FEEDING THE NEXT GENERATION

Stories from the Field:

Farm and Garden Education Case Studies
Of the Monadnock Region

April 2010

Dedication:

To all the future farmers and local food enthusiasts
of the Monadnock Region.

Foreword

Building Relationships Between Kids, Kale, Curriculum & Community

by David Sobel, Antioch New England University

A toolkit? Looks like just a bunch of glossy pictures and words at first. Where are the packets of seeds, the trowel, the fork, the trusty hoe, the watering can? Well yes, you need all those things to actually plant a garden, but what if you are wanting to plant relationships? Relationships between vegetables and children, between gardens and schools, between farms and communities? What kind of tools do you need then? To plant relationships, you need good stories, ways to get in touch with people, reasons to collaborate. You need to know what it is you are going to get out of these new relationships, and how each new relationship will make the world a better place.

The Monadnock Farm and Community Connection's folks, Meg, Bonnie, the Amandas, Jeff, Jen and Jessica, are all about making our corner of the world a healthier place through building relationships between kids, kale, curriculum and Monadnock Region communities.

The Monadnock Region would be a better place for learning and living healthy lives if there was a garden at every school, a farm connected to every school lunch program and a farmer's market every day of the week. If we believe in Vision 2020, the idea that the communities of Cheshire County will be the healthiest in the nation by 2020, then creating these relationships that engage all of us in growing and eating locally grown, healthy food is an integral part of that vision.

Each one of the stories in this toolkit can help you start to till the soil in your community. Learn how kindergarteners in Alstead, master gardeners in Keene and farmers in Winchester are all working to make tending and growing and harvesting a regular part of the air we breath every day. Learn how to help children throw off the shackles of their cell phones and savor the crunch of their celery. Learn how to seek out the fresh pressed and the just picked.

Take my hometown of Harrisville, for instance. I can buy locally raised lamb, pork, chicken, beef and yes, even goat from local farmers at The Harrisville General Store. (I admit, I was a bit leery of goat, but we tried it in moussaka and it was great.) We press our own cider from apples on my backyard trees or our neighbor's wild trees. I can stop at Jody's to pick up recently laid Silver Lake Farm eggs. Raised beds may be sprouting at the elementary school. The maple sugarer drops off a quart or two of syrup from the trees on my property that he is tapping. And just a few weeks ago, the old field in the triangle between the Harrisville and Nelson roads was tilled to make way for the new community garden next spring. Eleven of the twenty plots have already been claimed. My food is coming home again. Which is the way it should be.

Use this toolkit to plant relationships between your farm and the local school, between the community garden and the community kitchen, between children and good grades. All those relationships will make the Monadnock Region a more beautiful, and a healthier, place.

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Overview

Monadnock Farm & Community Connection Keene, NH

Project History

"Nationally and regionally, the time is ripe for education that connects schools to the rising local food movement and builds strong partnerships, through strategies that nourish our communities, reduce food miles and even help to mitigate climate change." Deb Habib

In March 2009, Monadnock Farm & Community Connection (MFCC) and Antioch University New England co-sponsored a "Grow Food Everywhere" discussion led by Deb Habib, Executive Director of **Seeds of Solidarity Education Center** in Orange, MA. Educators, farmers, and community members came together to learn and brainstorm ways to strengthen student connections to farming and local food.

Participants explored specific strategies on how our schools can:

- Cultivate food, learning, and community through the development of school gardening programs.
- Build curriculum around growing local food.
- Unite the community around local farming. Antioch University New England (AUNE) graduates and MFCC volunteers wanted to take these brainstormed ideas forward—and with the help of an AUNE Alumni Grant together we created this farm education toolkit, specific to our region.

Deb Habib and her husband Ricky Baruc, co-founders of Seeds of Solidarity.

This is just another step forward, working together as educators, parents, farmers and citizens to strengthen young people's connections to farming and local food. Please join us in the journey.

Amanda Costello – District Manager, CCCD

Meg Fairchild – Project Coordinator, MFCC

Bonnie Hudspeth – Project Coordinator, MFCC

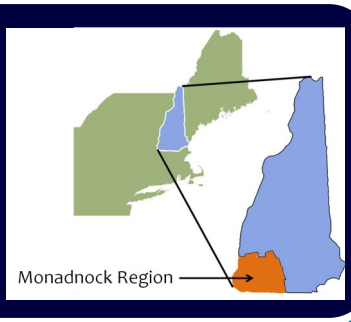
Amanda Hopkins – Garden Manager, Stonewall Farm

Jeff Littleton – Conservation Ecologist, Moosewood Ecological

Jen Risley – Project Coordinator, Hannah Grimes Center

Jessica Skinner—Antioch University ES Teacher Cert Student

Monadnock Farm & Community Connection (MFCC) is a collaborative community effort to strengthen our regional food system. We work to create inventories and assessments, promote farm education and celebration, and strengthen our existing local food infrastructure. MFCC, Cheshire County Conservation District (CCCD), 603-756-2988 x 116



Why School Gardens?

"The core of the intended learning experience for the students is an understanding of the life cycle of relationships that exist amongst all of our actions. The tangerine peel that gets tossed into the compost pile becomes a feast for organisms that will turn it into humus, which enriches the soil to help produce the fruit and vegetables that the students will harvest, prepare, serve and eat. The health and well-being which they derive from the garden is recycled back into their attitudes, relationships and viewpoints. *Thus the discarded peel becomes the vehicle which provides tomorrow's city planners, software engineers, artists and master gardeners their first adult understanding of the organic concepts of interconnectedness.*"

~Alice Waters, Edible Schoolyard Program

Studies continue to show the beneficial effects of school gardens on student behavior and health.

Why School Gardens?

The rewards of a school garden can reach into every area of a child's life. A school garden connects young people to the source of their food and encourages healthy eating habits. For struggling students it will open doors to new and creative ways of learning. Planting and tending a school garden, harvesting, preparing and cooking the food grown and sharing conversation over freshly prepared meals are invaluable experiences. Not the least of these rewards is the physical and mental well being that comes from being in harmony with nature.

The effects of a school garden can go further still, strengthening our local food systems & communities. Students are often inspired to grow their own gardens, thus getting the entire family involved in what they grow and eat. A school garden also provides a gathering spot for outdoor classrooms as well as a community gathering place for celebrations and peaceful contemplation.

Schools are already an important part of a child's education. School gardens can enrich school grounds, school lunches and the curriculum. They can add a whole new dimension to a child's education, integrating the sciences, social studies, environmental science and health with real experiences in the great outdoors. We believe that knowledge about food and agriculture are just as important to children of all ages, and so we want to impart that knowledge onto them. **~ The Cornucopia Project**

Dublin kindergarten moving soil to garlic bed.

Research on the Benefits of School Gardens:

Blair, D. (2009). The Child in the Garden: An Evaluation Review of the Benefits of School Gardening. *The Journal of Environmental Education, 40* (2), 15-38.

Canaris, I. (1995). Growing Foods for Growing Minds: Integrating Gardening and Nutrition Education into the Total Curriculum. *Children's Environments, 12* (2), 264-270.

Dizikes, P. (November 10, 2009). Good Food Nation. Retrieved from *MIT News*. http://web.mit.edu/newsoffice/2009/foodshed.html

Habib, D. & Doherty, K. (2007). Beyond the Garden: Impacts of a School Garden Program on 3rd and 4th Graders. Retrieved from http://www.seedsofsolidarity.org/Beyond_the_Garden.pdf

Robinson-O'Brian, R, et al. (2005). Impact of Garden-Based Youth Nutrition Intervention Programs: A Review. *Journal of the American Dietetic Association*, *109* (2), 273-280.

Using This Toolkit

There is growing dedication in the United States to "green" our schools through the open space which includes edible landscapes and gardens.

This toolkit is a step toward promoting the current edible landscapes here in the Monadnock region and inspiring more to grow.

Not sure if this kit was created with you in mind? Find out below.

Use this toolkit if you are a:

School Administrator:

- Find examples of successful school gardens and how you can get one started at your school/s.
- Examine startup needs and costs and use as an organizational tool.
- Investigate different models for incorporating local food and farming into your school/s.

Student:

- Discover internship or volunteer opportunities.
- Find and after-school or summer camp opportunity.
- Look for ideas and support for your own school's garden.

Teacher:

- Gather inspiration for your first or next step.
- Find regional resources available to you.
- Find field trip options and outreach programs.
- Explore recommended curriculum ideas.
- Planning for a school garden in your own school—use the toolkit as an organizational guide.
- Discover examples of many working models that are taking place here in New Hampshire.

Parent:

- Experience possible opportunities for your child's school and classroom.
- Plan weekend outings and continued education at home.
- Use as inspiration for the next PTA or school wellness committee meeting.
- Help start a conversation with your child's teacher.
- Find places for you and your children to volunteer time and share your resources.

Community Member:

- Connect with people and places promoting your passion for supporting local food and farming.
- Discover places to visit, volunteer time and share your resources.
- Help raise the next generation of farmers and local food enthusiasts.

Government Official:

- Find ways to change food and agricultural policy to strengthen our local food system.

Cornucopia Project

Case Study I

School & Community Garden **Hancock, NH**

Growing With Kids

Special points of interest:

- School-based and garden-based programs
- Website: http://www.cornucopiaproject.org

Keywords:

- Greenhouse
- Summer Camp

Kin Schilling, Founder and Director of The Cornucopia Project, shares a vision that capsures the spirit of the project: "The kids are cutting salad greens for the cafeteria in December. They will cut it, wash it and take a large bowl from the greenhouse directly to the cafeteria and continue the process three to four more times, planting every two weeks. The students also plant spinach and arugula."

