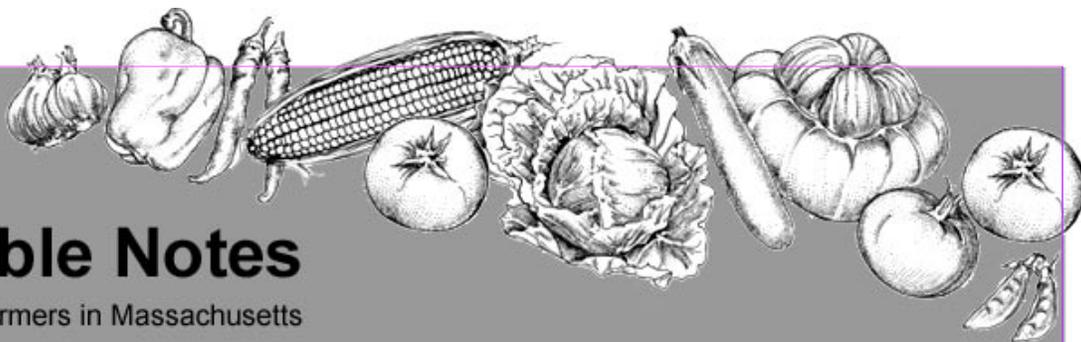




UMASS  
**EXTENSION**



# Vegetable Notes

For Vegetable Farmers in Massachusetts

Volume 16, Number 1

March, 2005

## **IN THIS ISSUE**

The focus of this issue is “Farm to School”, the effort to develop direct sales from local farms to school districts in their area. This effort has the potential to provide new markets for farms, improve the diets and dietary habits of children, and educate children and their families about the importance of local agriculture. In this issue you will find articles from several viewpoints including parents, educators, organizers and researchers. We appreciate the contributions of Margaret Christie of Community Involved in Sustaining Agriculture, Catherine Sands of Fertile Ground, and Deb Habib of Seeds of Solidarity Education Center, and Kelly Erwin of Mass Dept of Agricultural Resource. Anne Carter of the UMass Dept of Plant, Soil and Insect Science reports on her current farm to school pilot study.

Also -- mark your calendar for two exciting daylong workshops in Vermont: Greenhouse Tomato School (April 6) and a Forum on Alternative Energy on the Farm (May 4)! Preregistration is recommended. See details on pgs. 7-8

--Ruth Hazzard



agriculture. Many children, particularly in low-income areas, eat two of their three meals a day in school. Unfortunately, the American School Food Service Association estimates that 30 percent of the nation's 23,000 public schools sell fast food of low nutritional value.

To partially offset the impact of unhealthy food environments on children, nutrition advocates and school districts have turned to sourcing food for school meals from local farms. ‘Local’ in this context is generally understood to mean food produced within the state or sub-region where the school district is located. The link is thought to have two benefits: children start the habit of eating more fresh food early in life and farmers develop new markets with often higher returns for their goods.

While the result of this approach to child nutrition, commonly referred to as “farm-to-school,” is still preliminary, evidence to date suggests that children will significantly increase their consumption of fruits and vegetables (and other healthy food) from local farms when they are prepared and served in a tasty and attractive manner. Similarly, farmers have expressed satisfaction with selling to local schools because it generates additional income from nearby customers (Cornell University, Wilkins, 2002). At

## **WHY FARM TO SCHOOL?**

The growing interest in the meals that children are offered in public schools and the growing problem of obesity (25 percent of children are overweight or obese, according to the Center for Disease Control/BRFSS Data) once again brings food security and nutrition to a crossroads with local



least 80 school districts around the country currently operate farm-to-school programs with many more planning to do so (Community Food Security Coalition, Marion Kalb: marion@foodsecurity.org).

