantries.

The movement in Princeton Regional has garnered lots of goodwill and visibility through the Princeton Environmental Film Festival. Susan Conlon, a librarian who founded and coordinates the film festival at the Princeton Public Library each year, sees to it that school gardens get a lot of play. In addition to

featuring documentaries at each festival, the library hosts free workshops and professional development opportunities for teachers and administrators. Notes Conlon: "Last year we had so many registrants for our spring workshop that we decided to offer a second session. People came from all over New Jersey to learn about the how-tos of start up, funding and grant writing; the important links between nutrition and academic achievement; and waking children's palates for fresh, healthy food."

Local businesses are important



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partners. Gab Carbone and Matt Errico run the Bent Spoon, an ice cream store in Princeton with high standards for local sourcing. “It’s a great, grand circle,” says Carbone. “We get to use herbs from the school gardens and lots of local ingredients. The Whole Earth Center (a local health food grocery store) sells the pints and the proceeds go right back into the gardens.” In New Brunswick, Elijah’s Promise (a soup kitchen that also trains people to work in the food service industry) is working to bring local food into school cafeterias and the community. Executive Director Lisanne Finston says, “Elijah’s Promise supports school gardens because healthy change begins with connecting people to food at its source.”

Bill Cirullo is the principal at Riverside Elementary School in Princeton, and he’s enthusiastic. “I get a charge out of seeing these kids come in after a class in the garden. One’s carrying a butterfly house; the next has a basket of petri dishes, and most of them walk in with fistfuls of beans and flowers.” Cirullo dedicated a south-facing slope by the soccer field nine years ago, and it has grown into the largest public school garden in New Jersey. The Riverside gardens are set up to meet the needs of the school community and also to respond to the growing demand for help with start-ups: they provide a stage for tours, trainings and workshop for people from other districts.

This fall, the New Jersey Farm-to-School Network hosted several regional school garden trainings at schools where the gardens are established enough to enable the trainers to educate others about start up, matching lessons, sharing funding ideas and even plant material like raspberry bushes. Director Beth Feehan is very concerned about children’s taste buds for whole foods, as well as getting as much locally grown food into the cafeterias as possible.

Another important source of community support is the local horticultural talent. Janet Sheppard is a master gardener in Mercer County, one of several volunteering in the Hopewell Valley Regional schools. Sheppard revealed her motivation: “I’m a retired teacher. I couldn’t stay away from children. Getting out here with a class of kindergartners is the most fun I have all day.” Volunteers are motivated by the pleasure they experience sharing their interests. It might be entomology, cooking, or sharing one’s knowledge about native plants. The volunteers are out there, but it requires someone in each school to get it all organized.

Community volunteers can help solve the problem of summer. Gardeners in Franklin Township (Somerset County) reported learning painful lessons about the difficulty of tending to the persistent needs of gardens. Sometimes, even when grants have been awarded or funds desig-

nated, it can take weeks or months to cut a check. Community volunteers in Franklin organized a bucket brigade to keep teacher Audra Wood’s garden alive with no hoses last summer. Elsewhere, the PTO skirted the purchase-order system and established a credit line at the local nursery, which led to all schools in the district receiving a 10 percent discount on everything at the store.

Parents in Princeton responded to economic reality by starting the Princeton School Gardens Cooperative. Diane Landis, a member of the co-op board, makes presentations regularly at the environmental film festival, where funding is always a hot topic. “There are start-up grants out there, but marshalling the local support and interest from area businesses comes before attracting bigger grant money,” she said. In any case, community support is needed to make the programs sustainable. “After five years in operation,” Landis added, “we were awarded \$30,000 by the Robert Wood Johnson Foundation for a program that brings local chefs into the schools.”

New Jersey Farm-to-School Network’s Beth Feehan sees it a different way. “Long term, if we don’t figure out a way to fund gardens as part of the school budget, the programs won’t attract good garden-based educators,” she said. “We can’t rely on volunteers across the state to make this happen when the health and educational consequences of not doing so are so serious.”

**Getting Started** There are any number of ways to get started, but the first step always focuses on the people and what motivates them. Below are some excerpts from the garden checklist available at the New Jersey Farm-to-School Network website.

The full, eight page document is available at [www.njfarmtoschool.org/checklist.html](http://www.njfarmtoschool.org/checklist.html).

**Stakeholders** School gardens rise and fall on the relationships of the people who make them happen. Cultivate the relationships like you take care of the soil. Who has to be on board to make this happen?

**The principal:** Principals approve or deny teacher training time, determine use of space, and dedicate funds. It is very important to know what he or she cares about and to stay on that page.

**Teachers:** Some interest needs to come from the people who decide to take the children outside.

**The garden manager:** Who is the identified person or small group that will deal with the issues of caring for a living classroom when details fall through the cracks or assignments are not clear?

**Parents:** Sometimes they’re the ones driving the gardens and sorting out funding.

Depending on the interests driving the garden, it’s good for the team to include cafeteria staff or food service; community volunteers to help with labor and instruc-

tion; a custodian (it’s too late to develop a nice relationship with the custodians when you discover a nest of yellowjackets or a hose bursts in a heat wave); a nurse or health teacher; and a librarian, who can reinforce outdoor learning with media center activities.