The Cornucopia Project (CP) serves young people throughout the Monadnock Region and believes kids best understand where their food comes from by growing, harvesting and eating it. "We think that it's important that kids eat their vegetables... and grow them, too!' Kin says.

CP is both a school- and garden-based program with a mission to "teach sustainable and nourishing life practices to children and young adults by connecting them to the land and community through organic gardening and nutrition."

The Cornucopia Project's goals are to:

- Cultivate food, learning and community through the development of school gardening programs
- Create a safe local food system
- Eat locally and sustainably
- Cook together
- Build curriculum around growing local food
- Plant, harvest and eat organic food in our schools
- Support local farms

Project Beginnings

Blending her background as an organic gardener, artist and professional cook with a heart of gold, Kin started CP in 2006 with thirteen raised beds and a chicken coop on a one-acre piece of land near her home in Hancock called the Norway Hill Garden. It started out as a 7 family Community Support Agriculture (CSA) garden. In order to become a member, families had to bring their children to the garden and work for their share of the harvest. Kids enjoyed the time so much, they began coming to the gardens more than their work share required.

A science class named Earth Connection, Kin's first pilot project in 2006, brought together students from the Crotched Mountain School—a school for young people who are physically or mentally challenged—and Great Brook Middle School in Antrim, NH. They hammered together sixteen wheelchair-accessible raised beds where they grew herbs and vegetables. From the

"I love these little tomatoes. They taste better than candy!"

A 'SEEDLINGS' 4 YEAR-OLD

Cornucopia Project (Continued)

garden, the students took the food to the main cafeteria.

In 2008, Norway Hill Garden evolved into Norway Hill Kids' Garden and a Kids Garden Club ran in the spring, summer and fall. Kids met once a week for six weeks, divided into two age groups: the Seedlings, ages 3-6, and the Garden Gorillas, ages 6-10.

The younger "Seedlings" group introduced young children to plants, vegetables and how seeds grow. These 3-6 year-olds learned about a new garden plant every week.

The older "Gorilla Gardeners" group planted, hoed, weeded, watered, and played games, listened to stories, drew pictures and sang. They even put together a farmers' market for their families.

Up and Running

In 2009, the Cornucopia Project worked with five Monadnock Region schools: Dublin Elementary, South Meadow Middle, ConVal High, Crotched Mountain and Hancock Elementary Schools.

Hancock Elementary School integrated their work with CP into the curriculum. Each grade level, kindergarten through fourth grade, participated in weekly garden activities at the Norway Hill Kids Garden and in the classroom. Past activities included digging an asparagus bed, learning about and drawing animals that visit a garden, reading books about gardening such as *Hogwood Steps Out* written by Hancock resident Howard Mansfield, observing and recording differences in home-made and store-bought compost, as well as planting, watering, weeding, and journaling.

Students at Dublin use their math skills to calculate how many cubic feet of soil they needed to fill each bed and how many garlic cloves can be planted.

The Dublin Consolidated School planted crops and each class cooked something with what they grew in the fall. Best of all, each and every one of the 68 students tried what was cooked—even if just a tiny amount that Kin calls a "no thank you" bite. Different families "adopted" the garden for a week over the summer.

At Crotched Mountain School a class of mostly autistic children planted an herb and vegetable garden which children visit, one-by-one, to water. The Home Economics and Science department partnered with CP to help students learn about plants, conservation, and nutrition.

Students at the South Meadow School have built nine new raised beds in a sunburst pattern with a community bread oven nestled right in the center. A greenhouse will produce much of the salad mix for the cafeteria. Sixty-three students participate in the garden club, meeting at 7:20 a.m. every Tuesday and Thursday in the greenhouse. The Peterborough Garden Club will help maintain the beds throughout the summer. Read more about South Meadow School on pages 24-26.

Hurdles to Overcome

Funding, like with many other programs, is a challenge. Kin volunteers her time for most of the schools she works with. Individuals and organizations like Slow Food Monadnock donate resources, time and money and CP finds many creative ways to fundraise: Rosaly's Garden Cookbook (in its fourth printing) and Life Is Food t-shirts.

Kin would love to acquire the funds to hire an assistant and find a grant writer. This past summer, the Guerilla Gardeners were unable to use the Norway Hill Garden property due to zoning issues.

Cornucopia Project (Continued)

Planning for the Future

The Cornucopia Project was recently given 52 acres to start a community-based Agricultural Education Center in Hancock. The gift or permanent lease was donated by the Mathewson family. The property is called Brookside Farm and has been in existence since 1790. With the help of Bob Bernstein from Land For Good, a non-profit organization located in Keene, the Mathewson family and the Cornucopia Project will form a land trust.

The goal over the next five years is to develop solid plans to gently teach sustainability, land stewardship and nourishing life practices to local children, young adults and kids at risk. CP will slowly build upon the existing farm infrastructure such as organic raised garden beds and a Zen garden. Kin is already planning to bring at-risk kids from New York City to help build garden beds and yurts in the summer of 2010. She also envisions a classroom and kitchen on the property and has plans to acquire farm animals, teach maple sugaring, conduct woodland walks and partner with a local mill in Hancock to teach about wood milling. Local schools will be invited to participate in all the activities.

At Conval High School, the plan is to create a school-based agri-business program. The Green Team, along with two teachers and community members, will build a 20 x 60 foot hoophouse. Students will manage the growing and processing of organic foods and sell their products to the cafeteria and area grocery stores such as Roy's and Nature's Green Grocers. Kin wants students to keep at least 60% of the profit. A mission statement and business plan are started. Kin hopes to build a commercial kitchen for the school, students with their parents and area farmers to use.

Students build sustainable compost bins at a garden site. They cut down eighteen saplings, stagger the saplings and lash the corners to four posts using twine. At the end of the growing season the saplings are used for firewood in the bread oven and the compost pile continues to decompose.

Advice for Other Schools/Projects

Kin advises schools, farmers and gardeners to just **do it** - if you have an idea in your head that seems too big, start small. It's easier to build on success.

"I hope in my lifetime I can see a change in the whole school food policy."

KIN SCHILLING

Instead of relying on a rotatiller or tractor, new beds can be established using cardboard and newspaper (sheet mulching). Kin urges all of us to come together in strength; the kids are our future and they need to be educated in a way that excites them—which the Cornucopia Project clearly does.

Need	Resources Used
Operational funding	Monadnock Slow Food Fundraisers
Seeds	High Mowing Seeds
Soil and compost	Donations from Stonewall Farm, J&M Landscaping; Purchased from Ideal Compost
Curriculum	Shelburne Farm's Project Seasons

Case Study II

Keene State College Keene, NH

Focus on Young Children

Special points of interest:

- Curriculum is used in child care centers and after-school programs throughout New Hampshire and beyond
- Early Sprouts Book published in 2009
- Website: http://www.earlysprouts.org

Keywords:

- Preschool

The **Early Sprouts Program** promotes learning among teachers, preschool-age children and their families using a "seed to table" approach. Specifically, this program is a research-based nutrition and gardening curriculum that gives children experience in planting, harvesting and preparing their own food. Holistically, however, it is a community-based model for creating positive change.

Dr. Karrie Kalich, a registered dietitian and an associate professor at Keene State College (KSC), is the Primary Investigator for the Early Sprouts program. She led the development of this 24-week preschool curriculum and helped write the book, *Early Sprouts: Gardening and Nutrition Experiences for the Young Child* (Kalich, Bauer & McPartlin, 2009), used in local child care centers such as the Keene State College Child Development Center (KSCCDC) and five afterschool programs.

The Early Sprouts Program uses raised organic garden beds, sensory experiences, and cooking lessons focused on six target vegetables to:

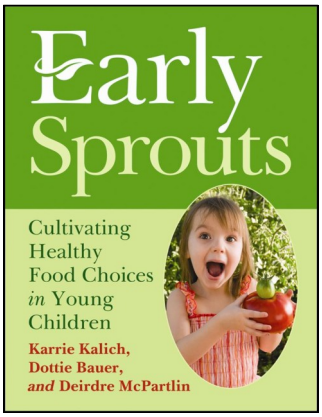
- Increase young children's food preferences for and consumption of fruits, vegetables, whole grains and low fat dairy products
- Promote school and family-based dietary changes
- Reduce the risks and issues associated with childhood overweight and obesity

> *"It's easier to teach a behavior than to change one ..."*
> DR. SUSAN LYNCH
> *Pediatrician and N.H.'s First Lady*

Project Beginnings

The seeds for Early Sprouts were nourished as Karrie worked at Linden Tree Farm & CSA during graduate school. Her past connections and passion for local food and her interest in promoting behavior change contributed to the program's development. Karrie also collaborated with KSC students and faculty from the KSC nutrition and education departments and the Head Start centers of Southwestern Community Services.

Karrie's vision came to life thanks to a Home Depot Youth Gardening Grant to build raised bed gardens at the KSCCDC. Initial funding also came from the MacMillan Company in Keene.



In the Spring of 2006, the Early Sprouts program flourished into eight raised

Early Sprouts (Continued)

garden beds on the KSCCDC's playground.

Up and Running

Early Sprouts is now used in many preschools and spans the school year. Training and support for classroom teachers and family outreach is a component of the program.