To facilitate the development of farm-to-school programs and the benefits they have to children and farmers, a bill was drafted and passed as part of last year's re-authorization of the Child Nutrition Act. The 'Growing Healthy Kids: American Farms Feed American Children', proposal was signed into law on June 30, 2004. It was set up to establish a competitive grant program of up to \$100,000 per school district from an annual appropriation of \$10 million. Funds can be used by school districts and community-based non-profit organizations to pay for development and start-up costs associated with farm-to-school programs. Five of the ten congressmen from Massachusetts signed onto the bill. This year's campaign is to actually get the money appropriated by the Senate, but huge budget cuts in agriculture and nutrition programs will make this a difficult battle.

*-Anne Carter, UMass Extension*

*For additional information on local and national farm to school/farm to college, please visit the UMass Vegetable Teams Farm to school web pages. To go specifically to the farm to school pages go to the following link: <http://www-unix.oit.umass.edu/~pvmafs03/farmtoschool/f2sindex.html>. Otherwise go the team website: [http://www.umassvegetable.org/food\\_farming\\_systems/urban\\_comm/index.html](http://www.umassvegetable.org/food_farming_systems/urban_comm/index.html). You can also call Dr. Anne Carter at 413-545-5216 or email her at [akcarter@pssci.umass.edu](mailto:akcarter@pssci.umass.edu).*

## **COMING TO A SCHOOL NEAR YOU: FARM FRESH PRODUCE**

### **Report and recommendations from a pilot study of farm to school sales in Western Massachusetts.**

Since July 1 2004, several farmers have been working with Dr. Anne Carter in the Plant, Soil, and Insect Sciences Department at the University of Massachusetts Amherst to study all aspects of delivering small fruits and vegetables to a number of school districts in Western Massachusetts. The project was funded through a UMass Public Service Endowment grant and a grant from Project Bread, an anti-hunger organization out of Boston. It began with deliveries of fruits and vegetables to the USDA Summer Feeding program and senior meals program in the Chicopee School District. Over 27, 600 lbs of potatoes, cabbage, snapped beans, carrot coins, whole zucchini, zucchini sticks, yellow squash, peeled potatoes, whole potatoes, peeled butternut were delivered, as well as several dozen ears of corn, about 200 cases of apples and over 300 quarts or pints of blueberries, strawberries, or raspberries. Thus far the project has sold approximately \$25,000 of produce to 5 school districts and one small college. Preliminary work appears to be supporting the idea that farm to school markets are

profitable, but we urge caution in moving into this area too quickly. One reason is that we have only been gathering real data for a year and we believe it will take at least two years to know what each of the five schools and one college are actually willing to buy.

Farm to school research is occurring all across the United States, but very little of this research has focused on the farmer and whether or not the farmer is making money



*To keep deliver costs to a minimum, apple farmers combine their order with vegetable and small fruit farmers and deliver once per week to schools.*

in this endeavor. Through multiple conversations with farmers and farm to school activists it is my preliminary conclusion that except for a few large school districts, farm to school by itself should not become an anticipated sole source of income for the farm, particularly in the Northeast where the growing season does not coincide with public school needs for food. College and universities are more lucrative in the summer as they often have summer school and conferences on their campuses. A recent meeting among the five colleges in the Pioneer Valley has shown some positive trends to this end.

The first most limiting factor in a farm to school endeavor is the liability insurance. Most schools require a minimum of one million dollars of liability insurance, particularly if the school is contracted with a corporate food management company. Some schools have not asked for this insurance, but legally you should have it, and your farm and the school are taking a risk without it.

The second limiting factor is distribution. Massachusetts farm to school projects in the past have not done well because farmers are unwilling to drive to a school with only a few hundred pounds of potatoes and a 10 lb bag of carrots in the middle of the winter. When the project began none of the farmers had a truck to use for deliveries, even to one location in Chicopee. The grantors allowed us to rent a

small cargo van once per week. With the air conditioner set at maximum small fruits were loaded either directly from the field or from a cooler into the van. The truck drove approximately 60 miles round trip, the driver was paid an average of \$9 per hour to make the delivery, and the rental company's insurance was purchased at the highest level. The cost totaled approximately \$80 per round trip. The summer feeding program lasted for 10 weeks, thus the cost of delivery in this manner was \$800. Total sales for all farmers for a summer feeding program (1000 children) was \$8,000. Over half of the sales came from the purchase of blueberries, raspberries and blackberries. We believe the availability of sweet corn and small fruit drove the purchase of other products and was an incentive for the food service director to buy from this group of farmers.