**Start Up Considerations** Long before groundbreaking, these issues need to be dealt with:

**Purpose:** Once the team is in place, it needs a statement of purpose, just to be sure everyone can embrace agreed-upon goals of the project. After you’ve broken ground, it may be too late to deal with tension because one partner is only interested in science lessons, another wanted to plant flowers, and a third is motivated by the children’s nutritional status.

**Location:** Location is everything. You want to meet all the horticultural needs of the plants for sun, soil, water and drainage. You might want to maximize the public relations and goodwill value by placing a beautiful garden in a highly visible location or tucking it into a courtyard if there are safety concerns.

**Size:** It depends on the base of support. You can always expand.

**Design:** The design will be driven by the purposes the garden is to serve, the desires of the team, the available space, and the needs of the plants you select. Most of the early effort should go into care of the soil. If you have \$100, spend \$50 on the soil. See the garden checklist about setting up beds, a compost area, storage area, signage and fencing, etc.

**Money:** You can start a small garden on \$300 if you get a lot of the material donated. Or you can spend \$16,000 for a perfect, commercially installed ready-to-plant garden. If you spend less money, you’ll spend more time. If you spend more money, you may miss out on certain ecology lessons, like growing your own compost. In any event, if your funds are limited, the majority of the effort should go into building soil. Every site is different, but be sure to consider the basics when making up the budget: expenses related to locating it (making water reach the garden, clearing land, tilling the first year or setting up raised beds); soil test kit and amendments like compost; tools; means of watering; materials for raised beds, if using; seeds, starts, or mature plants; supports and stakes; protections, fencing, row covers; fertilizers; pest controls, if using; instructional materials, field guides, books; expertise, if the volunteers are beginners; material for walkways; cold frames, green house; mulch; containers; and labor.

**In-ground or raised beds:** Decisions will have to be made that you’ll have to live with for a while. You may want a few raised beds the first year while you start composting and working your own soil. You may want to plant a fall crop of something like winter

### SCHOOL GARDEN RESOURCES

- New Jersey Farm-to-School Network: [www.njfarmtoschool.org](http://www.njfarmtoschool.org)
- Center for Ecoliteracy: “Getting Started” [www.ecoliteracy.org](http://www.ecoliteracy.org)
- Junior Master Gardeners: Garden Lessons (Texas A&M): [www.jmgkids.us](http://www.jmgkids.us)
- Mercer County Master Gardeners Fact Sheets from Rutgers: [www.mgofmc.org](http://www.mgofmc.org)
- Princeton School Gardens Cooperative Guide for Lessons: [www.prs.k12.nj.us/GardenCoop/GardenCoopGuideNov07.pdf](http://www.prs.k12.nj.us/GardenCoop/GardenCoopGuideNov07.pdf)
- Princeton Environmental Film Festival: [www.princetonlibrary.org/peff](http://www.princetonlibrary.org/peff)

#### For Information on Diet and Brains:

- The Crazy Makers* by Carol Simontacchi
- Gut and Psychology Syndrome* by Natasha Campbell-McBride



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rye, to improve the soil and teach stewardship of the soil. You will want to start with a soil test to guide your decisions (county extension services of Rutgers have soil tests for \$20 each) and add lots of organic material. Rototilling may be necessary the first year. Soil preparation is critical. Here is a good resource: <http://www.mgofmc.org/docs/VegGardBasics08.pdf>.

**Horticultural needs:** In addition to the obvious sun, water and space needs, each plant has specific requirements. You don't need to memorize long lists of plants by special needs, but you do need to have a sense of which are cold, cool, warm and hot-loving plants. You need to know which planting zone you are located in to determine your first and last frost dates (Most of New Jersey is Zone 6 or 7, with last and first frost dates in May and October.) If at all possible, you want your garden to face south, with tall plants on the north side and short plants on the south side to maximize sun light hours.

**Educational Purpose:** Is the garden there for lessons or spontaneous learning, or maybe both? Not all districts require that the garden be set up to teach les-

sons matched to state standards, but the question needs to be considered at the beginning. In either case, an herb garden is an excellent place to start. It delights the senses, provides food, and delivers the biggest bang for the curriculum buck.

**Safety Rules:** The first lessons in any garden need to include the safety rules. These include: using the senses for plant identification before tasting; knowing ahead which children have allergies to plants, pollen, mold or stings; knowing ahead if there are children who need sunscreen; allowing no bare feet or flip flops in the garden; adding only plant materials to the compost that don't attract vermin; learning to walk with and pass tools safely; and discussing pest controls.

There are also safety rules to protect the plants. These include: keeping feet on pathways, using two hands to pick plants so you don't uproot them (one to hold the plant and the other to nip off); discussing pest barriers and keeping the gate shut; practicing hose management so the students don't decapitate plants when they haul the hoses around. In fact, it's a good idea to use all these ideas as drills.

### **Face the Big Challenges at the Easiest Time: The Beginning**

The easiest time to deal with the challenges is before you start digging. Let the principal know the exit strategy up front so she doesn't have to worry about the potential weed patch. That may help her give consent. Creating incentives—like picking rights—can attract summer volunteers, a dicey problem for any school. And setting up a credit line with a local nursery so you can deal with the life and death issues of living plants takes a lot of stress out of the management of the project.

The garden checklist at New Jersey Farm-to-School Network prompts answers for all the items you need to consider to make your community supported school garden a safe and happy setting for garden-based education.

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