In the 2008-09 school year, six Head Start centers in New Hampshire as well as the Children's Learning Center at Dartmouth-Hitchcock Keene, Lily Garden Learning Center and the University of New Hampshire Child Study and Development Center used the Early Sprouts program.

At the start of each week, a vegetable is explored using all the children's senses. The students prepare a recipe together using the week's vegetable and at the end of the week take home a recipe kit to reinforce their learning with their family. "We send home family recipe kits to extend the experience into the home. The kits include all of the ingredients needed to prepare the recipe," Kalich shared.

Families are kept engaged not only through the family recipe kits but with regular newsletter articles from Early Sprouts. Families are also invited to join their children in planting the garden, participating in class activities and attending special events such as the "stone soup" luncheon and the butternut squash pancake breakfast.

Initially, Karrie's favorite part of the program was gardening with the kids. Now that joy has expanded to presenting with classroom teachers at regional, national and international conferences where they have the opportunity to share their Early Sprouts experience and educate their peers.

The Early Sprouts Program is now recognized nationwide as a model community program. In 2008, the program received the US Surgeon General's "Healthy Youth for a Healthy Future" Champion Award. The Champion Award highlights prevention programs that form partnerships and help kids stay active, adopt healthy eating habits, and promote healthy choices. In 2009, Kalich was presented with the "Mary Abbott Hess Award for an Innovative Food & Culinary Effort" from the American Dietetic Association.

Hurdles to Overcome

One of the unexpected challenges that Early Sprouts teachers met were school fire codes—cooking was not allowed in some of the classrooms. For a curriculum that includes cooking in the classroom this is a major hurdle to work through *before* the program is implemented.

Planning for the Future

The Early Sprouts program is dynamic and continually evolves thanks to teacher feedback. It is expanding beyond the school day to after-school programs in Troy, Gilsum, Winchester, and Hinsdale, NH and Westminster, VT to work with elementary school aged children. This is a partnership between Keene State College and the afterschool programs and is implemented with current after-school funding. AmeriCorps Health & Wellness VISTA Members are an integral part of this partnership.

My son went from being excited about dinosaurs to being excited about squash … we have eight varieties in our home right now.

PARENT

Early Sprouts (Continued)

To date, Early Sprouts has offered four trainings at local after-school programs. After-school programs are proving to be an ideal fit for Early Sprouts—many after-school programs are looking for wellness-based best practice initiatives. After-school programs also have the time to devote to this type of program.

Kalich is hoping to incorporate more cultural diversity into the curriculum and work more with University of New Hampshire Cooperative Extension. Another important goal is finding a "real" gardener to join the Early Sprouts team.

Advice for Other Schools/Projects

Kalich shares: Have a plan for how to deal with division of roles, training, and maintaining the raised beds.

Dr. Karrie Kalich with a young gardener.

Need

Funding
*Kalich seeks out funding with support from the Keene State College Office of Advancement and the Office of Sponsored Project & Research at Keene State College.

Resources Used

Advocates for Healthy Youth
Cheshire Health Foundation
CMH Foundation
Environmental Education Fund of the New Hampshire Charitable Foundation
Gemini Fund of the New Hampshire Charitable Foundation
Hannaford Supermarket
HNH*foundation*
Kiwanis Club of Keene
MacMillian
Monadnock Challenge Fund of the New Hampshire Charitable Foundation
Monadnock United Way
National Gardening Association & Home Depot

Garden Meals

Case Study III

Cold Pond Community Land Trust **Acworth, NH**

Learning to Eat Healthy, Right from the Garden

Special points of interest:

- Connections with Community
- Nutrition Focused

Keywords:

- Preschool
- Elementary Schools
- Gardening
- Vermicomposting
- Partnerships

A young boy squeals excitedly as he finds yet another potato beetle and begins to pull it from the plant where it resides. Nearby, some folks pick peas and other veggies. Eggs are gathered from Stacey's chicken coop, just down the street. Indoors, participants begin chopping and preparing all the foods needed for a delicious garden meal. Today's menu includes steamed kale, a fresh green salad, and an egg frittata stuffed with all of the garden goodies that were freshly picked just a few moments before. As everyone sits down at the picnic tables for lunch, excitement fills the air in anticipation of tasting these new and different foods, tempered by a healthy dose of childhood hesitation. Ultimately, everyone eats, laughs, and enjoys each other's company over a fantastic, nutritious lunch that we all had a hand in creating.

Project Beginnings

Five years ago, Stacey Oshkello, a graduate of the Keene State College Dietetic Internship Program, was searching for an opportunity to do good work in her community that would utilize her knowledge and experience in food, gardening, and nutrition. At the same time, Cold Pond Community Land Trust (CPCLT) in Acworth, NH was looking for creative ways to serve as an educational resource for sustainable and regenerative agriculture. Thus began Garden Meals, a program of CPCLT that uses community resources to educate the wider community about garden stewardship and healthy eating.

CPCLT has formed many partnerships to keep the Garden Meals program moving forward.

Stacey was the force that got the program off the ground, drawing from her experience as an intern at Stonewall Farm in Keene and incorporating information she gained through the University of Vermont Cooperative Extension Program for Garden Education. However, none of her efforts would have been possible without the

Garden Meals participants harvest fresh dill.

Garden Meals (Continued)

resources, infrastructure, and organizational status that CPCLT provides. Many CPCLT residents have been involved with the program over the years as garden managers, school program coordinators, or growers of food.

Up and Running

Over the past five years, CPCLT has formed many partnerships to keep the Garden Meals program moving forward. One such partnership is with the Alstead Area Community Trust that has generously acted as a fiscal agent for the program when applying for grants. Monadnock Family Services has covered some of the cost for meals and education on a per-child basis. Other organizations that have given the program financial support are the NH Charitable Foundation, United Way, Claremont Savings Bank, and Integrative Service Network. This last organization, based in Claremont, works with developmentally disabled adults and they have really loved being a part of the program for the past four years. Without a doubt, Garden Meals would not have been possible without the land of CPCLT on which to grow and raise the food used in the Garden Meals program or the dedication of CPCLT residents who made this education program a priority.

Garden Meals also travels to and works with area schools to provide nutrition education programming. Some of the schools they currently work with are The Orchard School, Surry Village Charter School, Charlestown Elementary, Marlow Elementary and Acworth Elementary. Garden Meals has even started a vermicomposting project at Acworth Elementary, and in fall 2009 they were able to harvest from the garden and prepare food for the school's annual Thanksgiving feast.

One eager participant picks potato bugs from plants.

Participants prepare vegetables for their delicious Garden Meals lunch.

Hurdles to Overcome & Planning for the Future

Travel between schools and the program's current site—CPCLT land that has been dedicated to growing food for Garden Meals—can sometimes present a problem for staff but a solution is on the horizon. CPCLT will soon be building a community center, which will be the future home of Garden Meals.

Another challenge the program faces is that many of the current sources of funding that are used to keep the program up and running could be discontinued at any time. Garden Meals has yet to find a sustainable source of funding for this important work within the community.

Advice for Other Schools/Projects

Stacey Oshkello's advice for others interested in starting a similar initiative:

- Involve farmers as much as possible.
- Forge relationships with teachers and schools to give your program an outlet.

Garden Meals (Continued)

Need	Resources Used
Training	Dietetic Internship
Funding	Monadnock Family Services New Hampshire Charitable Foundation - Upper Valley Region United Way of Sullivan County Claremont Savings Bank Alstead Area Charitable Trust Puffin Foundation
Curriculum	University of Vermont Cooperative Extension, Garden Education Program

Case Study IV

????? **Walpole, NH**

Two Brothers - One Dedication

Special points of interest:

- Local history and agricultural education

Keywords:

- Environmental Conservation
- Community Gardens
- Elementary school

Asked what her favorite part of the program is, Eloise Clark—Director of the Hooper Institute, joyfully responded, "I am the director and I create all of this. I love to implement and organize programs. Seeing happy kids' faces of course is always wonderful!"

The Hooper Institute graces the top of a beautiful hill with diverse terrain—a golf course across the street, a pond just down the hill, and behind the building a community garden on what was once a sheep pasture. The building itself has a woodworking shop set up downstairs and the main room on the second floor is decorated with farm tools and historical accounts of farming and gardening in the region.

The community garden was full of bright green vegetation this growing season and it was evident that the beds are well maintained and in good hands. The water collection system that pumps water from the pond down the hill certainly captures ones attention. At the primary school, sunflowers were towering overhead, the cherry tomatoes were slowly ripening and the Japanese beetles had taken a liking to the bolting asparagus plants. The smell of old wood wafted through the air, cultivating historical images of farming as the Institute comes alive. It truly is a unique site.

Walpole primary school gardens.

Project Beginnings

The Hooper brothers of Walpole, George and Frederick, were responsible for sowing the seeds of the Hooper Institute in the late 1920s. Their mission was to provide the town of Walpole, exclusively, with programs that focused on agriculture, forestry, botany, soils, and environmental conservation, providing historical background to the Connecticut River Valley, as well as the natural resources that sustain it. Essentially, they wanted to make connections between local agricultural history, the tools used, and the people who worked the land.

Hooper Institute (Continued)

The building that houses the Institute was built in 1930, serving as Walpole's Agricultural School. The agriculture vocation program was later moved to the high school in the 1960s.

David Blair, the Institute's director in the 1970s and sole employee, started the community gardens behind the Institute, as well as in North Walpole. Both gardens were a big hit during the 1970s gas embargo, which nurtured a time of self-sufficiency. Eventually, by the 1990s the primary school also had a garden.