In September the UMass Cold Spring Orchard obtained a used 14 ft. box truck and agreed to share with the farm to



*Local carrots are sliced to 1/4 inch before placing into 10 lb. bags and sent to area public schools in Amherst, Granby, Belchertown and Chicopee.*

school project the cost of getting the truck road-ready. The orchard and the surrounding farms then shared the costs and responsibilities for delivery. This next year the truck will be equipped with a refrigeration unit.

In the fall, Amherst and Granby, and Hampshire Regional School Districts began to buy local produce in their school districts and fall apples were available from the UMass orchard. For the months of Sept., Oct. and November the circular route between the farms and the schools was 90 miles. We estimate that the cost of the 14ft. box truck, with insurance, liability, and depreciation was \$0.70 a mile. The program contributed \$50 to the cost of gasoline each week of delivery. Labor was paid at \$9 per hour and with the 16 stops on this route, it was a six hour day. Cost of delivery then was approximately \$167 per week for

the three school districts. Combined orders for all of the schools was approximately \$800 per week, not including the sale of apples which varied widely from week to week.

From December through March 1st, the largest buyer did not order any product. Because the only locally available foods were potatoes, onions, and carrots, orders for each school were \$40 per week per school, for two schools. Orders were delivered by car at a cost of \$50 per week. Thus income was only \$30 per week. The largest buyer is now making purchases again and we are interested to see how this progresses as spring products become available for sale. Because we do not have sales data from the largest school district for the months of December, January and February, we are not sure of the total sales potential at this time.

We have applied for funding to continue the project a second year. We are confident that at the end of two years we will have a handle on the costs and the primary barriers and success of selling to schools in Massachusetts. More schools have requested local food than we are selling to at this time and we hope to grow the program as we fill we can maintain its sustainability after the grant monies are gone.

The most difficult determination is whether or not farm to schools sales are profitable. The grant is tracking sales and the cost of different types of delivery mechanisms. We have not asked for specific details for labor, processing, equipment, and supplies for the product prior to the time it is loaded on the truck. Because this varies considerably from one farm to the next, it will take more calculations than our preliminary figures to create an enterprise budget. We also have only the preliminary figures from two of the delivery mechanisms. But there are several comments we can make:

1. Most of the project's profit in the summer was from the sale of small fruit to one school's USDA Summer Feeding program. Only summer feeding programs in cities have enough participants to make it worth providing for them. In the case of the Chicopee School District, they also fed seniors citizens a meal once per week, which allowed for the sale of produce items that children usually don't eat.
2. Several of the schools want very specific items: apples, peeled squash, sliced and coiled carrots, small fruits. It is important to learn up front what the school will be looking for during the whole year, before committing to providing produce that you do not have on your farm or couldn't get quickly.
3. The price for produce is wholesale or a little bit above. Some schools want you to bid for products, but at this point we are not recommending getting into this unless you really want to and have the capacity to do this weekly.
4. School districts like it when you are willing to deliver to

all of their drop off sites. This can be over 15 locations in some school districts and 3 in others.

5. The project was able to save money by combining more than one school district's delivery onto the same delivery truck and delivering all commodities from all participating farms on the same day. This required considerable coordination by the project leaders and the farmers have to be willing to take this on or be willing to hire a middle man to do this for you. The labor of this person has not yet been figured into our calculations.

6. Another way to reduce delivery costs is to sell to more than one type of institution on the same day. In other words, a meals on wheels site, a hospital or nursing home might all be on the same road as the school site. Do your homework and see what other restaurants, businesses or schools could purchase produce from you and you could deliver to on the same day.

