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From the Editor

Nicole Belanger
NOFA/Mass Public Relations Coordinator

This issue highlights the NOFA/Mass community’s genuine enthusiasm and curiosity about trying new things and for helping out a fellow farmer. Despite this being one of the busiest times of year, our contributions this month are strong, numerous and filled with useful resources. From Steph Elson’s expert advice on beekeeping in the early summer, good for both urban and rural dwellers alike, Julie Rawson’s keenly tuned experience with sprouting grains, to Sharon Gensler’s detailed instructions on her usage of cover crops, I hope you’ll find some useful info in this issue.

We also have a really robust organic gardening email list through which incredibly useful advice is given to all types of questions. To subscribe, send an email to nofa-mass-subscribe@lists.riseup.net.

Enjoy!

Nicole

Derek teaching in orchard
Photo by Bleu Grijalva
Raising Healthy, High Quality Organic Animals & Getting Off GMO Grain

Julie Rawson
NOFA/Mass Education Director and Farmer at Many Hands Organic Farm

NOFA/Mass has been working actively to oppose the use of genetically modified organisms in agriculture in Massachusetts for over 10 years. We ran our Town by Town Campaigns in the mid-2000’s, served as fiscal agent for a short period of time for the Genetic Engineering Action Network, have written countless articles, invited many keynote speakers, and most recently are showing the film “Genetic Roulette” followed up with a Q & A session wherever folks will have us.

In this issue of the newsletter you will find Jack Kittredge’s article outlining the potential dangers of GMOs for livestock and for people who eat those animals or their products. In the next few issues I will be writing about many of the methods we use on our farm to feed our livestock in a certified organic manner. This month’s article is on sprouting, or green fodder as it is sometimes called.

Each year we raise 2 steers for 18 months, 13 feeder pigs that come to us certified organic and live with us for 4 months, 500 meat chickens that grow out to 13 weeks, 100+ chicken layers and 100 turkeys. This fall we will purchase a cow for milk. All of our meat, lard and eggs are certified organic except for our steers. Last year’s batch was purchased from a non-certified source though grown organically for the 17 months they lived with us. This year’s steer came from a certified organic farm, but needed a month of milk replacer when they first arrived.

About 3 years ago I read an article by Harvey Ussery, Sprouting to Enhance Poultry Feeds (http://www.themodernhomestead.us/article/Sprouting.html). Since then I have been tinkering with sprouting and learning who likes to eat them. I also read an excellent article in the most recent issue of Acres June 2013 titled “Grow Super Sprouted Fodder” by Barbara Berst Adams.

Organic grain is about twice as expensive as conventional grain. We as farmers need to figure out a few things – how to lower the cost of production through creative feeding mechanisms, how to utilize the manure we get from our animals to enhance and support our vegetable and fruit production, and then how to reach the bottom line in a positive fashion – while feeding ourselves and our customers like kings and queens.

Keep it simple. I have read about methods that use bleach (yikes!), require watering sprouts every 4 hours (excessive), and otherwise make a very easy process quite hard. I think that because I am using nutrients in the soaking water, I don’t have mold issues if I make sure ventilation and drainage are managed well. Additionally the grains I use are of high quality and certified organic.

At this moment I am starting 10 batches per day – 3 for our 75 adult layers, 2 for our 85 young layers, 2 for our 230 month-old meat birds, 1 for our 2 14-month old steers, and 2 for our 13 9-week old pigs. The birds and the cows tear right into the sprouts. The pigs are not as enamored with them, but they do get whey and commercial organic pig feed. I need to tinker with their ration to encourage more sprout eating. The birds also have commercial organic layer and grower feeds fed free choice, have kelp free choice and oyster shell (layers only) free choice. The cows get new high quality pasture rotated each week and get a scoop of rock dust to eat free choice.

Our grains are not greened up. The Acres article suggested that animals with one stomach prefer them that way, and that ruminants would do better with green sprouts that give their rumens more roughage to work on. Growing the sprouts for a longer duration will bring the result of green sprouts. Be advised to use a sturdier container to grow them if you are growing them longer.

Research shows that animals get more value out of sprouted feeds, and my personal observation is that the layers are healthier and produce higher quality eggs with amazing orange yolks, the meat animals have superbly textured carcasses, and the lard that we make from the pigs has a silken feeling to it. In a later article I will attempt to gather my stats on how my bagged feed consumption has dropped, due in part to sprouts feeding, but also due to improved pasture management.

Sprouting can be messy. They smell like a brewery in the summer, time is involved in managing them, and it can be challenging to find the right location to run your sprouting operation. After trying many locations, particularly when my greenhouse is full of seedlings and I have to kick them out, I have found the best scenario for us is the north wall of the attached greenhouse. They get little direct sunlight, and they get decent air and water drainage in that location.

Experimenting with which containers to grow them in is essential. I tried drilling holes in plastic pails, but found that the grains would easily grow mold in those. I really prefer the open 10” x 20” seedling trays, but if the sprouts grow
for too long, they can tear up the trays when you are trying to get them out.

I would never go back. Our animals are healthier, happier, have more beautiful coats, weigh more, eat less, suffer less disease and death, and therefore are more economically viable as a business venture. Their more healthy manure gives back to the farm system in a continuously upward spiral of fertility and health.

Here is what I have learned about sprouting, how I do it, and how I feed it.

**Day 1**

- I put 3 quarts of mixed barley, wheat, oats (purchased from Kreamer’s Feeds in 50 lb bags – present price respectively - $24.30, $22.45, $25.34) in a 5-gallon pail.
- I drench each pail with water spiked with a little of my vegetable nutrient drench (mix of micronized minerals with molasses and sea minerals) and fill to 2 inches above the grain line. In the next 24 hours the grains will soak up all the water.
- I then add a couple teaspoons of kelp meal and a layer mineral pre-mix that I get from Agri-Dynamics

**Day 2**

- Pour into a 10” x 20” perforated seedling tray and set on back shelves of attached solar greenhouse

**Every day thereafter**

Brush your hands over the seeds to mix them up and discourage mold growth and spray with water and let drain. Being near the summer solstice, the sprouts are growing like crazy and we harvest on day 3. In December they go for 7 days.
REQUEST FOR WORKSHOP PROPOSALS

Proposal deadline: September 1, 2013

You are invited to submit a workshop proposal for the annual NOFA/Mass Winter Conference. The conference draws about 1,000 people from Massachusetts and neighboring states. Participants include seasoned and beginning farmers, urban homesteaders, backyard gardeners, food activists, and many other engaged learners.

We are particularly interested in receiving workshop proposals for the following subjects:

- Homesteading skills, such as food preparation, preserving, or soap making
- Growing specific crops organically, e.g. great carrots or potatoes
- Gardening in small spaces such as containers, patios, or balconies
- Farm management, such as marketing or financial planning
- Beginning organic gardening
- Season extension
- Urban gardening or farming
- Farm and food policy
- Healthy food access
- Specific livestock workshops
- Irrigation, farm machinery
- Beekeeping

We encourage you to submit a proposal on any relevant subject, regardless of if it is one of the above subject areas. There are many more topics that we would like to see covered. All proposals will be reviewed by the Winter Conference staff with the objective of coordinating a workshop lineup that provides a variety of beginner, intermediate, and advanced workshops for farmers, gardeners, homesteaders, and landscapers, as well as consumers and advocates.

To submit a workshop proposal, please complete this online form (http://www.nofamass.org/content/wc-workshop.presenter-form) by September 1st. Proposals will be accepted on a rolling basis. If you have any questions or suggestions, please contact Luke Pryjma at wcworkshops@nofamass.org or 413 281 2651.
Raw Milk Bill Heard in Massachusetts Legislature

By Winton Pitcoff
NOFA/Mass Raw Milk Network Coordinator & Development Director

On June 3 the Massachusetts Legislature’s Joint Committee on Environment, Natural Resources and Agriculture held a hearing to gather public input on 17 bills, including H717, the bill that would allow raw milk dairies to deliver milk to customers. The NOFA/Mass Raw Milk Network has been working on this bill for four years, and many farmers, consumers and advocates turned out to testify in favor of the legislation.

“Raw milk sales have been vital to the survival of our farm,” says Pam Robinson of Robinson Farm in Hardwick, MA. “We have more customers that travel an hour to buy our milk than ones who travel 15 minutes. Being able to deliver our milk will improve our sustainability, while removing some of the barriers to our growth. This bill will allow consumers improved access, without increased carbon impact, to a fresh, local, safe, wholesome food.”

If enacted, this bill would help small dairies remain sustainable by giving them access to a wider range of customers. Currently, state law allows dairy farmers to be licensed to sell raw milk only to individuals who come to the farm. The milk is regularly inspected and must meet the same standards of safety as milk that has been pasteurized. The bill, introduced by Rep. Anne Gobi, will allow farmers to deliver raw milk to customers. By providing for regulations that would give farmers a way to handle and transport raw milk to consumers properly and safely, the Massachusetts Legislature would give dairies a tool for survival and provide better access to a local agricultural product for consumers.