The Hooper Institute conducts 40 lessons per year in Walpole schools and funds a summer work program so high school students can work with local farms.

Presently, Eloise Clark is the Executive Director of the Institute (she started in 1977). Eloise splits her duties with Rebecca Whippie and both oversee the vitality of the community gardens and programs.

Up and Running

As Eloise elaborates, "The Hooper Institute is unique in and of itself. We go into the classroom to do lessons for a whole year, which is about 40 lessons per school year."

This is the primary way the Institute serves the youth of Walpole at no charge. Funds donated by the Hooper brothers, as well as from ongoing donations, fully fund the programs.

Butterfly garden at the Walpole primary school.

Students learn a great deal about agriculture, wildlife, soils, and other aspects of environmental science through hands-on activities such as planting seeds, weeding, watering, mulching, and harvesting. The children begin to develop a reverence for plants and their life cycles, as well as the many birds, insects, and mammals that interact with the garden throughout the year.

The Institute also runs a summer work program and a variety of summer camp programs. High school students work on the farm of their choice in Walpole. In return, the students get paid through the Institute and acquire hands-on skills, while local farmers gain free labor.

Water collection system at the community garden.

The summer camp programs offer enriching experiences for youth of all ages. In 2008, more than ninety young people explored the grounds of the Hooper Institute, hiked and biked to spectacular natural areas, visited local farms, and tried their hands at woodworking in the Institute's woodshop.

Hurdles to Overcome

The Institute is very fortunate to have the vision and

Hooper Institute (Continued)

financial backing of the Hooper brothers. However, they are currently drawing the maximum amount of funds from the trust. Fortunately, Eloise and Rebecca are

Need	Resources Used
Goods and Services	The River Record printed by the Keene Sentinel—wrote a column and let folks know needs
Funding	Trust Fund; Walpole Outdoor Education Fund; Hubbard Fund; Private donations

Raised beds at the North Walpole school.

The Orchard School

Case Study V

Orchard Hill Community East Alstead, NH

A School Growing Food and Community

Sunflowers give way to the view of the Orchard School from the CSA Garden.

Special points of interest:

- Village appeal creates community around the school and endless learning experiences for children.

Keywords:

- After School Care Program - *Farmers & Foragers*
- Summer Camps
- Field Trips to the Farm
- Farm, Orchard, Bakery, and more

The Orchard School sits on a hill that faces the local bakery, Orchard Hill Breadworks and abuts the Orchard Hill Community. A playground with raised bed gardens is connected to rows of beautiful, green vegetables that are sold through the Orchard Hill Village Roots CSA.

During the school year, young students wander through these beds asking questions to the attending gardeners. There is a pond just over the hill where campers can take a dip on a hot summer day after learning about growing, harvesting and cooking a fresh, garden meal. The opportunities for learning at Orchard Hill are abundant, the scenery is beautiful, and the various on-site businesses resonate with the vision to provide holistic education for all ages. This is what makes the Orchard School Community, with its roots firmly planted in farming and food cultivation, unique and worth experiencing.

Project Beginnings

In 1990, The Orchard School and Community Center was founded by three friends, Eleanor Elbers, Kathy Torrey, and Kathleen Vetter, who shared a vision for a community place of gathering, growing and learning. They joined resources and for three years held preschool classes in a teacher's home. The demand for childcare made it clear that the community needed the school, and the school needed a home.

The Elbers Farm in Alstead became the chosen site as it had been the nexus of a farm/village community since 1971. Planning for the school started in earnest in February 1994 with a volunteer effort to erect a 2,500

Orchard School teachers utilize a variety of spaces to work with students and food: At the bakery, yurt (as pictured above), teepee, forest, gardens, farm, orchard, outdoor cobb oven, composting toilet, and more.

The Orchard School (Continued)

square-foot building. The following summer, over 275 people from near and far contributed more than 3,000 volunteer hours, and by September The Orchard School opened its doors.

Over the course of that year, the school's leadership and responsibility were shared by a core group of parents, community members, teachers and their spouses. This spirit of goodwill and cooperation formed the most important foundation for the school.

> ***"At Orchard Hill it is more about how you live than just employment… this place feels like home to people; it feels like a safe place for a lot of young people. "***
>
> ***- Marty Castriotta***

Marty Castriotta, Facilities Director at Orchard Hill, explains his sentiments, "We have strong intentions and values and we try to instill a sense of place and appreciation of agriculture. The school was built in 1994 and has had gardening integrated into the school in some capacity since the beginning—it was an organic connection since the school is located on a multi-generational farm."

As Facility Director, Marty maintains the buildings and grounds with an eye towards energy efficiency and health. He is the environmental educator, leading after-school programs and farm-based fieldtrips. During the summer, he serves as the Counselor Coordinator for Orchard Hill's farm and forest camps.

Up and Running

The focus of the Orchard School goes beyond outdoor education to create a village culture. The mission is to be an accessible place of learning that nurtures:

- a sense of community
- respect for individual differences
- the land
- lifelong learning
- a connection between the cultural life of our rural community and that of the world beyond.

Teachers embrace each student and share with them a sense of connectedness with the surrounding physical and cultural environment. Although they are a private school they see themselves integrating into the larger community through communication, sharing, and trading resources.

The Orchard School Preschool and Kindergarten classes use the Community land (farm, orchard, bakery) and raised beds outside the school house for learning opportunities year round. The variety of spaces teachers are able to utilize provide for many organic learning opportunities. Marty explained that often he will be working in the garden and kids will spontaneously come up and ask questions. These interactions are at the heart of the Orchard School.

Beyond this they also make use of curriculum such as Digging Deeper, Stella Nutura-Biodynamic Farm Calendar, Project WET, and Project WILD. They often draw upon the concept that a farm is a living organism and observe how every element within the farm is connected. Storytelling is an important technique used such as selections from "The Mountain Stands Alone."

Summer day camps enliven The Orchard School from late June until the middle of August. One week in the summer is designated "Farm Camp" where children directly participate in the happenings of the farm. They take part in more of the farm activities and play games that build understanding of the land.

Children harvested peaches for a week straight using their favorite sandbox dump trucks. Good thinking!

The Orchard School (Continued)

Orchard School's after-school program, Farmers and Foragers, provides a nurturing home away from home for children ages 10-15 and focuses on local foods. Students visit other farms and stores to learn about the diversity of our food system. Activities include maple syrup gathering, beekeeping, building portable pig pens, cider making, building a composting toilet, and other activities.

The Orchard School also serves the surrounding community by welcoming other schools to their site for field trips and serves as a Community Center through the workshops and classes offered there to adults.

Hurdles to Overcome

The success of The Orchard School is a great model for other school communities looking to innovate and integrate. Of course, with success comes challenge and the Orchard School still faces some hurdles ahead.

Hurdles for the School:

Funding: The annual fund drive is essential with parents of students and campers, employees, neighbors, and other community members donating money every year. Grant awards are another piece of the funding equation.

Visioning: Keeping track of the school's intention as it grows and develops new programs and staff.

Networking: They would like to better understand which schools in the area would like a garden, farm curriculum for the classroom, or come for a farm visit.

Hurdles for the Farm:

Regulations: The orchard once sold apple cider until it became illegal with NH's pasteurization law.

Raising capital: More money is needed to grow more food.

Plans for the Future

There are many ideas yet to be developed. Marty Castriotta is working with Stacy Oshkello of Cold Pond Community Land Trust to develop a school based program based on nutrition education and food preparation.

A happy young apple picker at Orchard Hill School.

Promote field trip opportunities for all ages.

Develop a stronger after school program. They are currently working with the Latch-Key Program of Alstead to provide opportunities from 2-5:30pm for kids up to 11 years of age.

Advice for Other Schools/Projects

For other school interested in starting similar food and agriculture programming, Marty offers the following advice:

- Get a sense of the place where you are – connect to stories of the local people and land.
- Make connections with local farms.
- BE ADAPTABLE- educate people about the way things change day to day, season to season, and year to year.

Work collaboratively in a non-competitive fashion with other organizations with similar goals.

The Orchard School (Continued)

- Work collaboratively in a non-competitive fashion with other organizations with similar goals.
- SHARE!

Needs	Resources Used
Funding	Found support within the local community
Space for students to interact with farm/gardens and experience growing food	Bakery, farm, outdoor space

South Meadow School

Case Study VI

ConVal School District Peterborough, NH

Dream Becomes Reality

Special points of interest:

- Connections with Community
- Innovative Fundraising
- Conceived and Driven by Administrators

Keywords:

- Greenhouse
- Raised Bed Gardens
- Chicken Coop
- Koi Fish Pond

A trellis for peas stands near South Meadow School's greenhouse.

"For some kids, coming to school is easy. For others, school is a struggle. We want to have something that can reach them," says South Meadow School Principal Dick Dunning. For one student at South Meadow Middle School in Peterborough, NH, coming to school was the last thing he wanted to do. But the day he got his own chicken, he said "This is the best day of my life!"

When Dick Dunning first arrived at South Meadow School, he already had a vision for how they could better use the school grounds as an educational space. From the very start he wanted to build a greenhouse on the school's front lawn. His dream became reality in 2003, and in the following years the program blossomed into so much more.

Inside the Greenhouse at South Meadow School.