7. A larger school district does not necessarily mean a larger contract. Two schools in this project had roughly the same student population. One district was averaging \$700 a week in produce orders and the other, only \$100. Be willing to start small, though, and deliver only a few products while you work out the "bugs" in the system and the school becomes confident in your quality and timeliness of delivery

8. Some school districts have small student populations and will never buy large quantities of produce, no matter how much of their produce contract you can meet. For beginning and limited resource farmers this may be a good sales contract for you. Larger farmers may not be interested in smaller sales volumes. In developing a relationship with that school, you may offer tours of the farm, find parents or teachers that want school gardens, or offer to visit the classrooms.

9. Schools want to talk to as few people as possible, so get with your farm neighbors and have one of you be the contact person for the school.

We are optimistic but cautious about farm to school sales. For the right farm and school, this may be a good niche for certain farms. Many schools have already been contacted and have made a decision about whether they are interested in farm to school purchases. You might want to call Kelly Erwin (see her article in this issue or email Anne Carter at [akcarter@pssci.umass.edu](mailto:akcarter@pssci.umass.edu)) before calling a school to see who has said yes or no. Many business, colleges, and hospitals are just beginning to show and interest and may be a new market. The following schools in Western Massachusetts are currently buying local products: Belchertown, Amherst, Williamsburg (in Hampshire Regional), Orange, Athol, Granby, and Chicopee.

--Anne Carter, Department of Plant and Soil Sciences,  
UMass-Amherst

## **LOCAL HERO SCHOOLS NETWORK**

The Local Hero Schools Network celebrates schools that forge connections with local agriculture. The Network unites parents, teachers, administrators, food service professionals and community members who learn from each others' experiences in order to connect and strengthen farm-to-school activities.

Seeds of Solidarity Education Center in Orange and Fertile Ground in the Williamsburg Schools are two Pioneer Valley organizations that provide outstanding examples of connecting schoolchildren and youth with local food, farms, and gardening. Community Involved in Sustaining Agriculture (CISA), home of the Be a Local Hero, Buy Locally Grown campaign, regularly receives calls from parents and teachers interested in building similar programs in their schools. Recently, under the auspices of a USDA Community Food Project grant received by Seeds of Solidarity, the three organizations came together to launch a network of people interested in connecting kids, schools, farms, and food.

More than 20 people attended the Network's first meeting in November, eager to share their experiences, get new ideas, and discuss the challenges they face. Attendees were interested in local food going into the lunch program, school gardens, school food, curricular connections to food and farming, and childhood health. The participants brought lots of experience and resources to the meeting, highlighting the opportunity to learn from each other and work together to maximize our impact. Topics discussed at the meeting included:

- School food, with valuable experience contributed by Anne Carter and Kelly Erwin, who have been working on institutional buying and distribution issues, Craig White, food service director at the Belmont School, and "School Food: Rude or Renewed?" a presentation put together by Seeds of Solidarity;
- Day-to-day work with students and teachers in school gardens and classrooms, with input from garden educator Hope Guardenier, Catherine Sands of Fertile Ground, and Sherrie Marti, kindergarten teacher in Williamsburg, and others;
- Addressing multi-cultural education through food and gardening, with comments from Rowen White of Akwesasne Seed Restoration Project, and Catherine Sands, who has worked closely youth from Nuestras Raices in Holyoke;

Several participants in the Network are planning upcoming workshops on school gardens and school food, which will be of interest to parents, teachers, administrators, food service professionals and community members. In May, Fertile Ground will hold a workshop focused on school

gardens and curriculum and cafeteria connections. Also in May, CISA will host a workshop focused on working with youth and featuring The Food Project, a Lincoln organization that builds youth leadership and social change through sustainable agriculture. Seeds of Solidarity will hold a July workshop on school greenhouses and greenhouse growing, with food prepared by youth in their SOL (Seeds of Leadership) garden program.

- Margaret Christie, *Community Involved in Sustaining Agriculture, S. Deerfield, Mass.*

## **MDAR SUPPORTS FARM-TO-SCHOOL EFFORTS: LET'S SEE IF WE CAN MAKE IT WORK HERE!**

Kelly Erwin, consultant to the Mass. Dept. of Agricultural Resources, is now available to assist farmers who are thinking about selling to schools. She helps farmers and food service directors sort out issues like price, sales volume, profitability, and delivery requirements.