Comments on this bill may be submitted by mail, to Representative Ann Gobi, Room 473F, State House, Boston, MA 02133. The Legislature’s Joint Environment, Natural Resources and Agriculture Committee will next consider the bill. If passed, it will go to the Ways and Means Committee whose members will consider the proposed law’s cost to the Commonwealth. If passed by the Ways and Means Committee, the whole legislature will consider it.
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Homesteading Observations: Cover Crops/Green Manures

By Sharon Gensler
Homesteader and NOFA/Mass Outreach Coordinator

This morning I tried to beat the heat while cutting back an oat and field pea cover crop to prepare some beds for the big tomato and pepper transplanting. While I worked with Erin, friend and neighbor, I kept trying to think of a topic that was timely and relevant for this column. Voila! There it was on my mind and in my hands - the importance of cover crops.

I used to think that they were just for large-scale farmers. However, through readings and workshops, I’ve come to understand their value even for small-scale operations. Now, I devote 1/3 or more of my growing beds to various cover crops and green manures. They prevent erosion; maintain & build soil fertility; organic matter & soil life; disrupt pest and pathogen habitats & life cycles; smother weeds; increase crop diversity; and offer habitat & food for beneficial insects, amphibians, reptiles and birds. Plus they’re beautiful.

The same crops can be grown either as a green manure or as a cover crop. The difference is in timing and how you use them. If you want to increase soil nitrogen quickly, you could turn the plants under when they are small. Then wait 2 weeks for the soil microbes to digest and stabilize the nutrients into the soil. If you want longer-term soil improvement then let them grow and cut just before seed is set. While the plants have been growing they have been creating a huge root mass (future organic matter) and have been feeding the soil microorganisms with the sugars from photosynthesis through root exudates. Leaving the stalks on the ground as mulch further improves soil texture and health as the decomposition of the ligneous material increases mycorrhizal fungal activity.

Some common cover crops & green manures include clovers, buckwheat, oats, field peas, Sudan grass, hairy vetch (rye & other perennial grasses), field radish, and mustards. They all have attributes to recommend them; I usually stick to the easier ones to grow and manage. Here’s how I use them in my garden.

Oat & pea mix- early plantings that I can let grow out or do a cut and come again approach to use as mulch elsewhere (cut about 4-6” from soil so they’ll regrow). The peas are nitrogen fixers as well as biomass. I also plant them as beds empty out, like after the garlic is harvested, or do an under sowing in Sept/Oct. beneath tomatoes, peppers, asparagus, brassicas, etc. Both oats and peas are winter killed and die back with no effort on my part, serving as mulch for the winter months.

Buckwheat- cold sensitive so wait to plant until after frost. Buckwheat, if planted thickly, smothers out weeds. It also has small clustered flowers, which the bees and beneficials love. It’s easily killed by frost or cutting. If seeds are allowed to mature it could become a weed.

Sudan grass (sorghum)- grows kind of like corn with a stalk and wide leaves. It produces massive amounts of biomass, great for compost or mulch. It also has a beneficial effect on carrots that follow it in rotation.

Clover- is a nitrogen fixer and beneficial attractant. I have a large area with white Dutch clover, low growing and somewhat of a perennial as it self-seeds and spreads by running. I plant right through the clover-mat by spading out a spot to put transplants. Tomatoes and brassicas love it.
Usually I hand trim it several times a season, placing the cut clover around the stems of the vegetables.

Those are my faithful standbys. I hope to experiment with others, but things like vetch and rye need more attention than I can guarantee. If not cut back at the exact right time they become difficult to remove, especially for our hand tool operation. I have read that mixing more types of seed into a planting increases the overall benefits, so I think I'll start throwing some radishes into the mix. They go deep and bring up subsoil minerals which then become available to soil microbes when the roots winterkill.

I also do succession cover cropping. Sometimes I'll start with an early oat and pea planting then in June cut it very low to the ground, which prevents regrowth. After waiting until the stalks dry out I'll plant buckwheat right on top, shuffling it with a rake and hope for rain. After the buckwheat has flowered I cut it and do the same thing, replanting the oats and peas.

Mark Fulford, who taught a NOFA Nutrient Density workshop with Dan Kittredge, shared how he prepared his future garlic bed by planting oats and field peas mixed with any needed soil amendments in late August or September. The garlic is planted through the cover crop, which has the opportunity to grow before it is winter killed. Their roots nurture the soil while holding it in place throughout the winter months. The tops die back making winter mulch for the garlic (you might need to add more) and as they decompose, they add nutrients back to the soil. My first year, the cover crop grew too tall to plant through it easily; so I cut it back first. Last year, it was about four inches tall and I was able to plant through it, while it continued to grow. I had a fantastic garlic year, without watering, even with the draught.

I hope I've sold you on the value of cover cropping in your home garden. Experiment and see what works for you, I know you won't be disappointed. Oh, this morning cutting back those peas, I snipped off the top couple inches and will have them for dinner tonight in a stir-fry; I don’t think my soil enhancement program will suffer and my taste buds will be thrilled. Yum, those fresh pea greens!
Being a Good Neighbor: Early Summer Urban Beekeeping Tips

By Nicole Belanger
NOFA/Mass PR Director & Newsletter Editor

As allergy sufferers will attest, this year has been a great year for pollen, and area bees and beekeepers alike have had their work cut out for them.

Early summer is the most energy intensive time for beekeepers according to Stephanie Elson, urban organic beekeeper who along with her husband runs the Benevolent Bee, based in Boston’s Jamaica Plain neighborhood. Stephanie shares some tips for what to expect and how to be prepared this summer.

City bees need space
Most important this time of year is to make sure the bees don’t outgrow their hive and swarm. Swarming is the bees’ natural instinct to create a new colony when it has run out of space. Elson urges urban beekeepers to be especially diligent in preventing swarms, as bees will seek out any spacious area to set up a new hive – maybe a neighboring tree or the rafters of your neighbor’s house. Keeping your bees from swarming is good bee PR, says Elson, as well important for preventing the loss of half your bees.

Like an expectant parent, Elson has extra bee boxes waiting, ready to go on a moment’s notice. Checking the bees about once a week is important this time of year, as there are noticeable signs that a hive is preparing to swarm. It’s all about the queen. Keep an eye out for swarm cells at the bottom of your frame, indicating the production of a new queen. Swarm cells look like a peanut shell. Make sure the bees always have enough room to grow and don’t get overcrowded in the hive.

What should you do if you notice signs of swarming? “Some beekeepers will tell you that if you see swarm cells in your hive, you should destroy the queen cells, to prevent your hive from swarming,” according to Elson. “We’ve found, though, that the bees will swarm anyway. And, the swarm might have already occurred (half of the bees in the hive already left, with the existing queen) so if you destroy the new queen cells, then you will be left with a queenless hive.

“The best thing to do when you see swarm cells is to perform a hive split -- take each frame that has queen cells on it and put it with some bees from the hive into a new hive box. This makes the bees think that they’ve swarmed already.”

Elson highly recommends new beekeepers, especially those in the city, plan ahead for the inevitable growth of their hives and make sure to have extra room for expansion. You may only want one hive in your yard, but should consider working some flexibility into your space. Bee colonies grow just like pets.

Providing a water source
Keep your bees and neighbors both happy by providing a close water source. Bees use water to control the temperature and humidity in a hive, according to Elson. She uses a shallow birdbath with rocks that the bees can perch on and drink from. The rocks are important, as the bees will drown if it is just an open container. This will keep bees out of your neighbor’s kiddie pool (or your own!).
Life beyond the staycation
Considering beekeeping but don’t want to sacrifice your summer freedom? Rest assured, once swarming season is over (around mid-June) the real week-to-week maintenance is just filling up the water source. While away, ask a neighbor or house sitter to fill up the birdbath while watering the garden. Elson typically checks their hives before leaving for a trip and once she returns, but otherwise leaves them be. She likens hive maintenance for to that of a garden. It requires a lot of up front energy investment early in the season, checking the hive weekly and managing potential swarms, but less so as the season hits its stride.

During the remainder of the summer Elson recommends checking on the bees once every two weeks, as they do better when largely left alone. Elson harvests honey twice per year, once just after the early spring nectar flow and once at the end of the summer, in late August or early September. Patience is key for first-year keepers. “First-year beekeepers are lucky if they get even a small honey harvest at the end of the summer,” says Elson, “a new hive needs a full season just to establish itself, and build comb and colony strength.”

Beehaving vs. Beekeeping
Elson also is clear to make a distinction between “beekeeping” and “beehaving”. She considers herself a beekeeper, because though she is organic and does not use antibiotics or other medicines in the hive and has a more hands off approach than some, in the city she really does need to tend to the bees to ensure their success.