In addition to the greenhouse, a multitude of other food and agriculture opportunities are now available on the school grounds of South Meadow Middle School. These include: vegetable gardens, a koi fish pond, bee hives, a chicken coop, an industrial composter, and herb gardens. All of these structures and programming are incorporated into not only the curriculum but also into the broader community. School administrators, teachers, and staff are constantly looking for new and different ways to utilize the infrastructure they have created to enhance food and farming both within the school and throughout the community.

Project Beginnings

From the very beginning, the goal of the food program at South Meadow School was to provide engaging hands-on learning opportunities for students. Dick's desire to make this happen through food and agriculture came from his own background with 4-H, Boy Scouts, and other school

South Meadow School (Continued)

outdoor/natural experiences he had growing up.

To buy the materials to build the greenhouse, the school raised $58,000 through in-kind donations and grant money from foundations and trusts. Dick Dunning and Bruce Dechert, Assistant Principal at the time, assembled the greenhouse themselves—a move that saved the school a total of $26,000.

Teachers use the onsite facilities for various lessons and class projects throughout the school year.

After the greenhouse came outdoor garden beds, followed by bee hives in 2004, and both an industrial size "Earth Tub" composter and a chicken coop in 2007. Apart from the greenhouse, the "Earth Tub" was one of the greatest expenses thus far ($10,000) and these funds came from a grant through the Walker Fund of the New Hampshire Charitable Foundation.

Up and Running

During the summer months when school is out of session, South Meadow School partners with the Cornucopia Project's (see page 8-10) summer camps to help maintain and enhance the school's outdoor garden beds. The Friendly Farm in Dublin, also partners with the school by providing a summer home for the school's chickens.

One of the daily tasks that students are a part of at school is to take classroom food waste and scraps out to the "Earth Tub" composter. Food service staff also contribute food waste from the cafeteria to this giant compost system that can hold hundreds of pounds of food material to create compost that is added to the gardens.

Teachers use the onsite facilities for various lessons and class projects throughout the year. Food and agriculture is also intentionally incorporated into classroom curriculum throughout a student's time at South Meadow School, staring in 5th grade when students complete a biosphere activity.

The South Meadow School chicken coop isn't far from the indoor classrooms where students also learn.

The EarthTub composter is where all food scraps from South Meadow School end up.

To raise funds for the school's new infrastructure, Dick Dunning thinks outside the box and uses the schools existing resources in new ways. One of his most successful fundraising events has been to invite the community to the school's gymnasium for an evening of roller-skating.

Hurdles to Overcome

While South Meadow School was fortunate enough to have administrative support from the very beginning, there were still a number of challenges that had to be addressed to get the program where it is today. Dick points out that building codes and other legalities must

South Meadow School (Continued)

be dealt with before moving forward. Also, while South Meadow was fortunate enough to already have the support of their principal, Dick found that at times there was a lack of vision or initiative among staff.

Planning for the Future

Dick Dunning is still dreaming about ways that the program can expand in the future. Some day, he envisions having an entire farm on-site at the school, with a barn and small animals where students can learn about and more deeply connect with food and agriculture. He also hopes that someday the school will be able to sell the koi they raise to local residents.

Beyond looking at improvements that they can make to the school facilities and programs, Dick is also interested in reaching out and making a deeper connection to the community. He wonders, "What other community needs can [South Meadow School] fill?"

Advice for Other Schools/Projects

For other schools that are interested in starting similar food and agriculture programming, Dick Dunning offers the following advice:

- Get administrative support before you begin.
- Network and partner with local organizations and resources.
- Involve students—they are the bottom line!
- Don't be afraid to take risks.
- Get commitment from teachers. Identify their needs and help them meet their needs through the program.
- Try to fill a niche within the community.

Needs	Resources Used
Training	Personal Experience—4-H, boy scouts
Summertime Care	The Friendly Farm
Curriculum	The Harris Center for Conservation Education
Funding	In-kind Donations Walker Fund Grant—New Hampshire Charitable Foundation George Brooks, Jr. Trust

Stonewall Farm Gardens

Case Study VI

Stonewall Farm **Keene, NH**

Building Bridges

Special points of interest:

- Integrating farm and garden curricula with standardized school curriculum.
- Connecting your school to local farms, farmers, and garden space.

Keywords:

- Farm visits
- Place-based education
- Farm to Table school groups

Summer camp celebrates a good morning of weeding.

Stonewall Farm in Keene, NH, is a nonprofit, working farm and education center dedicated to connecting people to the land and to the role of local agriculture in their lives. Set in the scenic Ashuelot River Valley, Stonewall Farm consists of pastures, fields and woodlands. As you walk around the farm, a geodesic dome greenhouse and two acres of gardens pop out of the landscape and invite you to take a closer look.

Amanda Hopkins serves as the garden manager at Stonewall Farm, and acts as a bridge between the gardens and the Farm's education programs. Every year, Amanda works with Keene High School students, community volunteers, and children who come to the farm for summer camp and school programming. She dreams of working with more local schools starting in the spring of 2010. This winter, she is working to create curriculum to bring the garden deeper into their educational programming and to nearby schools. Amanda is "inspired by the garden and the proximity to Keene area schools who can use us as a resource...for all the schools who don't have the opportunity to have a school garden and for those that do."

Onion starts growing in the greenhouse in April

Project Beginnings

Amanda started working at Stonewall Farm two years ago with the goal of expanding the existing Farm to Table program that already draws many school groups to Stonewall Farm. Amanda's goal is to create outreach partnerships to help schools with curriculum and linking farm and garden activities to state and district standards. Part of this work involves meeting with teachers to identify their needs, gauging the age and ability of the students involved, figuring out their classroom and school grounds resources, and then determining how to incorporate the teachers' interests, skills, and energy.

Stonewall Farm Garden (Continued)

As more and more teachers and districts embrace place- and agricultural-based curriculums, it's critical that there be resources available to help add fuel to their fire. Amanda notes: "their days are already packed as it is, and I want to help."

> "I would like students to understand that *gardens* produce food. Real, tangible, edible food..."

Up and Running

The knowledge and skills that will help to turn Amanda's vision into reality came from myriad life experiences: a Master's Degree in Environmental Education from Antioch University New England, an internship with Tracie Smith of Tracie's Community Farm, working at the Youth Horticulture Project of Brattleboro, being a NOFA member and attending conferences, going to Small and Beginning Farms workshops, involvement with the Keene Farmers' Market, and visiting a variety of farms and farmers.

To start up the garden program, funds will come from the garden's produce sales at the on-site farmstand, Keene Farmers' Market, and her new year-round CSA. Once running, the garden programs will generate its own revenue.

A great support network at Stonewall Farm also makes the garden program possible, including Amanda's new production and floral coordinator, Sarah Barkhouse. Sarah will relieve Amanda from the coordination and oversight of daily garden tasks and allow her to focus on the development and execution of educational programming. A pilot program with a second grade class in Marlborough this spring (2010) will provide the foundation from which the program can grow.

Using bee puppets, children pretend to pollinate squash flowers in the garden.

Another great opportunity for curriculum development has been the evolution of the C3, Cultivating Community Connections, Partnership with Keene High School's (KHS) Career Center. The original C3 program, funded by a SARE grant two seasons ago, was a partnership with the Horticulture, Culinary and Marketing departments at KHS. The program has since reduced its scope to working mostly with the Horticulture classes in planting and harvesting field crops, and less with the Culinary students' on-site café.

Hurdles to Overcome

While the garden outreach program has great support from the staff at Stonewall Farm, there are still hurdles to overcome. Dealing with the challenges of managing limited time, working under the constraints of the school day schedule, tight school budgets, and school transportation for groups are all issues to address. Another barrier is the lack of access to information needed to move forward with some of the school programs. Though Amanda is bridging the garden and education programs, she sees the need to strengthen this connection in the future.

The garden is home to numerous example of stages in the plant life cycle.

"I would like students to understand that gardens produce food. Real, tangible, edible food and that you need to work hard in order to harvest the benefits from

Stonewall Farm Gardens (Continued)

that garden, and when you do, not only is there a lot to learn from but, boy does it taste good too!"

Planning for the Future

The future has much in store for Amanda and her visions. This winter, curriculum development and gaining teacher support are the first steps. Along the way, Amanda also recognizes the need to identify existing garden-based curricula and figure out how they match local curriculum in schools in order to fill gaps and eliminate repetition of resources.

Advice for Other Schools/Projects

For others who are interested in starting similar food and agriculture programming, Amanda Hopkins advises working on a farm or in a garden to gain experience and knowledge of what works and what doesn't. Perhaps you will experience some failures, but you will also learn to problem solve in the process.

Amanda also urges tapping into the resources right at your fingertips:

- Go to the Keene Farmers' Market and meet your local farmers and producers.
- Stonewall Farm offers many education programs, farm tours, and workshops.
- Many seed companies will donate seeds and catalogs. Some examples of seed companies to contact are: Fedco, Johnny's, Seeds of Change, and Seed Savers.
- Cooperative Extension and 4-H offer lots of support.
- Experienced farmers in the area can be great resources (as long as you approach them in the winter.)

Needs	Resources Used
Curricular resources bringing together production farming and education in the classroom	Antioch University Interns and volunteers
Funding	Non-Profit Status and a network of support with the community
Local schools interested in having a school garden who don't have the space/materials/ resources to have a garden onsite	A lovely, existing production garden and greenhouses that schools can use year round!
Examples of dynamic garden layouts more conducive to hosting groups of children	

Symonds Elementary

Case Study VII

Keene School District Keene, NH

Transforming Green Space into Diverse Habitats

Special points of interest:

- Gardening to increase biodiversity
- Artist-in-Residence

Keywords:

- Biodiversity
- Community Involvement
- Parent Teacher Association
- Curriculum Integration

Artist in residence worked with students to create this garden art.