Building on pilot projects she began with UMass Amherst and the Middleboro, Worcester, Maynard, Hudson, and Belchertown public schools, Ms. Erwin has been working to match farms with schools, primarily in southeastern, western, and central Mass. More recently, Mansfield, Raynham, Shrewsbury, Granby, and Chicopee have begun to buy locally grown produce. Many other schools, K-12 as well as colleges, have expressed interest in buying locally grown foods.

Ms. Erwin is collaborating with Prof. Anne Carter and Czajkowski Farm in Hadley, Seeds of Solidarity Farm in Orange, Fertile Ground in Williamsburg, and Project Bread in their attempts to set up viable school delivery routes in western Mass.

Successful "buy local" campaigns in Massachusetts have impacted both college age consumers and parents of schoolchildren. And, the current focus on childhood obesity makes this an ideal time to begin a sales dialogue with public school foodservice directors.

A few of the more interesting developments in the past year:

- \*Hampshire College now serves local milk in its dining hall
- \*Worcester served fresh local tomatoes and corn on the cob as well as many other local foods, purchased from its distributor, to students at 51 public schools
- \*14 Chicopee public schools served smoothies made with frozen local berries, and hosted a local foods Harvest Dinner for their community
- \*some farms deliver to schools, while others have increased their sales volume or profit through sales to distributors serving particular schools
- \*some schools have summer feeding programs

Ms. Erwin has developed a "school sales evaluation form" to help individual farms target appropriate schools. She can advise farmers individually or provide workshops if requested, and is always on the look out for schools that could be good customers. At the end of the project, she will coordinate MDAR's evaluation of farm-to-school sales in Massachusetts.

Technical support for farm to school sales is available from this MDAR project until June 30, 2005. If you would like to receive assistance or a copy of the "school sales evaluation form", feel free to contact:

--Kelly Erwin, *Managing Consultant*  
*MDAR Farm-to-School Program*  
16 Applewood Lane, Amherst MA 01002  
413-253-3844  
kelerwin@localnet.com.

## **CULTIVATING HEALTHY COMMUNITIES**

Just outside the entrance to the Fisher Hill School cafeteria, students sit eating their lunch in the early fall sunshine. Ripe tomatoes weight the nearby plants, grown tall from the warmth of the brick wall of the school and the rich compost donated by a local farm. The breeze carries the scent of chives, cilantro, and basil from a nearby garden, planted in wedges that collectively form the shape of a pizza. Earlier in the summer, children harvested the tomatoes, herbs, peppers and onions and proudly carried them into the adjacent cafeteria. They were sliced and diced into toppings for a homemade pizza, crust of wheat ground by the children in the school's summer enrichment program. Other vegetables were arranged in baskets at an end of the season farmers market, hand-lettered signs inviting parents, school administrators and community members to transform them into delicious recipes.

This scenario illustrates a school garden partnership between the Orange Elementary Schools and Seeds of Solidarity Education Center, a non-profit organization in Orange. Through a USDA Community Food Projects grant, Seeds of Solidarity works with schools in the North Quabbin region to implement school gardens and greenhouses, and strengthen connections between schools and farms. Seeds of Solidarity Education Center is based at Seeds of Solidarity Farm, a family farm that grows and markets salad greens, specialty produce and garlic. Farmers as well as educators, we enthusiastically support the many benefits of uniting growers with schools.