Relying on Integrated Pest Management (IPM) techniques to manage the health of their hives, Elson and her husband don’t treat their hives with pesticides or chemicals of any kind. Some of their IPM methods include using various essential oils (like thyme, spearmint and lemongrass) to ward off mites; or dusting a hive of bees with powdered sugar - the sugar coats the bees and causes the mites to fall off the bees, down through the screened bottom board (another IPM technique - to use a screen at the bottom of your hive instead of a solid board). She feels that not only are their bees doing well, but also they may be doing better than those in other hives using more invasive treatments.

Beehavers on the other hand provide a place for the bees to live, as an easy way to collect honey, but do largely leave the bees alone. In rural areas, swarming is less problematic.

Good luck to the aspiring beekeepers out there – hope the summer treats you and your hives well and that you have lots of fun hive products to work with in the coming fall and winter!

Attention NOFA/Mass members!
Are you a homesteader, gardener, farmer, consumer, or landscaper with an interest in sharing your best practices and tips for the approaching season? We would love to profile you. Send an email to Nicole@nofamass.org.
Your Farm Energy Plan - How to Get Started

By Layla Hazen
Program Assistant, MA Farm Energy Program

You’re always hearing about the importance of business planning for farm viability, but do you have an energy plan for your farm? There’s a simple way to get started - and no matter how long you have been farming, there is something you can do to save energy.

Energy is a part of your business plan. Energy savings directly affects your bottom line – New England farmers are paying 23-56% higher rates for energy than the US average. And saving energy strengthens your marketing and responsible business practices by reducing fossil fuel use and greenhouse gas emissions. Even small efficiency upgrades, such as updating lighting, can add up to substantial annual savings and can pay for themselves in a season to a couple of years.

Know your options
There are many helpful resources available to farmers to help make decisions about energy use and farm infrastructure, including:

• The Massachusetts Farm Energy Program offers a series of sector-specific guides, designed to provide practical information concerning energy efficiency and renewable energy. The Massachusetts Farm Energy Best Management Practices Guides are available at no cost on the MFEP web page.
• UVM provides helpful information both through the Institute for Energy and Environment, as well as the UVM Extension service AgEngineering blog.
• ATTRA, a program of the National Center for Appropriate Technology, has provided information to farmers concerning conservation practices and energy for 25 years. They feature articles, papers, and much more on their web site.

Where to start
There are ways to reduce your energy costs without spending a dime, including:

• Energy conservation is the easiest and most cost effective method of achieving energy savings. Using energy wisely and eliminating energy waste such as running a motor or ventilation fan when not necessary, are just a few simple ways to conserve. Take time to review your farm’s to see if you can reduce your energy demand.
• The Massachusetts Farm Energy Discount Program is a program run by the Massachusetts Department of Agriculture, allowing eligible farms to reduce their gas and electricity bills by 10%. Visit the MDAR website to sign up online, or request an application by mail.

Assess your energy use
If you want to identify ways that your farm can save energy, begin with an energy audit. Energy audits are a valuable tool for energy planning and decision-making. They provide a snapshot of current energy use on the farm, based on your day-to-day farming operations, and so should be updated if operations change significantly. There are a few different types of audits available to Massachusetts farms:

• Free public utility audits (from your gas or electric company) are available for assessing electricity or natural gas use, typically for lighting, refrigeration, heating systems, and other custom measures. Utility companies also have funds available to help pay for energy saving upgrades – often incentives can cover 50-70% of the cost! Some examples include lighting, refrigeration (heat recovery, fans, and controls), pumps, plate coolers, building envelope improvements, and more. Your utility also offers no-cost audits and incentives for residences.
• Another type of audit suitable for some farms (particularly greenhouses and maple operations) are Agricultural Energy Management Plans (AgEMPs), a Natural Resources Conservation Service (NRCS) program. An AgEMP includes a comprehensive look at all farm energy use. A completed AgEmp is a prerequisite for NRCS’ generous payments toward energy saving measures as part of their Environmental Quality Incentives Program (EQIP).
• MFEP farm audits are targeted farm audits, useful for evaluating specific farm practices, or things that cannot be addressed in a utility audit. They are partly funded by the MA Farm Energy Program.

Fund your project
After completing an energy audit, prioritize your list of upgrades. Then you begin on making the financials work for your farm business, including looking for funding support from outside sources.

There are public utility programs designed to help with energy efficiency. Every customer contributes to these programs through small charges on their utility bills. Those charges are pooled in a conservation fund and used to finance energy efficiency for both business and residential customers. So take advantage of utility programs—it’s your money! Public utility programs will frequently pay between 50%-70% of the cost to upgrade equipment, and under certain guidelines, will contribute toward new equipment purchases as well.

- The Mass Clean Energy Center offers rebates toward renewable energy projects including solar PV, solar thermal, biomass and more.
- The Environmental Quality Incentives Program, or EQIP through NRCS, offers payments for greenhouse efficiency, maple upgrades, and certain types of motors and refrigeration upgrades.
- The Massachusetts Department of Agriculture (MDAR) support farms through their AgEnergy Grant program—a grant designed specifically to aid the implementation of energy efficiency and renewable energy projects.
- The USDA REAP grant is a federal grant supporting energy efficiency and renewable energy.
- There are a number of organizations that offer farm financing in the state, including small loans for infrastructure improvement and renewable energy investments.
- The MA Farm Energy Program provides direct funding to farmers through an incentives program on a rolling basis. Incentives on based on energy savings and focus on energy efficiency improvements. MFEP also provides one-on-one technical assistance to farms seeking funding for farm energy projects, offering referrals, education, and support.

While planning for energy efficiency or a renewable energy project seem like a big task (and it’s true, it takes some work) it’s important to remember that there is help. Now is the time to get started!

For assistance with farm energy efficiency or renewable energy projects, or for more information about the resources mentioned in this article, contact the MA Farm Energy Program at mfep@berkshirepioneerrcd.org.
So What If I Feed My Animals Some Conventional Feed?

Jack Kittredge

A surprising number of farmers and homesteaders who are involved in the local food movement are selling products from animals fed conventional feed. What is wrong with this? Why should consumers of local foods ask very pointed questions about how the meat, milk and eggs they are buying were produced?

Most consumers are at least aware of the existence of GMOs. Many know they are the dominant varieties when it comes to corn and soybeans raised in America. Something like 90% of the corn is GMO, as is close to 95% of the soy. What does this mean? Especially since consumers are bidding up demand for food products made with non-GMO ingredients? It means that GMOs are being dumped into non-human food products. Guess what those are? So virtually all conventional animal feed, which is heavily composed of corn and soy, is totally GMO-based.

But many local food enthusiasts do not understand this and would be shocked to learn that their meat and eggs, as well as possibly their milk, is made from GMOs.

What is wrong with GMO feed?

Not tested in America
There are several things wrong with GMO feed. The first is that you can’t find out about what may be wrong with it.

No mandatory independent testing is required by any government agency of the human or livestock health impacts of GMO feed. Amazing as this statement is, it is quite true. The decision to not require such testing was made by the George H. W. Bush administration in 1992 and has not been changed since.

Not only is there no government testing, but it is very difficult for independent scientists to do tests either. To do so they would need to buy the seed to test, but you cannot buy the seed without signing a license agreement that forbids testing, enforceable in American courts. Strange, you might say? Why would a manufacturer actively prevent health testing of its products? I can only guess!

Existing tests often occur in Europe and are not published in English
As you will see from the examples I cite, most health testing of GMO food and feed which has been made public has been done in Europe, usually not in English. So the results take a while to penetrate into the American press.

No Labeling
Because GMO foods are not labeled, health tests based on people’s diet rather than lab rat results are virtually impossible. You cannot really track whether people have eaten GMOs if the food is not labeled. One would have to have people live in a cage and eat only what they are given (after selection by a team of professional food buyers) for a period of months to do a useful test. That is not practical.

Problem 1: RoundUp Itself

Most GMO crops have been engineered to resist Roundup, a weed killer whose active ingredient is glyphosate. That means that RoundUp Ready crops – the corn and soy in your livestock feed, for instance -- have been sprayed heavily with the toxic chemical glyphosate. Livestock exposed to RoundUp are deficient in key nutrients and their meat, milk and eggs are also deficient in those nutrients.

How does glyphosate work? It kills weeds by chelating metals in the soil around them. Chelation is the binding up in chemical bonds of minerals to make them unavailable. Chelation can be a treatment for disease (as in chelation for lead in the blood of infants to bind it up and have it excreted rather than getting taken up in nervous tissue, causing brain damage.)