The Symonds School, located just off of Park Avenue in Keene, NH, exemplifies the dedication of parents, faculty, staff, and students working to beautify the landscape and provide hands-on educational opportunities for all. A variety of garden beds surround the school grounds, located near entrances, fence lines and within the playground space. In these garden plots, diverse annuals and perennials, large sections of sunflowers, and vegetables are scattered throughout.

Garden plot sign alongside the school's playground.

In addition to the plants growing in these gardens, there is beautiful artwork that creates a sense of belonging, both to the community members that invest time in maintaining the gardens, and to the individuals that simply enjoy the area. There are small huts built out of sticks with plants growing all around them where children play during recess, beautifully painted poles with wish flags flying in the wind, a hand-built patio, and shrubs with various bird species fluttering in and out of the branches.

These garden spaces not only provide great aesthetics to the school grounds; the benefits of this program unfurl for each student, every classroom, and then continue to extend to families, businesses and organizations throughout the region.

Project Beginnings

Four years ago, the playground area at Symonds Elementary consisted of dust, sand, and pavement.

Symonds Elementary School (Continued)

Artist designed structures that act as beautiful places to play at recess. They are a big hit!

Goals were established, grants were written, and the program began to take shape. A garden committee was formed and art was integrated into the program. Year after year, more and more garden plots sprouted up around the school building.

Up and Running

Individuals, families, or classes can 'adopt' a portion of the garden and do whatever they would like with it, while following organic growing principles and using native species whenever possible. Two master gardeners that work at Symonds help with some of the planting, advising, and maintenance of the garden beds. An inspiring aspect of this program is that people not only maintain their garden spaces but purchase new items and really work to make these gardens dynamic. The program is funded by a Fish and Game grant, along with donations and fundraisers. The PTA played a crucial role in helping get this program off the ground.

Along with the donation of funds, local businesses have contributed materials such as hoses, tools and compost. This program is zero cost to the district, which allows for a bit more flexibility.

"Our program is unique in that it is very community oriented and it feels like common space for people versus owned and regulated. There have not been issues with vandalism and it is not just science based," said Susan Meehan, teacher at Symonds School.

Planning for the Future

The Garden Committee has combined with the Playground Committee to revise and develop goals including:

- grow more food in conjunction with the seasons
- develop a summer program that can help maintain the gardens
- coordinate with wellness education
- create more spaces for children and animals throughout the playground

"The kids who care about this program REALLY care..."

Plots within the gardens are adopted by parents, classes and community members.

Symonds Elementary School (Continued)

Advice for Other Schools/Projects

Individuals involved with the Symonds school gardens advise other start-up groups to:

- Ask garden clubs for plant donations and seek advice from master gardeners or your local extension service
- Involve your PTA
- Increase community awareness about available garden space to help with maintenance and make the space available to more people
- Have a clean up and planting day to get people engaged and excited about your project
- The Fish and Game grant was a big help to the Symonds School, and having a focus other than just growing food has provided a lot of opportunities for classes, students, and families

Gardens along the entrance of the school building.

Needs	Resources Used
Funds	Fish and Game grant
Gardening supplies: tools, soil, etc	Stonewall Farm
Curriculum	Project HOME and Project WET
Labor	Keene High School's building trades class
Summer help	Master Gardeners

Current Needs

An extra body within the classroom so that classes can go out into the garden more easily, preferably with garden and group management skills

A garden shed

Birdseed

Winchester School

Case Study VIII

Keene School District Winchester, NH

Greenhouse, Garden, and Groundhog

Special points of interest:

- After School Garden Club
- Garden Committee—teachers, administrators, community members
- Teachers have tied the garden into existing curriculum

Keywords:

- Greenhouse
- Garden Beds
- Vermicomposting

The Winchester School's Greenhouse.

Behind the Winchester School, a greenhouse is nestled along one of the building's walls. Inside the structure you'll find evidence of past gardening projects and the sweet smell of New Hampshire's summer heat. The vents are open in hopes that plants will soon be growing here. Beside the greenhouse, raised bed gardens are home to a smattering of vegetables and other plants. Grasses and other weeds threaten to take over the space fostered by plenty of rain and lots of sunshine this summer.

Herein lies one of the challenges to keeping up a school yard garden. Once students and teachers leave for the summer, who will tend to the growing crops? This and other topics will be brought to the table of the Winchester School Garden Committee this fall. Despite meeting some daunting challenges early on in the gardening program, Jane Cardinale and her fellow horticultural comrades have the positive attitudes and determination to help this project blossom.

Classroom garden plots at Winchester School.

Project Beginnings

The garden program at Winchester School sprouted in 2007 from the desire of assistant principal Pam Bigelow and local community members to foster a greater connection between students and the food they eat. A generous donation from a local couple provided the school with the materials they needed to get started—raised beds, a small greenhouse, seeds and other materials. A garden committee, that consists of school administrators, teachers, and community members, formed to guide all decisions about the school's new garden space. Classrooms signed up to use the six raised bed spaces and were given free range of what they could create in these spaces.

Up and Running

Winchester School (Continued)

To further enhance students' involvement with growing their own food, an afterschool Garden Club was formed and another garden area was constructed. Teachers tied the garden into the curriculum they were already teaching. For example, when fourth graders are learning about seeds, they use the garden as their classroom for part of this lesson. Six teachers have also gone beyond the boundaries of the garden to incorporate vermicomposting into their classrooms. All the worms are added to the garden at the end of the school year to build the soil.

Amanda H??

Hurdles to Overcome

One of the largest hurdles that Winchester School is working to overcome is the lack of garden maintenance in the summer months, when school is no longer in session. Another barrier faced is a lack of knowledge or experience with this type of programming among the staff. Last year the greenhouse got so hot that the plants inside were accidentally fried. Those plants that survived the overheating were planted in the ground, only to be eaten by a pesky groundhog soon thereafter. Winchester school teachers also found it a struggle to tie existing curriculum into the garden and greenhouse when time is limited.

Planning for the Future

In the coming years, the Winchester School would like to see their garden program grow in the following ways: utilize the greenhouse throughout the winter, start a composting program in the cafeteria, and begin garden fundraising. Like many new and existing school programs there is an enormous amount of work yet to do, but the garden committee is excited to see what positive changes they can accomplish in the years to come. First on the list to do next spring is to install a fence around the garden to protect the plants from groundhogs and other mammals. Another new addition to Winchester School in the spring is an intern from Antioch University New England. The graduate student's time will be spent working with students and teachers, teaching lessons related to the garden and greenhouse and better integrating these resources into the school curriculum.

Advice for Other Schools/Projects

Jane Cardinale has only a few words of advice for other schools who are looking to start a similar school garden program: Focus on crops that produce in the fall and spring.

A view from inside the Winchester School Greenhouse.

Needs	Resources Used
Funding	Donations from community members
Gardening Advice	Picadilly Farm
Blueberry Plants	Cheshire Gardens
Mulch Hay	Picadilly Farm

Case Study IX

Antioch University New England Keene, NH

Building a Garden Community

Special points of interest:

- How can your school/farm connect with other organizations in the community?

Keywords:

- Curriculum
- Place-based Education
- Community Outreach
- Sustainability

The Garden Committee and friends celebrating the completion of the box building.

Enjoyable green spaces. This is a topic at the forefront of many minds these days where school gardens are becoming a norm and the concept of edible landscaping is blooming. At Antioch University New England's campus in Keene, NH, the lawn is growing food for the on-site café and is one of the most popular outdoor classroom spaces on campus.

Four garden boxes, each two feet high and six feet long, create corners for an open space where people can sit and socialize, classes can meet, musicians can play and inspiration can bloom. In its first summer a variety of vegetables and herbs filled each bed, including peppers, tomatoes, basil, Swiss chard, pole beans, sweet peas, carrots and much more! This fall as leaves started to drop, produce was harvested, garlic was planted and plans for winterization began materializing. Throughout its first season students across departments combined efforts to secure funding sources, and the Antioch community as a whole is a buzz with excitement about the possibilities.

Project Beginnings

Antioch University New England is a unique location for a school garden. It is a graduate school that caters to a wide range of disciplines including clinical psychology, integrated learning, environmental studies and more. ANE values ecological stewardship and place-based learning experiences, and the creation of an on-site vegetable garden exemplifies these values.

In March of 2009, a number of Antioch students, faculty and staff attended the workshop "Grow Food Everywhere" hosted by Deb Habib of Seeds of Solidarity. Discussions following this workshop revolved around creating a working, edible landscape on Antioch's campus. A few months later, the Antioch Garden Committee formed, a garden proposal was submitted to the campus president and plans for construction were approved.

An Antioch student took the project on for her summer practicum project and with loads of support hit the ground running. By July 2009, four garden boxes were built and a variety of vegetables planted. In the words of one volunteer, "Something beautiful has begun."

Supplies for building the boxes were made available by local farms, students, faculty, staff and alumni. Over $500 was collected through in-kind donations and a gift from the graduating class of the Environmental

Antioch Garden (Continued)

Studies department. This provided the capital needed to buy the lumber and maintenance supplies.

Over 155 volunteer hours were committed to making this project a reality. Currently there are two paid work study positions that coordinate the garden efforts and are supervised by a faculty member. The garden is now able to use compost that is produced on-site from collected food waste. A center garden bed was created, which will host a garden of medicinal plants starting in the spring of 2010.