Two of our projects in particular illustrate possibilities for school/farmer relationships. One question often asked about school gardens in the Northeast is "what about the summer?" The opening scenario describes a school that is host to a summer gardening program led by a local farmer. The process starts in the spring, when Seeds of Solidarity

brings teen participants from our SOL (Seeds of Leadership) Garden program to help plant gardens with elementary school classes, coinciding with National Hunger Awareness Day. Students enjoy watching their plants grow, then have the option of continuing to enjoy the garden harvest in the summer months. The Orange Elementary Schools have a Summer enrichment program that is offered free to students in our low income community. Seeds of Solidarity sponsors the "Grow A Pizza Garden" course as part of this enrichment program, and hires local farmer and parent Rachel Gonzalez to lead a weekly gardening class for children. Kacie Breault, a Seeds of Solidarity intern and aspiring farmer assisted this past summer. Children maintain the garden while doing activities such as making scarecrows and of course, a homemade pizza with the support of Orange Food Service Director Sherry Fiske. Gonzalez, who sells her own produce at two farmers markets that she helps to manage, brings her experience to the children, culminating their "garden camp" with a mini-farmers market where they sell their produce to parents, community members, and school and town administrators.

This past Autumn, there were still carrots left in the school gardens which were among the items served at a local farms, local foods school breakfast. Fiske, who oversees three school kitchens where the food is baked and made from scratch, buys from farmers whenever possible. Being an anti-hunger and health advocate, she leads the Orange schools in taking part in National Walk Your Child to School Day each October. We worked together to organize a local foods breakfast to follow this walk. Over 700 people enjoyed a breakfast of pumpkin pancakes with maple syrup from Johnson's Farm in Orange, cider from New Salem Preserves and Hamilton Orchards, scrambled eggs from Diemand Farm in Wendell, and zucchini from Coolidge Farm in New Salem. But the most local of all was the carrot bread made from those carrots harvested right outside the cafeteria door. The buffet was enhanced with labels and table-top menus identifying the farm source of the food, and everyone received a pencil printed with "start school fresh with locally grown food." While it was a bit more effort than the average day for the dedicated kitchen staff, everyone agreed it was an incredible feast. This delicious event offers an example of how schools might "try out" Farm to School, while making what may become long-lasting connections with farmers to source regional food and cultivate a healthier community.

-Deb Habib, *Seeds of Solidarity, Orange*

*Note: Deb Habib, Director of Seeds of Solidarity Education Center holds a Doctorate in Education from UMASS, and helps her husband Ricky Baruc on their vegetable and garlic farm in Orange. For more information about Seeds of Solidarity Farm and Education Center, see [www.seedsofsolidarity.org](http://www.seedsofsolidarity.org).*

## **WILLIAMSBURG NON-PROFIT TEACHING CHILDREN ABOUT LOCAL AGRICULTURE**

*"Fertile Ground, a collaborative student gardening project at the Helen E. James School, is about more than growing flowers and vegetables. It's also about seeing the world with new eyes."* -- Sean Reagan, Daily Hampshire Gazette.

*"We were able to plant the spinach and then we ate the spinach and that was really great."* -- 1st Grader.

Two years ago, Kindergarten teacher Sherrie Marti, myself, a small group of parents, and about thirty five-year-olds decided to put in a garden at the Helen James public elementary school in Williamsburg MA. We wanted to create an outdoor classroom where the children would learn how to grow food and how to work cooperatively. We also wanted to find a way for our children to meet and share stories with their urban neighbors. With a group of parents, we started Fertile Ground, a grassroots initiative working to build community through school teaching gardens, farm-to-school links, and exchanges with diverse communities working in agriculture. We also asked Daniel Ross, executive director of Nuestras Raíces, to help us.

Nuestras Raíces means our roots in Spanish. It is a grassroots organization in Holyoke, MA that promotes economic human and community development through projects relating to food, agriculture and the environment. The heart and soul of Nuestras Raíces is its network of seven community gardens and 100 families that participate in them. Nuestras Raíces also provides youth programs for children from ages ten to seventeen. The youth are taught traditional Puerto Rican gardening techniques from older gardeners and participate in educational, recreational and leadership development activities.

We raised some funding for youth stipends and crafted two exchange days, one in which the Nuestras Raíces youth leaders would share their Puerto Rican culture, with its strong roots in agriculture, with the young children in Williamsburg. Projects have included building raised garden beds; planting tomatoes, strawberries, chives, onions, sunflowers and pumpkins; designing and building pea trellises. Each spring another exchange day happens in Holyoke, where the Nuestras Raíces teens show the rural kids their community center, greenhouse, murals, organic artesian bakery and city gardens. The emphasis is on community building, curriculum integration, and multicultural studies, creating a positive environment for the experienced youth leaders to practice their teaching skills.