But when RoundUp chelates, according to published work by Don Huber of Purdue and Barney Gordon of Kansas State University, it complicates the uptake of some vital plant nutrients, especially manganese. Manganese deficiency causes health problems in the crop, resulting in more susceptibility to disease, lower yield levels, and diminished immune system response in the animals consuming those crops.

The diminished health in animals consuming glyphosate is passed along to you when you eat the animal’s meat, milk or eggs. Your resulting deficiency in manganese (and zinc as well) means your body cannot easily create the enzymes and other compounds and molecules necessary for vital health.

A recent peer-reviewed report authored by Anthony Samsel and Dr. Stephanie Seneff has received quite a bit of mainstream media attention. In their report, published in the journal Entropy (Entropy 2013, 15(4), 1416-1463), they say:

“Glyphosate’s claimed mechanism of action in plants is the disruption of the shikimate pathway, which is involved with the synthesis of the essential aromatic amino acids, phenylalanine,
tyrosine, and tryptophan. The currently accepted dogma is that glyphosate is not harmful to humans or to any mammals because the shikimate pathway is absent in all animals. However, this pathway is present in gut bacteria, which play an important and heretofore largely overlooked role in human physiology through an integrated biosemiotic relationship with the human host. In addition to aiding digestion, the gut microbiota synthesize vitamins, detoxify xenobiotics, and participate in immune system homeostasis and gastrointestinal tract permeability. Furthermore, dietary factors modulate the microbial composition of the gut.”

As noted in the report, incidences of inflammatory bowel diseases and food allergies have substantially increased over the past decade. According to a recent CDC survey, one in 20 children now suffer from food allergies — a 50 percent increase from the late 1990’s. Incidence of eczema and other skin allergies have risen by 69 percent and now affect one in eight kids. Samsel and Seneff argue it is reasonable to suspect that glyphosate’s impact on gut bacteria may be contributing to these diseases and conditions. They point out the following:

“...Our systematic search of the literature has led us to the realization that many of the health problems that appear to be associated with a Western diet could be explained by biological disruptions that have already been attributed to glyphosate.

These include digestive issues, obesity, autism, Alzheimer’s disease, depression, Parkinson’s disease, liver diseases, and cancer, among others. While many other environmental toxins obviously also contribute to these diseases and conditions, we believe that glyphosate may be the most significant environmental toxin, mainly because it is pervasive and it is often handled carelessly due to its perceived nontoxicity.”

Their findings, along with the information that the EPA has just approved an increase in the amount of glyphosate residue allowed in various food and feed crops, makes the advice to buy certified organic all the more urgent.

Problem 2: Proteins from Engineered Traits

In addition to the problems encountered from consuming feed sprayed with RoundUp, there is the concern about novel proteins in the feed produced by the genetic modification itself. Here I cite a few reports. One study conducted in Romania in 2009 involved replacing conventional soy in the feed of 130 broilers with various percentages of soy genetically modified to resist RoundUp. Organs and carcass weights were measured after 42 days. The authors report:

“Inflammatory and degenerative liver lesions, muscle hypertrophy, hemorrhagic necrosis of bursa, kidney tubular necrosis, necrosis and superficial ulceration of bowel and pancreatic dystrophies were found in tissues from broilers fed on protein from genetically modified soy.”

Some lesions might be due to other causes, they reported, but presence of lesions exclusively in groups fed with modified soy raises serious questions about the use of this kind of feed.

A team of French researchers looked at RoundUp Ready NK 603 corn, as well as two varieties of corn engineered to synthesize Bt toxins (MON 810 and MON 863). According to their report:

“Our analysis clearly reveals for the 3 GMOs new side effects linked with GM maize consumption, which were sex- and often dose-dependent. Effects were mostly associated with the kidney and liver, the dietary detoxifying organs…effects were also noticed in the heart, adrenal glands, spleen and haematopoietic system.”

An earlier (2000) study published in Spanish looked at mice fed the protein Cry1Ac produced by Bt engineered crops. The authors demonstrated that the protein binds to the mucosal surface of the mouse small intestine and induces changes in the properties of the jejunum.

Conclusion

The bottom line is that GMO feed has been associated with serious health impacts, not only because of its having been heavily dosed with RoundUp, but also by the presence in it of novel proteins as a result of the engineering process itself. There has not been enough research done to fully evaluate these impacts, but there is enough evidence to show that GMO feed presents a threat to vital organs and systems.

Both on the basis of humane treatment of livestock and of wanting animal products to be healthy for the final consumer, there is strong evidence that GMO feeds are dangerous and should be avoided. Next time you are considering the purchase of animal products, if they are not certified organic, check with the seller about how the animal was raised and fed. And if you raise animals yourself, think about how you feed them. Organic feed is more expensive than conventional feed, true. But there is an excellent reason for that and many consumers are willing to pay organic prices for meat and animal products because they understand the necessity of quality feed and forage.
Peaches & Honey Thrive with Synergistic Mentorship

By Suzy Konecky
NOFA/Mass Beginning Farmer Program Coordinator

“Even just a few words can really open a window and make you see things differently,” says Charlotte Trim, one of the participants in the NOFA/Mass Journeyperson program. Charlotte has gotten lots of words of advice from her mentor, Linda Hoffman of Old Frog Pond Farm. “I am very grateful to have Linda Hoffman as my mentor, fortunately we met up before I actually installed the peach orchard, so she could give me advice.”

Charlotte was very focused on growing healthy peach trees, but hadn’t actually given much thought to the fruit production. Talking with Linda changed things. Linda pointed out that Charlotte actually needs to earn some money off these trees and suggested a tighter spacing so she can get more fruit from the available acreage.

Charlotte has been growing peach trees in her backyard in Lincoln, MA for a few years. Originally from England, where she grew up on a horse farm, she moved to the United States in 2001. She has a 2-acre plot at her homestead that she has been working on for the past nine years. It includes an apiary, a horse barn and paddock, orchards, and gardens.

Charlotte applied to the Journeyperson program because of all the unknowns of scaling up. Now that she is working a larger area she has to think on a bigger scale. She wanted guidance as she figured out the details of larger production, distribution, equipment, etc. “When you go to a bigger area and try to crank up production, there is a whole load of challenges that go beyond just tinkering around with the trees” Charlotte says. “In farming, there is nobody professional showing you the ropes. I knew there were a lot of things I didn’t know, but I wasn’t sure what… I had only faced the challenges of the backyard, and had figured those out, but didn’t know what was beyond the backyard.”

This is exactly what program aims to do - give beginning farmers someone professional to show them the ropes. The job of the mentor is to answer those difficult questions, provide insight to nuanced practices, and share the knowledge that can only be accumulated by experience.

When they first met, Charlotte asked why Linda chose apples, given how difficult they are to grow. Linda responded by asking Charlotte why she would want to grow peaches, given the fact that they get brown rot. Charlotte responded, ‘you’ll have to excuse me, but I don’t know what brown rot is.’ Charlotte recalls, “right off the bat, that was a shock for me.” Thankfully she hasn’t experienced it yet, which she attributes to her use of minerals in the soil on the farm. Nevertheless, she was then prepared for what she would possibly see on the trees.

When they were first paired together, Charlotte visited Linda’s farm, about a 35-minute drive away, to see her trees. They walked the farm and discussed soil and trees. Charlotte was impressed by Linda’s beautiful trees and enjoyed hearing about some of her practices, including using nettle tea on them. Charlotte feels that she has already improved her pruning skills after seeing Linda at work.

Now Linda and Charlotte mostly communicate by phone - it is up to the mentor and the journeyperson to decide the frequency and content of communication. In the beginning of their partnership Charlotte saved up questions and went to Linda with a list. Now there is such synergy between them that Charlotte calls Linda frequently on a whim - with any type of question or concern.

Charlotte says of the match, “to have such a free and easy relationship is really a blessing… She is really a delightful person. If you had put me with a grumpy person, that would have been tricky… I had thought it was going to be me sticking my neck out there on my own, but now having someone give me some good advice is a godsend.”

This year Charlotte put in 50 trees and has the possibility of expanding this fall or next year. In the long term, she would like to do education for backyard orchardists. There are many people in her area who have 2-acre backyards that could produce food. For now, she is focusing on how to grow the best peach trees possible.

Charlotte is pleased that she has been able to have a two-way dialogue with Linda, truly using each other as resources in different ways. Charlotte was able to send a couple of her beehives over to Linda’s farm. This makes her feel that she is giving back in some way, which she enjoys. The NOFA/Mass Journeyperson program is a two-year program. Says Charlotte, “the length of the program is just right, and I have a feeling we’ll be friends afterwards.”

I asked Charlotte how she got interested in peaches. She laughed as she told me that she is really a beekeeper, but it was an initial interest in peaches that got her into bees. She had a few peach trees in her backyard, she just put them in the back of the property and figured they would do fine. However, the first year they didn’t get pollinated at all, so she got some bees. Now she considers herself a real beekeeper and the bees have done a wonderful job with the peaches. Finally she feels that she is ready to go back to the peaches. “It’s just peaches and honey here. In fact, if I have to register a business name, that’s what it will probably be, peaches and honey”.