Sam and Jess getting ready for a work party.

Up and Running

The theme of Antioch's garden is truly "many hands make light work." Two garden coordinators host 'work parties' where everyone is welcome to come and participate in garden related events such as: planting garlic, harvesting produce, turning the compost pile, putting the beds to sleep for the winter and participating in fundraising events. The work parties have been an opportunity for new folks to meet each other, a great time to socialize after a day of classes and an opportunity to take part in producing the food that is eaten on campus.

"Something beautiful has begun."

The first garden fund raiser, a sustainability themed book fair, raised funds for the purchase of materials for spring planting and project expansion.

Two different cold frames were built and more greens planted to extend the growing season and provide an educational experience for overwintering with small, box gardens. Students collaborate with the facilities staff as well as the landscaping crew to preserve and maintain the beauty and integrity of Antioch's campus. The gardens are five months old now, and already students are incorporating the gardens into class curriculums and master's projects - the medicinal garden being the first master's project thus far.

Planting peppers, tomatoes and basil.

Hurdles to Overcome

There is concern that there may be gaps in leadership for the maintenance of the gardens from season to season or year to year since it is a student led initiative aligned with the school calendar and not the growing season. Staffing the work study positions throughout the summer, the attraction of animals or rodents and the loss of open, green space have also elicited some concern from the Antioch community. There is also a lack of continuous funding for project expansion.

Evaluation tools are being developed to help track the program's success. Small grants have been considered and more research is being done as to what is available, but there are few grants that cater to smaller scale, vegetable gardens at higher level institutions. The

Antioch Garden (Continued)

location of the campus has also raised concerns about the soil quality of the gardens. Soil tests were sent to the University of New Hampshire prior to planting, and the results did not indicate any threats to the health of the soil. If the program hopes to expand to other areas of the campus, soil quality will need to be considered in those locations as well.

Planning for the Future

Students continue to express interest in using the gardens for class projects, faculty are considering how the gardens can be used as an experiential learning tool and the garden committee hopes to share more campus grown food with the on-site café and the local community kitchen. Plans are being made to utilize the garden for classes such as Soil Ecology and Place-based Learning. Entomology, a class held in the summer that studies insects, could utilize the garden for observations. Two students are currently planning a "Quest" (a type of scavenger hunt) that would have students finding items or investigating aspects of the garden and compost piles.

There are other students researching ideas new classes that could be offered at Antioch including Eco-Therapy and Sustainable Agriculture. These visions for the future of the garden space are just the tip of the iceberg. Student groups are brainstorming ideas for continuing to make our campus a "green" working landscape—and the expansion of the garden space is a top priority. Beautiful things truly are happening on ANE's campus.

Advice for Other Schools/Projects

- Allow for student-led initiatives to grow and find ways to help mobilize their efforts
- Use human resources including friends, family, students, parents, local experts and community members
- Stir up excitement for your project through brainstorming sessions and community forums

Need	Resources Used
Lumber	Great Brooks Lumber Company, Drewsville, NH
Start-up funds	In-kind donations
Consistent maintenance	Federal work-study positions
Plants and seeds	Community Donations: Fertile Fields Farm, Tracie's Community Farm, Stonewall Farm, students, faculty, staff and alumni
Soil and compost	Donations from Stonewall Farm, J&M
Tools and gardening equipment	Tool sharing among volunteers

Appendices

The Apple Story

By Joan Hill, The Cornucopia Project

It was a nice sunny afternoon at Norway Hill Apple Orchard. The weather was lovely. A fine day to go apple picking. All of the apples had grown nice and fat. They all wanted to be picked, because it is every apple's dream to one day be made into cider, sauce, pies or just an afternoon snack.

But there was one apple who wanted to achieve that goal more than all the other apples in the orchard. His name was Michael Macintosh. Michael spent the entire year preparing for that day. He ate lots and lots of food until he was the fattest apple on his branch! "I must eat as much as I can, or I will never be picked!," Michael would think to himself.

And every night, when Michael was asleep, he would dream of being the first apple picked from his tree. But on this particular afternoon, something happened! Michael was enjoying a nice lunch of water and energy from the sun. Suddenly, a gust of wind picked up, and the next thing he knew, Michael had fallen off his tree! This made Michael so sad, that he started crying. "Nobody wants an apple who has fallen onto the ground!" Michael wailed. "Now I'll never be picked and made into a pie!"

A few minutes later, Michael was approached by a girl. She was wearing a purple coat and a red beret. There was a bag full of apples in her right hand. "Why are you crying, little apple?" asked the girl.

Michael sniffed and said, "I am crying because I just fell off my tree. And now I will never be made into an apple pie!"

The girl looked long and hard at Michael. Then she smiled and said, "Don't worry! I know the perfect place for you."

And she picked Michael up off the ground and put him in her bag full of apples. The other apples told Michael where they were going. "You see," said one of the apples, "There is this place called the Food Pantry where poor people come to get food. And that is where we are all going."

"Even me?" asked Michael in surprise. "But I thought that people wouldn't want to eat a fallen apple."

"Well," said another apple, "This girl and her class came here to pick up the fallen apples, like us, that are still perfectly good. They're giving us to the Food Pantry so that we won't go to waste. And the poor cannot afford to waste food."

This made Michael Macintosh very happy indeed. He realized that even a fallen apple can still make a terrific apple pie. And that is just what happened to him and his friends at the Food Pantry. Everyone said that it was the best apple pie they have ever eaten!

Words of Wisdom

The Monadnock Region has a wide variety of programs that connect students to food. One of our most valuable resources is the experience and knowledge from local farmers, educators, parents, students and community members like the ones highlighted throughout this toolkit. Here is a compilation of their words of wisdom about starting or continuing your school farm and garden programs.

Drawn by Chloe, a 5-year-old who doesn't speak. But, according to her Aunt and Mum, the Cornucopia Project Garden Club is her favorite thing in the world.

From program directors:

- Get committed people involved
- Include community members in the planning and implementation of the program
- You don't need a lot of funding to make the program work
- Research which plants grow best in New England and line up with the school year
- Get farmers involved!

From administrators:

- It is a must that you get administrative support before you begin.
- Build relationships and networks within the community.
- Students are the bottom line and their involvement and engagement is key.
- Sometimes, you need to take risks.
- Identify the needs of the teachers and help them meet those needs.
- Identify where your program can fill a niche within the community.

From teachers:

- Focus on fall and spring-producing crops
- Coordinate with after-school and summer programs
- Educate community about available garden space or needs for maintenance
- Offer garden activities during downtime, such as recess
- Try to establish a program coordinator
- Establish research opportunities for students
- Have families sign up to help maintain the gardens through the summer
- Determine how the gardens or farm can be integrated into the classrooms organically
- Establish buy-in from other teachers

From farmers:

- Work on a farm or in a garden yourself to gain experience, knowledge and comfort to learn what works, what doesn't and learn how to problem solve
- Be adaptable—educate people about the way things change season to season, year to year
- Make farm to school connections

Tilling Local Food With Curriculum Standards

Amanda Hopkins, Garden Manager and Educator at Stonewall Farm, offers this sample of investigations that address school standards* though classroom – and farm- based learning and fun.

*She used SAU 29's Second Grade Science Curriculum for this sample.

Sediment table: See how sediment and rocks are formed and moved on a small scale.

Scavenger hunt to find rocks/boulders. Where are the rocks found on the landscape and why?

Earth Science: landforms, sedimentation, rock weathering and creation, categories of rocks.

Soil comparison: Try and sprout a pea seed in three or more different types of soil- sandy: silt, clay, compost and a combination. Observe and record growth.

Investigate the soil of the garden with a hand lens. Why is this soil successful in growing plants?

Earth Science: soil types and its effect on plant growth.

Construct a weather station and record daily changes.

Adopt a farm and observe . How does the daily weather impact the crops and animals?

Earth science: introduction to weather.

Create a presentation about a particular plant community.

Walk and conduct field research (plot sampling) in the different plant communities around the farm. What are common characteristics of plants within each community, what are the differences in plants between communities?

Categorize and dissect each plant and record its minute details with hand lens and microscopes. Reconstruct the plant and explain how all the parts work independently and together to help it grow.

Collect as many different plants as possible and track where you found them (pasture, forest, and field). How are these seeds dispersed?

Life science: what makes a plant unique, how are plants alike, introduction to photosynthesis.

Explore what is a growing season/life cycle? Why can't we have banana farms in New England? Model the earth, sun and moon.

Track changes in the fields large scale and small, why are things grown when? Participate in the planting/ seeding and the harvesting of a crop. Play plant life cycle game in the field (at any given time there is a field crop demonstrating a stage in the plant life cycle including greenhouses in the winter).

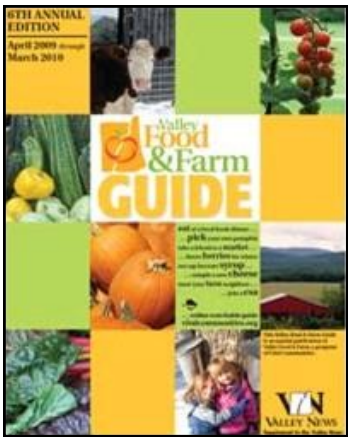
Life Science: seasonality, life cycles. Physical Science: energy.

FARM Visits

The following farms welcome school visits. However, please contact them first to set-up your visit.