The garden and exchange program immediately created a buzz of excitement in the school community and broader Pioneer Valley. Beginning as an after-school project of the Kindergarten, the program has grown to include all grades PreK-3 in this small school. After that first year, we raised funds to hire an experienced garden educator,

Hope Guardianer. During spring and fall, Hope works closely with the teachers designing and planning to grow vegetables and cover topics that fit the needs of each class. Gardening activities support the Massachusetts curriculum frameworks in Math, Science, Social Studies/History, Language Arts, and Spanish. In collaboration with third grade teacher Susan Smith's established curriculum focus on local Native American culture, Fertile Ground also provides workshops on traditional Native American Three Sisters Gardens, led by Rowen White, a farmer, professor, and director of the Haudenosaunee Seed Collective.

The children grow, tend, and cook with fresh vegetables from the school garden, learning to prepare healthy and delicious food in their classrooms. The food service director, Roberta Ruggiero, began serving garden grown greens and recipes made from pumpkins the kids had grown last year at school lunch. Last fall she called Anne Carter from U Mass Extension, who set her up on Joe Czjakowski's delivery route. Joe provided the school with competitive prices for spinach, potatoes, onions, berries and winter squash during the fall. Roberta also purchased small apples from New Salem Preserves. Together with Fertile Ground, parents and teachers, she is working on solidifying a farm-to-cafeteria program with local farmers.

The garden created a hub of activity in the school, which at the teachers' initiative, took us to local farmers. Regaled by Ralmon Black's stories of Williamsburg's agricultural past, the Kindergarten has visited the Williamsburg Farm Museum. First graders have sold produce at the Cumington and NOFA farmer's markets. Each year the entire small school enters produce in the local Grange Fair. Last year, with a grant from Bread & Circus, first and second graders were able to travel twice to Natural Roots Farm in Conway, to learn about composting, cover cropping, and harvesting.

Observing minute changes entrances children; seeing the flourishing harvest garden inspires many to help, taste, explore. We look down, slow down, listen. Fertile Ground and the school community have experienced first-hand from this model program that gardens galvanize a community. We manage a team of about 30 families who volunteer to work, water, and organize events around the garden. The program is supported by local businesses, foundations and individuals in the community.

Fertile Ground has been asked to work with the after-school programs in two Holyoke Elementary Schools, where we have set up exchange days with older Nuestras Raíces youth leaders. The youth have helped with garden construction and planting. We're also working with the Hampshire Regional School District food service personnel to help assess the feasibility of farm-to-cafeteria initiatives, and to link them to the work being done by Anne Carter at UMass and Kelly Erwin. Finally, together with Community

Involved with Sustaining Agriculture (CISA) and Seeds of Solidarity Education Center, we've helped launch the Local Hero Schools Network, and are looking forward to further opportunities to bring the Williamsburg model program to other area schools.

-Catherine Sands, director Fertile Ground  
chsands@mindspring.com

## UNIVERSITY OF VERMONT EXTENSION PRESENTS: GREENHOUSE TOMATO SCHOOL

April 6, 2005

Hampton Inn, Burlington/Colchester, Vermont

Located just east of Exit 16 off I-89. Room rate is \$89  
(802) 655-6177 or <http://www.hamptoninnburlington.com>

**8:30** Registration and Coffee

**9:00** What's New in Quebec with Greenhouse Tomatoes: research, pests, varieties -- *Andre Carrier*  
Horticulture Specialist, Quebec Ministry of Agriculture

**10:00** Grafting Tomatoes on the Farm  
Side-grafting – *Mike Collins*, Old Athens Farm  
Top-grafting – *David Marchant*, River Berry Farm