To find out more about the NOFA/Mass Journeyperson program, visit http://www.nofa-mass.org/programs/beginning-farmer-program or contact Suzy Konecky at suzy@nofa-mass.org.
For decades, NOFA/Mass has been organizing and hosting winter and summer conferences, offering hundreds of workshops each year to thousands of farmers, gardeners, homesteaders, landscapers, and consumers. The workshops range from policy topics to nutrition to crop management and more, all with an eye toward using and supporting sustainable organic practices that improve the health and well-being of people and their environment.

Thanks to a grant from the USDA via the Massachusetts Department of Agricultural Resources (MDAR), this year we are capturing the teachings from many of the conference workshops – specifically those related to growing fruits and vegetables – and making them available in our newsletter and online. In doing so, we’re making lessons about organic practices more broadly available, building the beginning of what we hope will become a library of essential information for organic growers.

Look for additional installments in upcoming issues, and the full collection online at www.nofamass.org.

A Food Systems Approach to Hunger: Making the Connection for Communities and Foundations

By Sadie Richards

Liz Sheehan Castro was the Project Manager of the Hunger-Free & Healthy project (which ran from 2007-2012), and is currently the single paid staff of the Worcester Food & Active Living Policy Council. The council’s work is focused on urban agriculture policy. Ms Castro’s presentation focused on the Hunger-Free Healthy project as a case study of a project that used a food systems approach to address hunger as a public health issue. Ms Castro began her presentation by defining community food security as “a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice.” She then outlined three keys to the success of the project before delving into the six major components of the project in depth (see below). Ms Castro finished her presentation by discussing several keys to the sustainability of these initiatives after the project’s completion. She then concluded with several recommendations for organizations looking to secure funding (see below).

Hunger-Free & Healthy: A Case Study

**Origins:** Summer Feeding Project Success
**Funder:** Health Foundation of Central MA (provided $1.5 million)
**Timeline:** 2007-2012 (2007 planning, 2008 pilot, 2009-2012 implementation)
**Purpose:** Hunger as a Public Health Issue

**Keys to Success:**
1) Dedicated Funder
2) Strong, cooperative coalition of organizations formed through the project (Environmental Justice orgs, Public Health orgs, etc.)
3) Evaluation throughout the entire process (each component AND group processes were evaluated throughout; ~30% of funding went to evaluation)

**Project Components:** Systems and Behavior
1) School Meals
2) SNAP
3) Cooking Classes
4) Gardening
5) Farmers’ Markets
6) Policy Advocacy

1) **School Meals**
Reach: 2/3 of children’s meals are eaten in schools in Worcester
Need: 70% free and reduced
Success:
- 16 schools have breakfast in the classroom (those which have highest rate of students who are eligible for free and reduced lunch)
- Menus/sourcing changed: whole grain, fresh and local fruits and veggies
- Farm to School (local sourcing)
- Preferred Meals is the company that provides meals to
schools without cafeterias; when contract came up for renewal, changed contract to require “fresh and local as often as possible”
• High School renovation involved processing center for produce
• 10 Get Fresh, Get Local programs
• No high fructose corn syrup in milk (FNS director advocated to Garelick to remove it from their product)
• Wellness Policy (all MA schools must have one)
• School nutrition legislation to regulate a la carte items (passed in 2010, went in effect this school year)
• Provided positive, supportive relationship with school food director (no attacking, YEARS of relationship-building)

2) SNAP
Need: only 49% of eligible MA households participated in 2004
Success (as of 2011):
• 30 sites throughout city where people could enroll (staffed w/ non-profit people, not government staff; these included nail salons and other mobile/community locations)
• 200 new Worcester families on SNAP (60% success rate)
• Minimum of (at least) $253,000 in benefits secured
• 80% of applicants would not have applied without mobile advocacy and assistance
• In MA 77% eligible are participating
• Secured ongoing funding for outreach (which is still happening through Project Bread and Worcester County Food Bank)
• Hunger Question: 59% said they sometimes don’t have enough to eat, 27% often don’t

3) Cooking Classes
Share Our Strength Cooking Matters (national program) taught six-week classes at a variety of locations (including Housing Authorities, Boys & Girls Clubs, Community Education Centers) on weekday evenings (some parent- or grandparent-child weekday classes) tailored each class to participants
Need: Culture of convenience equals lack of cooking skills
Success:
• 115 adults and 15 youth graduated between 2008-2011. Classes maintained a 73% graduation rate.
• 73% are eating more vegetables
• 62% are eating more fruits
• 80% are eating more grains
• 47% are eating more low-fat or fat-free dairy
• 49% are eating more lean meats
• 90% improved their cooking skills

4) Educational Gardens
This piece was introduced in 2009 (not part of initial planning)
Required garden committee be created before garden was created at any school
One student group at one high school got school garden produce on the menu
Need: Students have little connection to where their food comes from
Success:
• Since 2010, 20 new gardens established in elementary, middle, and high schools (first garden was at adult learning center)
• Teachers and principals report high usage of garden
• Has promoted cross-subject integration: health, woodworking, math, writing, community service, life skills
• Secured three years of AmeriCorps VISTA support for dedicated staff (through Regional Environmental Council)
• Working on curriculum development

5) Farmers’ Markets
Need: No markets in low-income neighborhoods; none accepted SNAP; all mid-day, mid-week
REC conducted a short (~four week) pilot in a low-income area of Worcester which was very successful, so this became part of the project in 2009
Success:
• Main South Farmers’ Market has 300-500 weekly attendees
• Continued growth of sales and attendees
• Over 40% sales to low-income (SNAP/WIC/SC)
• Coupon sales equalled just under $4,000 in 2009, ~$9,500 in 2010, ~$13,000 in 2011
• Successful Mobile Market launched in 2012 (Regional Environmental Council)
• 50% off for all SNAP purchases (REC received a grant to subsidize prices)
• Maintains good/close relationship with health department

6) Policy Advocacy
Need: Sustainable Change
Success:
• School Nutrition Bill
• MA Food Policy Council bill (passed in 2010)
• SNAP Budget Increase (MA)
• Wellness Policy (Worcester)
• Relationships with local, state, federal officials (ex. Jim McGovern, also on Ag Committee)

Keys to the Project’s Sustainability:
Coalition and relationships
Regional Environmental Council (REC)
Farmers’ Markets, Cooking Classes, School Gardens
Received USDA grants to help fund this (partly due to data collected as part of the Hunger-Free & Healthy project)
Project Bread, Worcester County Farm Bureau,
Department of Transitional Assistance and SNAP
Diversified funding due to early successes
Continued advocacy
The Regional Environmental Council (REC) was formed in 1971 as Worcester residents fought an effort to site a landfill in the city’s largest public green space, Green Hill Park. Originally focused on traditional environmental issues, REC later decided to concentrate on the environmental issues affecting low-income urban communities, families, immigrants/refugees, and at-risk teens. In the 42 years since its founding, REC has grown from a small, all-volunteer entity to become the largest and most influential environmental justice organization in Central Massachusetts, bringing concerned residents together to address the environmental and social justice issues that impact low-income urban neighborhoods and communities of color. REC’s signature programs are: (1) Environmental Health and Justice - which focuses on urban environmental health issues through three initiatives: the Worcester Green and Healthy Homes Coalition; Weatherize Worcester; and Worcester Trash Action; and (2) Food Justice - which consists of four integrated and complementary initiatives that work to make healthy, affordable food accessible in Worcester’s most food insecure neighborhoods: YouthGROW; UGROW; REC Community Farmers’ Markets; and Share Our Strength’s Cooking Matters™.

Mobile Farmers’ Markets and Working Towards a Food Hub in Worcester

By Casey Burns

The city of Worcester, MA has both the needs and opportunities that make it fertile ground for REC’s expanded Farmers’ Market Program. As a city, Worcester has a higher overall rate of poverty than other communities in the state. Over 36% of residents live below 200% of the poverty level, a rate that is more than 50% higher than the statewide average of just over 21%. Over 63% of public school students are low-income vs. the statewide average of 28.9%.

1. The targeted neighborhoods have the highest poverty levels in the city and limited access to healthy, affordable food. The Main South neighborhood is representative of all six communities with 48% Latino, African American, or Asian residents.

2. The Great Brook Valley (GBV) housing development, which houses over 1,000 families (roughly 3,500 individuals), functions as its own neighborhood and has one of the highest poverty rates in the city. 73% of GBV residents are Hispanic, with a median family income of $12,354.

3. In addition, Worcester is a community of new immigrants, and the largest refugee resettlement community in Massachusetts, most recently welcoming refugees from...
countries such as Somalia, Bhutan, Burma, and Iraq.