Thank you to Valley Food & Farm's Online Directory for this listing. Farms are welcome to submit their offerings at: http://www.vitalcommunities.org/Agriculture/onlineguide/. This information is compiled and published in a free printed guide each year.

Monadnock Farm & Community Connection's Inventory Committee is also collecting farm information—you can find a current list of Monadnock Region farms in the Monadnock Buy Local Directory http://www.monadnocklocal.com.



Alyson's Orchard Walpole, NH
http://www.alysonsorchard.com, (603) 756-9800
Apple orchard. We love school groups -- please book your tour early! Farmer Max will be your guide. You will visit Mr. Rooster and his friends, step inside the "giant refrigerator," pick apples and have a yummy snack at the end of your tour! Available September & October weekdays only.

Bo-Riggs Cattle Company Sullivan, NH
wbolles@myfairpoint.net, (603) 352-9920
Grass-fed beef. Please call ahead.

Boggy Meadow Farm Walpole, NH
info@boggymeadowfarm.com, http://boggymeadowfarm.com, (603) 756-3300
Cheese.

Fair Winds Farm Brattleboro, VT
http://fairwindsfarm.org, (802) 254-9067
Horse Powered Farm.

Fertile Fields Farm Westmoreland, NH
schreierlori@aol.com, http://www.fertilefieldsfarm.com, (603) 399-7772
CSA (Community Supported Agriculture) Farm, Vermicomposting (worm composting).

FARM Visits (Continued)

The Milkhouse at Great Brook Farm Walpole, NH
cindy@gallowayservices.com. (603) 756-4358
Dairy, Ten-Generation Family Farm.

Old Ciderpress Farm Westmoreland, NH
oldciderpressfarm@yahoo.com, (603) 399-7210
Apple Orchard. We offer school tours, not just to pick a bag of apples, but to educate children and adults alike where food comes from and the efforts and risks involved in growing fruit. We provide cider making demonstrations and lectures on heirloom apples.

Stonewall Farm Keene, NH
http://www.stonewallfarm.org, (603) 357-7278
Farm Education Center, organic dairy operation, gardens, greenhouses, other barnyard animals, seasonal themes. Many options.

Tracie's Community Farm Fitzwilliam, NH
farmertracie@hotmail.com, http://traciesfarm.com,
(603) 209-1851
CSA (Community Supported Agriculture) Farm.

Walpole Valley Farms Walpole, NH
Chris@WalpoleValleyFarms.com, http://www.WalpoleValleyFarms.com,
(603) 756-2805
Grass-fed beef and organic farm. Schedule a tour by calling anytime.

Alex (Garden Gorillas) observing and painting the change in seasons.

Additional Resources

Getting Started/Support

UNH Cooperative Extension Cheshire County	http://extension.unh.edu/counties/Cheshire/Cheshire.htm
NH Farm to School Program	http://www.nhfarmtoschool.org
4-H	extension.unh.edu/4h/4h.htm
Antioch University New England	Internship Coordinator—Sarah Bockus email: sbockus@antioch.edu
Cheshire County Conservation District	District Manager—Amanda Costello email: amanda.costello@nh.nacdnet.net
Stonewall Farm	Garden Manager—Amanda Hopkins email: ahopkins@stonewallfarm.org
Farm to School in the Northeast (Toolkit)	Cornell Cooperative Extension Service—farmtoschool.ccd.cornell.edu/files/all/
Master Gardeners	See if there are any parents or teachers at your school or in your neighborhood who are Master Gardeners; can also contact
Farm to School Tips, Tools & Guidelines for Food Distribution &	http://www.okfarmtoschool.com
Seeds of Solidarity	Best Practices for Using Produce From School Gardens: http://www.seedsofsolidarity.org/Using_Produce_for_School_Gardens.pdf Plus other great resources: http://www.seedsofsolidarity.org
The Center for Food and Justice	Collaborates on programs to build a sustainable and just food system. They pioneered farm-to-school projects: http://www.departments.oxy.edu/uepi/cfj/
Parents, Teachers, Students, Administrators, Dining Services, PTA,	At your own school!

Additional Resources

Supplies & Materials

Books	Early Sprouts French Fries and the Food System Healthy Foods From Healthy Soils How to Grow a School Garden Math in the Garden
Compost	Ideal Compost (Peterborough), Stonewall Farm (Keene)
Plants	Garden Clubs, Cheshire County Conservation District Annual Plant Sale, Local Farms
Seeds	Seed companies that may donate—Fedco, High Mowing Seeds, Johnny's, Seeds of Change, Seed Savers, America the Beautiful Fund
Tools	Ask for donations from local businesses

Fundraising Ideas

Fundraisers	Community plant sales, sell produce at Farmer's Markets', annual fund drive, community roller-skating night *A Montana school district's Gallatin Valley farm-to-school program and six schools near Bozeman have found a way to raise money without selling candy, magazine subscriptions or frozen pizza. The project sells local products such as huckleberry preserves, fresh winter produce, seasonings, roasted cereals, granola, specialty lentils, barley, syrups, and honey. www.gvfarmtoschool.org*
Grants	See Grants Section (p. 45-46)
Donations	Build community relationships to find supporters and champions for your project

Food & Garden Education Grants

Name	Contact	Grant Offer	Notes	Deadline
Hooked on Hydroponics Awards	www.kidsgardening.com/grants/HOH.asp	Award package: Hydroponics systems valued between $360 to $1,100	School garden	September
Seeds for Education Grant	www.for-wild.org/sfecvr.html	Project goals should focus on the enhancement & development of an appreciation for nature using native plants.	Education	October
Youth Garden Grants	www.kidsgardening.com/ygg.asp	$500 -$1000 gift cards	Community, school, and youth garden programs	November
Agriculture in the K-12 Classroom Challenge Grants	www.csrees.usda.gov/fo/educationchallengesecondaryhep. cfm	Promote complementary linkages among secondary, two-year postsecondary, and higher education programs in the food and agricultural sciences to encourage more young Americans to pursue and complete a higher degree in the food/agricultural sciences. $35,000.00 to $50,000.00	Secondary Education, Two-Year Postsecondary Education; USDA grant	January
Welch's Harvest Grant	www.scholastic.com/harvest	Winning schools will receive a customized indoor or outdoor garden package filled with a variety of tools, seeds, educational materials, and more.	Education	February
Fiskars: Project Orange Thumb	www.fiskars.com/content/garden_en_us/Garden/ProjectOrangeThumb/grantprogram	Awards Fiskars garden tools and materials such as plants, seeds, mulch, etc. to eligible gardening groups. Maximum award: $1,000 in implements and materials.	Community involvement, neighborhood beautification, horticultural education, and/or sustainable agriculture.	February
Mantis Awards	www.kidsgardening.com/grants/mantis-criteria.asp	Mantis tiller/cultivators	Community, school, and youth garden programs	March
Outdoor Classroom Grant Program	www.toolboxforeducation.com/	The goal is to provide schools with additional resources to improve their science curriculum by engaging students in hands-on experiences.	Education	TBA

General/Community Grants

Name	Contact	Grant Offer	Notes	Deadline
New England Grassroots Environment Fund	grassrootsfund.org	Seeks to energize/nurture long term civic engagement in local initiatives that create and maintain healthy, just, safe and environmentally sustainable communities. Grants = $500- $2500	Food Systems and Sustainable Agriculture	February
Garden Crusader Award	www.gardeners.com /Garden-Crusader-Awards/5549,default,pg.html	Cash and gift certificates from Gardener's Supply.	Individuals improving communities through gardening	June
The Kellogg Foundation	www.wkkf.org	Works to improve the lives of children. The foundation supports many programs that create local food systems and a safe, healthy food supply.	Grant database	Varies
NH Charitable Foundation	www.nhcf.org/ Page.aspx?pid=183	Collection of more than 1,400 funds established by donors for individualized charitable purposes.	NH-Based Grants	Varies

Nutrition Grants

Name	Contact	Grant Offer	Notes	Deadline
Champions for Healthy Kids	www.generalmills.com /corporate/ health_wellness/ healthy_kids.aspx	Funds creative ways to help youth adopt a balanced diet and physically active lifestyle.	Community-based groups	March
Love Your Veggies Grant	loveyourveggies. com/ school_grants.php	Help elementary schools provide programs to increase consumption of fresh fruits and vegetables in the lunchroom. $10,000 in direct funding.	Healthy veggies in schools	November
Healthy Sprouts Award	www.kidsgardening.com/healthysprouts.asp	Supports school and youth garden programs that teach about nutrition and the issue of hunger. Winning programs receive seeds, curriculum, and gift certificates for purchase of gardening materials.	Education	October
School Kitchen Equipment Grants	www.fns.usda.gov/ cga/PressReleases/ 2010/0015.htm	Provides school kitchen equipment grants to help schools operating a National School Lunch Program (NSLP) .	School nutrition	NA

Thank You

End of August in New Hampshire

Something about this first really cool wind

Not howling, not groaning or moaning

But calling out –

Invoking years and years of

Winters we know have been

And years of winters to come.

Somewhere out there in the dark

That coyote slinks or trots through the field.

Maybe she's the one who took down the lamb –

That ornery, foolish lamb who took after his mom,

Always getting out, always making trouble –

No winter for him.

Some night, not far away

Cool will shift to cold,

Snap they say.

And we'll wake to find crunchy grass,

Blackened basil

And tomatoes on every windowsill.

Sweet kale, sweet cider,

Sweet dreams under lots of covers.

- Sheila Garrett (teacher at The Meeting School in Rindge, NH)