**10:30** Break

**10:45** Greenhouse Tomato Diseases and their Management  
*Dr. Tom Zitter*, Cornell University

**11:30** Organic Greenhouse Tomato Production for Our Retail Market  
*Jack Manix*, Walker Farm

**12:00** Lunch

**1:00** Managing Light, Temperature and Nutrients for Maximum Yields  
*Dr. Richard McAvoy*, University of Connecticut

**2:00** Bio-Control of Insect Pests in Tomato Greenhouses  
*Carol Glennister*, IPM Labs, Locke NY

**3:00** Questions, Answers, Discussion

**4:00** Adjourn

\$30 pre-registration per person includes lunch. Send check made to 'UVM Extension' to:

**Vern Grubinger, UVM Extension, 11 University Way, Brattleboro VT 05301-3669.**

At-the-door registration will be \$40.

Three pesticide applicator credits will be available (New England states and New York) in private and commercial categories 1 and 10A.

For more information or to request special accommodations call (802) 257-7967 ext. 13, or E-mail: [vernon.grubinger@uvm.edu](mailto:vernon.grubinger@uvm.edu)

# **A FORUM ON ALTERNATIVE ENERGY ON THE FARM**

May 4, 2005

Old Dorm Lounge, Vermont Technical College, Randolph Center.

This event has been organized by University of Vermont Extension to provide an overview of a range of innovative practices that can enhance energy self-sufficiency and profitability of farms in Vermont.

- 8:30** Registration, Coffee and Muffins
- 9:00** Energy Issues in Vermont Agriculture: Use, Cost, and Opportunities -- *Heather Darby* (livestock) and *Vern Grubinger* (horticulture), UVM Extension
- 9:30** Making Bio-Diesel for Greenhouse Furnace Fuel from Vegetable Oil: Heating greenhouses with waste oil instead of purchased fuel.  
-- *Richard Wiswall*, Cate Farm, Plainfield
- 10:00** Converting Home heating Oil Furnaces to either Waste Motor Oil or Waste Vegetable Oil: Explanation of Parts and Tools for a Do-it-yourself project  
-- *Jesse Parris*, Alternative Energy Educator - Yahoo Altfuelfurnace forum
- 10:30** Break
- 11:00** Growing and Harvesting Willow for Biomass Energy on the Farm Field research into the methods, benefits, and costs for farmers.  
-- *Tim Volk*, SUNY College of Environmental Science and Forestry
- 11:30** Small-Scale Manure Digesters: Potential for On-Farm Heat & Energy. -- *Guy Roberts*, Intervale Innovation Center, Burlington, VT
- 12:00** Lunch - catered
- 1:00** Manure Digesters for Energy - What's Happening on Vermont Farms? -- *Dan Scruton*, VT Agency of Ag. and Onan or *Mary Whitcomb*, Williston
- 1:30** Adapting a Used Wind Power System to Supplement our Farm's Electric Supply. -- *Jack Lazor*, Butterworks Farm, Westfield
- 2:00** Off-The-Grid, Small-Scale, Wind System for Farm Electricity: Cost and Benefits. -- *Ken Smith*, Merck Farm and Forest Center, Rupert
- 3:00** Solar Power at Lazy Lady Farm: A system that provides all our Electricity. *Lani Fondillier*, Westfield
- 3:30** Discussion

\$30 pre-registration per person includes lunch. Send check made to 'UVM Extension' along with name(s), phone and

e-mail address to: **Farm Energy Forum, UVM Extension, 11 University Way, Brattleboro VT 05301-3669.**

At-the-door registration will be \$40 per person.

For more information or to request special accommodations call: (802) 257-7967 ext. 13, or E-mail: **vernon.grubinger@uvm.edu**, or call (802) 524-6501 ext. 206 or E-mail: **heather.darby@uvm.edu**

*Vegetable Notes, Ruth Hazzard, editor and Ben Hunsdorfer, Assistant Editor. Guest Editor for this issue was Anne Carter. Vegetable Notes is published weekly from May to September and includes contributions from the faculty and staff of the UMass Extension Vegetable Program, other universities and USDA agencies, growers, and private IPM consultants. Authors of articles are noted; author is R. Hazzard if none is cited.*