REC’s Community Farmers’ Market Program is committed to providing affordable, quality, fresh, and locally produced foods to residents in the most underserved neighborhoods of the city, as well as supporting the sustainable livelihoods of small local farmers and food producers. Since the inception of the REC’s Food Justice Program, community-driven leadership has been a core value. All of the Food Justice projects are designed and implemented in partnership with participating grassroots community members. Approximately 8% of shoppers at the Main South Farmers’ Market completed a survey that provided REC with guidance on how to continue improving the market to meet the needs of a diverse consumer base.

The REC’s Food Justice Program is an initiative that focuses on building a sustainable local food system by connecting urban and rural sectors, developing entrepreneurial food projects at the grassroots level, and supporting urban agriculture.

In 2008, the Food Justice Program piloted the Main South Farmers’ Market (MSFM) for four Saturdays in September. In 2009, the Main South Farmers’ Market grew to cover the full season, every Saturday from June through October. MSFM is Worcester’s first Farmers’ Market designed with an explicit mission to connect low-income, inner-city residents with affordable quality food from local sources. The Farmers’ Market Program is committed to supporting small farms in Central MA that engage in sustainable practices and organic processes through developing markets for their goods. Included in the network of vendors are also REC’s YouthGROW urban farmers and small local producers of quality fresh food. The MSFM accepts Electronic Benefit Transfers (EBTs) through the Supplemental Nutrition Assistance Program (SNAP) as well as WIC and Senior Coupons.

In 2012, with the support of Harvard Pilgrim Health Care Foundation, a van donation from the WRTA, and numerous other funders, and drawing from the success of the Main South market, REC was able to launch the mobile market. In 2011, they piloted one day “mini markets” throughout the city that were used as initial sites for the 2012 launch. The 2012 season ran from August 27 to October 30 and made nine weekly stops two days a week and had over $15,000 in sales. REC worked with three farmers for the mobile market initiative YouthGROW (Worcester), Shultz Farm (Rutland), and Foppemas Farm (Northbridge) and were able to offer meat, dairy, eggs and produce. Sites included targeted low-income communities, low-income pilot market sites from 2011, WIC offices, senior centers, public parks, and low-income housing facilities. Outreach for the market was multifaceted and included street outreach, radio, print ad, public access TV, organizational networking and word of mouth (materials available in English, Spanish, Portuguese, Vietnamese, Arabic, and Nepali). The mobile market was also able to be used for education events and special appearances over the 2012 season, including the Worcester Kindergarten Initiative, StART on the Street, and neighborhood block parties.

For the 2013 season, REC plans to be able to expand the market to run June through October as well as to add a third day of stops bringing the total number to 14. REC was fortunate to receive a two year Farmers’ Market Promotion Program Grant which will enable them, among other things, to expand their relationship with Cooking Matters to be able to offer cooking demonstrations at the Main South and Mobile Market, and to expand educational materials. REC is excited to be able to include Worcester in the national trend of innovative healthy food access resources like mobile markets. Additional information on sales and pictures are attached. Interested collaborators or supporters can reach the REC farmers’ market coordinator at farmersmarket@recworcester.org.

Worcester Polytechnic Institute’s Center for Sustainable Food Systems

By Luke Pryjma

Science sometimes has the reputation of being cold and distant from the society its creations affect. WPI’s Center for Sustainable Food Systems is working to change that stereotype. Engineering students in their junior year at WPI have the opportunity to participate in a year-long field-based project that asks them to create social change.

Students at WPI are required to complete an Interactive Qualifying Project, or IQP. The IQP is meant to challenge students to address a problem that lies at the intersection of technology and human needs. Generally, these projects involve some analysis of how technology affects, and is affected by, individuals and communities. Many of the projects are proposed by external agencies, and most are done in teams. The students can choose a variety of off- or on-campus IQPs.
At the 2013 NOFA/Mass Winter Conference, five student groups presented their projects. The students chose to use their science training to solve a problem in our developing sustainable food system. In groups of three to five, students had the ambitious task of understanding a food system problem and helping to solve it.

Admittedly, some student groups felt their IQP was more dynamic than initially believed and hoped that future student groups would continue the project. All projects will be available to the public at WPI’s library website at http://www.wpi.edu/academics/library/find/iqp-mqp.html. (The Center for Sustainable Food systems will have a website shortly, but until then the library website is the best place to find project reports).

The first project presented was “School Foodscapes”. The goal was to understand what foods high school students eat and why. The students researched current food choice studies and showed choices are strongly influenced by proximity to food type, advertising, and income status. For a more personal understanding of why kids eat the food they eat, the group teamed up with the local Boys and Girls Club. They asked the kids who used the club to keep food diaries. After the diaries are finished, the group plans to discuss with the kids about their food choices. The group hopes their findings will affect future food justice policies in Worcester and nation-wide.

The second project presented was “Freight Farms”. The students in this group took the most engineering-centered approach toward helping our food system. They teamed up with an existing company, Freight Farms, which sells shipping containers that are converted into indoor farms. Freight Farms are pre-packaged hydroponic farms that can help grow food in urban environments and then transport the food over shorter distances. Freight Farms employs vertical, high-density growing in a fully automated environment. One difficulty the group had was determining the clientele for Freight Farms, so the team is researching the extent to which the freight farm model could be attractive not only to urban farmers, but to other growers who want to extend their growing season or to diversify their production. The goal of the group was to increase local food production through agricultural technology.

The third group presented a project called “Local Food Production”. They focused on policy and access for urban growing in Worcester. Working alongside the Worcester Food Policy and Active Living Council, the students set out to increase access to healthy, local food in Worcester. Their goal was to identify and help people overcome the hurdles of urban growing. They compiled information and made maps that will help people to grow food in the city, and to promote urban growing on a policy level. This group studied urban soil safety and laws in hopes to educate the public. The Local Food Production group hopes they will reach people concerned with urban growing through a variety of outlets. Using their research, they may create pamphlets, a website, and/or GIS maps.

The fourth group presented the project “Mobile Markets”. They set out to understand an existing mobile farmers’ market and how they could improve the model. Working with Worcester’s Regional Environmental Council, the students examined REC’s current mobile farmers’ market. Through studying mobile farmers’ markets across the country, the students identified various challenges and came up with ways to improve the model. Their goal was to increase access to healthy, local food through the use of their redeveloped mobile farmers’ market model, thereby strengthening the food producer-to-consumer connection. The students hoped their study of mobile markets would create incentive for others to use them.

The fifth and final group project was “Food Hub”. This group worked with the New Hampshire office of ATTRA, the National Sustainable Agriculture Information Service, and an organic farmer interested in creating a food hub. The goal of their food hub is to bring small farmers together to increase their ability to capture larger volume sales in institutional markets as well as marketing fresh produce to low-income communities in the region. They performed a feasibility study for the building of a regional food hub in Manchester, NH. Through their research they identified many food deserts in New Hampshire that are in need of more healthy local food.

At the conclusion of each group’s project, feedback was solicited from the audience to gather leads for possible alliances in their mission. Synergies between the groups were evident and helped strengthen each group’s project. WPI’s student base has taken an active role in supporting their local food system. The engineering students used skills indicative of their field, including technology, mapping, internet proficiency, and problem solving. They also stepped outside of their field to confront a food justice issue with a quality not often asked of science: compassion.

www.nofamass.org
Food For All: Local and Organic for the People

By Drew Love
NOFA/Mass CSA Connect Coordinator and Metro Boston Organizer

In December 2011, FRAC (Food Research and Action Center) published “A Half-Empty Plate: Fruit and Vegetable Affordability and Access Challenges in America.” The report uses data from a Gallup survey of over 1 million Americans and indicates that 13.8% of low-income households (incomes less than $24,000) had greater difficulty in accessing fresh fruits and vegetables while only 5.7% of households at a higher economic level (between $60,000 and $89,999) reported similar challenges. Of even greater concern is that 20.0% of the people who reported lack of access to and low affordability of fruits and vegetables also reported having poor health, while only 5.0% of the people who reported having excellent health also reported having difficulties accessing fruits and vegetables1.

This is partially what brings Tim Woods, a researcher from the University of Kentucky, to Boston in the late spring of 2013. Tim, in collaboration with the USDA, is researching innovative approaches to Community Supported Agriculture (CSA).

He first reached out to NOFA/Mass in early 2013 because of the work we had been doing to combat the statistics released by FRAC, by connecting low-income neighborhoods to local farms through our CSA Connect program, which began in 2012. The goal was to make healthy, local, organic food both geographically and financially accessible to low-income populations.

On the financial end, in 2012 NOFA/Mass worked with organizations such as Project Bread and the Dana Farber Cancer Institute to reduce the cost of CSA shares and allow low-income participants to make weekly payments, serving nearly 50 members across two sites.

The program essentially works as a match making service, connecting community based organizations in low-income neighborhoods to local MA farms. The community based organizations leverage their knowledge of the community and facilitate outreach, while the farm agrees to add on a new drop off site and work with a more flexible weekly payment system, as opposed to the more traditional pre-payment required by most CSAs.

By the end of 2012, the program had served nearly 50 CSA members in collaboration with Madison Park Development Corporation in Roxbury and East Boston Neighborhood Health Center and generated $20,000 in sales for local farms.

In 2013, the program has expanded to five sites, including Kennedy Community Health Center, Villa Victoria, and Malden Family Medicine Center with plans of reaching 100 CSA members. It is estimated that 80 of those CSA members are at 200% of Federal Poverty Level and below. Approximately 20-30 are SNAP (Supplemental Nutrition Assistance Program, or Food Stamp) recipients.

Permaculturist Mark Shepard to Keynote 2014 Winter Conference

By Cathleen O’Keefe
NOFA/Mass Winter Conference Coordinator

The Winter Conference welcomes Mark Shepard as keynote speaker and all-day seminar leader, January 11, 2014, in Worcester, Mass. Shepard is the CEO of Forest Agriculture Enterprises and runs New Forest Farm, the Wisconsin 106-acre perennial agricultural forest considered by many to be one of the most ambitious sustainable agriculture projects in the United States.

New Forest Farm is a planned conversion of a typical row-crops grain farm into a commercial-scale, perennial agricultural ecosystem using oak savanna, successional brushland and eastern woodlands as its ecological models.

Trees, shrubs, vines, canes, perennial plants and fungi are planted in association with one another to produce food (for humans and animals), fuel, medicines, and beauty. Hazelnuts, chestnuts, walnuts and various fruits are the primary woody crops. The farm is entirely solar and wind powered and farm equipment is powered with locally produced biofuels that are not taken from the human food chain.

Trained in both mechanical engineering and ecology, Mark has developed and patented equipment and processes for the cultivation, harvesting and processing of forest derived agricultural products for human foods and bio fuels production. Mark was certified as a Permaculture designer in 1993 and received his Diploma of Permaculture design from Bill Mollison, the founder of the international Permaculture movement.

Mark is founder and board President for Restoration Agriculture Institute and serves on the board of the Southwest Badger Resource Conservation and Development Council. He teaches agroforestry and Permaculture worldwide. Mark is a farmer member of the Organic Valley cooperative, the world’s largest Organic Farmer’s marketing co-op, and is the founder and Master Cider Maker for the Shepard’s Hard Cyder winery in Viola, Wisconsin.
To organic farmers everywhere for treating their animals and the earth with care and treating us with some of the finest organic ingredients around, thanks.

vonTrapp Farm, VT
One of the Organic Valley family farms that supply milk for our yogurt
From Field to Fridge

Farms listed in the NOFA/Mass Organic Food Guide have the opportunity to highlight here what they currently have available for sale. Pick up some of their goods and help support your local organic and sustainable farmers today!

If you would like your farm or business listed on the Organic Food Guide website, contact Rebecca Buell at foodguide@nofamass.org or 978-724-3561.

To access a farm's full Organic Food Guide listing, click on that farm's name.

Agraria Farm
17 Willard Ave, Rehoboth, MA
508-336-3823
agrariafarm@gmail.com
www.agrariafarm.com
We sell off our website where there is a weekly listing beginning June 1. Our customers either arrange farm pickup or we deliver. This year we are adding to our common and uncommon fruit: strawberries, raspberries, blackberries, elderberries, gooseberries, currants, ligonberries, figs, and melons. See our site for when these are in season. We are adding apricots, plums, persimmons, and more blueberries for upcoming years. We also have limited mushrooms, greens mixes, herbs, honey, and eggs, as well as a range of value-added products for sale on farm or delivery.

Billingsgate Farm
6 County Road, Plympton, MA
781-293-6144
farmgirl@billingsgatefarm.com
billingsgatefarm.com
Opening June 1. Monday-Friday 10 a.m. to 6:30 p.m.; Saturday and Sunday 9 a.m. to 6:30 p.m.
Beans, beets, herbs, lettuce, peas, and radishes.

Blue Heron Organic Farm
PO Box 67, Lincoln, MA
781-254-3727
farmer@blueheronfarmlincoln.com
www.blueheronfarmlincoln.com
Come to our Organic Plant Sale on the farm in June! Veggie, herbs, and flower plants. We sell to many Boston area restaurants; please see website (click on ‘Restaurants’) for seasonal availability. The farm stand is open Thursday-Sunday 10 a.m. to 5 p.m. We are at three farmers’ markets a week. Visit website for details. Please email the farmer if interested in volunteering in 2013!

Cape Cod Organic Farm
3675 Main St (Route 6A), Barnstable, MA
508-362-3575
info@capecodorganicfarm.org
capecodorganicfarm.org
Open Daily. Weekdays 9 a.m. to 5:30 p.m.; Weekends 9:30 a.m. to 4:30 p.m.
Certified Organic Eggs, Pork, Seeds and Seedlings. An array of certified organic produce available starting mid-June. Organic piglets for sale. Large Black and Tamworth crosses. They will be ready at the end of July. Cost is $250.

Chestnut Tree Corner Farm
1581 Pine St, Dighton, MA
sshinn11@gmail.com
chestnuttreecornerfarm.net
Saturdays 9 a.m. to 5 p.m. Self-serve table out front. Rhubarb, horseradish, garlic scapes.

First Root Farm
55 Old Bedford Road, Concord, MA
firstrootfarm@gmail.com
www.firstrootfarm.com
We have farm bucks available for use in our weekly farmstand, Saturdays 2-5pm at First Root Farm in Concord. Buying farm bucks is like buying credit in the First Root market. Our farm bucks come in increments of $5. You can buy as many as you want. For every $50 you spend, you get a free $5 farm buck—that’s a 10% discount on vegetables! You can redeem your farm bucks for vegetables on Saturdays (2-5pm, starting June 15th) at First Root Farm, 955 Lexington Road, Concord. Visit our website for more information and to buy your farm bucks today.
Kale, chard, broccoli, cabbage, arugula, lettuce, bok choy, sugar snap peas, beets, radishes, turnips, scallions, spicy greens, garlic scapes, kohlrabi, collard greens
Golden Oak Farm
44 Plain Road, Hatfield, MA
dandp2002@yahoo.com
http://www.goldenoakfarm.us/
Farm Stand is located in front of the vegetable gardens on the farm. Open daily from 8 a.m. to dusk from April 15-Nov 15.
We use sustainable, nutrient density practices to produce the best quality vegetables we can. In June: Peas, greens/mesclun, spinach, rhubarb, Swiss chard, beets, radishes, flowers, strawberry and strawberry-rhubarb jam, dried and fresh herbs, eggs, cut your own herbs: thyme, chives, garlic chives, oregano, marjoram, sage, parsley; and house plants. Also offering cut comfrey for your laying hens. Our laying chickens have a large outside pen plus movable access to new areas. The hens are fed fish and greens and alfalfa mash to raise omega 3’s and beta carotene.

Heritage Fields
309 Gidney Road, Orange, MA
978-544-3282
rachelscherer@yahoo.com
Open by appointment
2013 LaMancha kids (does, bucks, or wethers); 2012 yearling does; and frozen chevon.

Hettie Belle Farm
Warwick, MA
978-544-6241
jennifer@hettiebellefarm.com
www.hettiebellefarm.com
Shelburne Falls Farmers’ Market, Fridays 2 to 6 p.m.
We are currently signing up members for our Meat CSA which includes 100% grass-fed beef & lamb, and pastured and organically-fed pork, chicken and duck. Also available: pastured, organically-fed turkeys and geese.

High Meadow Farm
28 High St, Hubbardston, MA
978-928-5646
jassy.bratko@gmail.com
www.highmeadowfarms.com
9 a.m. to dusk daily
100% grass-fed beef, woodland raised pork, pure raw honey

Long Life Farm
205 Winter St, Hopkinton, MA
508-596-1651
laura@longlifefarm.com
www.longlifefarm.com
Farmers’ Markets in Hopkinton, Sundays 1 to 5 p.m.,
animals. We also carry other local products including bread, cheese, yoghurt, ice cream, beef, pickles and sauerkraut, dressings and salsas, miso and tamari, honey, maple syrup, and kombucha.

Newton Community Farm
303 Nahanton St, Newton, MA
617-916-9655
newtoncommunityfarm@gmail.com
www.newtoncommunityfarm.org
Tuesday-Friday 2 to 7 p.m.; Saturday 10 a.m. to 2 p.m.
Lettuce, green garlic, garlic scapes, herbs, radishes, sweet turnips, kale, spinach, arugula, kohlrabi, scallions, rhubarb, carrots, beets, cilantro, dill, basil, oregano, thyme, lemon balm, mint, sage, chard, broccoli

Red Fire Farm
Granby Farm Stand at 7 Carver St, Granby, MA
Montague Old Depot Gardens Farm Stand at 504 Turners Falls Road, Montague, MA
413-467-7645
thefarmers@redfirefarm.com
www.redfirefarm.com
Farm stands open daily 9 a.m. to 8 p.m. Farmers’ Markets at Boston South Station, Tuesdays noon to 6 p.m.; Springfield Forest Park, Tuesdays 12:30 to 6 p.m.; Amherst Kendrick Park on Wednesdays 2 to 6 p.m.
Organic strawberries. Delicious greens like spinach, mesclun mix, arugula, tender kale and collards. Sweet spring hakurei turnips, bunched beets, orange carrots, spring cabbage and broccoli, cucumbers, red radishes, many varied herbs, and more. Later as we get towards July... Bunched onions, green beans, tomatoes, peppers, garlic, summer squash, zucchini, blueberries, sweet corn and perhaps the first new potatoes in many colors! Summer CSA Farm Shares, and Farm Stand Memberships that give discounts at our markets and stands are available now for a summer full of good food. Plus the stands keep a wide array of local products, like milk, honey, maple syrup, artisan cheeses, jams and more. Come visit!

Robinson Farm
42 Jackson Road, Hardwick, MA
413-477-6988
info@robinsonfarm.org
www.robinsonfarm.org
Farm Stand open daily 7 a.m. to 7 p.m.
Our “Award winning” Farmstead aged cheeses (cow), grass-fed beef/veal, raw milk, Sidehill Farm yogurt, Westfield Farm goat cheese, Hardwick Sugar Shack maple syrup, honey, jams, “Real Pickle” fermented veggies, and seasonal vegetables from Stillman’s Farm. Visit our website for retail locations and restaurants, or contact us for wholesale cheese orders. New in 2013! Arpeggio, a soft, washed-rind cheese, strong aroma, beautiful finish, aged 60-120 days. Yummy! Also, starting in May we will have raw milk in glass bottles!

Sidehill Farm
58 Forget Road, Hawley, MA
413-339-0033, info@sidehillfarm.net
www.sidehillfarm.net
Our farm shop is open seven days a week, 7 a.m. to 9 p.m. and you can find us at the Saturday Amherst Farmers’ Market (7:30 a.m. to 1:30 p.m.)
Raw Milk, yogurt, and beef from grass-fed cows in the farm shop. Come visit! Yogurt and Solar Smoothies at the Amherst Market.

Steady Lane Farm
144 Steady Lane, Ashfield, MA
413-628-4689, farmer@steadylanefarm.com
www.steadylanefarm.com
Self-serve from the farm anytime. Call for instructions! We offer 100% grass-fed beef, dry aged to perfection. Cuts are approximately one pound in shrink-wrapped packages and frozen. Quantities of 100 pounds or more are available at discount. Provisioning for charcuterie or butcher: fresh primals available on request.

The HERB FARMacy
30 Elmwood St, Salisbury, MA
978-834-7879, thymeout@theherbfarmacy.com
www.theherbfarmacy.com
Retail greenhouses open to the public everyday from 9 a.m. to 5 p.m. Farmers’ Markets in Lexington, Tuesdays 2 to 6:30 p.m.; Cape Ann, Thursdays 3 to 6:30 p.m.; Marblehead, Saturdays 9 a.m. to noon; and Newburyport, Sundays 9 a.m. to 1 p.m.
Over 1000 varieties of certified organic potted plants – culinary and medicinal herbs, old-fashioned flowers, heirloom veggie seedlings and native plants. We can help you get your garden growing! Coming in the field: fresh cut flowers for weddings and special occasions. Call or email for more details.

Warm Colors Apiary
2 South Mill River Road, South Deerfield, MA
413-665-4513
warmcolors@verizon.net
www.warmcolorsapiary.com
Wed, Fri, and Sat 10 a.m. to 5 p.m.
Varieties of Honey, beeswax candles, and beekeeping equipment and supplies.
Events

Scaling Up the Beginning Farm with Innovation and Appropriate Technology
Tuesday, July 9 - 3:30-6:00pm followed by potluck dinner
Juniper Hill Farm, 82 Loukes Ln, Wadhams, NY
On-farm equipment hacks and energy efficiency are effective strategies to increase output and scale up the farm, but how does the smart farmer prioritize projects and maintain a low cost for making such improvements? At Juniper Hill Farm, the answer has been a mixture of DIY ingenuity to hone just the right infrastructure and tools, along with taking advantage of incentives and grants to implement the costlier infrastructure needed to run the farm well. A tour of Juniper Hill Farm will show how farmer Adam has been able to rapidly expand the amount of acreage in production through this combination of on-farm improvements, incentive programs and dynamic CSA marketing ideas.

Essentials of Organic Grain Growing
Wednesday, July 10 - 2:00-6:00pm
Lineage Farm, 492 Route 217, Hudson, NY
Learn how to make good use of the land on your small farm with grain rotations using heritage and modern strains of wheat, rye, field corn (for milling), and more. Lineage Farm's Jen Carson and Jon Ronsani will show off their fall-sown wheat and this year's polenta corn. NOFA-NY Grain Coordinator Robert Perry and OGRIN's Elizabeth Dyck will join Jen and Jon in teaching the essentials of organic grain growing, including variety and seed sourcing, planting and monitoring the crop, and harvesting at the appropriate point for processing.
To register, contact Stephanie at 585-271-1979 ext. 509 or by email at register@nofany.org or shop online at events. $10/person and $15/two of more people per farm. Registration Deadline: 5pm July 5

Rain Garden Unveiling in Wellesley
Saturday, July 13; 10:30am-12pm
The Natural Resources Commission (NRC) of the Town of Wellesley is installing a rain garden and other Low Impact Development (LID) features such as porous pavers near the Duck Pond of the Town Hall grounds this summer. Landscapers are invited to attend the unveiling, especially those residing/working in Norfolk county.
For more information, contact Janet Bowser at jbowser@wellesleyma.gov or 781-431-1019. ext. 2294.

Management Intensive Rotational Grazing
Tuesday, July 16; 6:00 - 8:00pm
Normanton Farm, Litchfield, NH
Join Steve Normanton for a tour of Normanton Farm, an organic, pasture-based meat and vegetable farm in Litchfield, NH. Steve will take us for a walk about his pastures, which are set up for management intensive rotational grazing, both as a means to improve soil and reduce supplemental feed costs. He’ll share his experience developing his grazing system, and answer questions about his management decisions and techniques.
To attend the workshops or find out more information, please contact Ray Conner, Beginner Farmer Program Coordinator, bof@nofanh.org or (603) 224-5022

Workshop Series on Gardening and Homesteading
Wild Browse Farm, Wendell, MA, 10:00am to 1:00pm
Gardening Series - August 17, and October 12
Learn the basics of Organic Gardening through the seasons with lecture, discussion, and hands-on experience.
Homesteading Skills Series - July 14-Poultry; September 21-Harvest and Preservation; November 9-The Homestead Woodlot

Workshops led by Pru Smith and Sharon Gensler at Wild Browse Farm and Sustainability Center. All workshops will be hands-on. Space permitting, no one will be turned away for lack of cash. Barter will be considered.
Register/more info. 978-544-6347 (before 9 pm) or wildbrowse@yahoo.com
**COMMUNITY HAPPENINGS**

**ANNOUNCEMENTS**

**Worcester State University Community Garden Seeks Shed Donation**

Last summer WSU students, faculty and staff built a new community garden with little funding. They are seeking a donated shed in which to keep tools, hoses and supplies but have not had luck pursuing the usual channels - contractors, big box hardware stores etc. If you have a shed to donate, please contact Steve Bandarra at sbandarra@worcester.edu.

**Social Impact Capital Available for Established, Organic Farmers**

New Spirit Farmland Partnerships and Northeast Farm Access are seeking established, organic farmers who need access to additional crop or pasture land to sustain and expand their current operations, or who need help to maintain access to land they are already leasing. Our network of social investors support organic agriculture by connecting social impact capital with farmers. They are prepared to invest in pasture and/or cropland valued at $400,000 or more.

Established farmers with a history of past performance are encouraged to apply. For more information, contact Michelle Russell, Farmer and Farmland Outreach Coordinator Phone: 603-547-0893 Monday – Thursday between 2:00 p.m. and 5:00 pm or email: michelle@nefarmaccess.com

**Expanded Grant Program Makes SNAP Terminals Available to Growers Selling at Farmers’ Markets**

The funds are intended to expand the availability of wireless point-of-sale (POS) equipment in farmers’ markets not currently participating in SNAP. Individual direct marketing farmers who are participating in farmers’ markets that have not yet committed to SNAP participation are now eligible.

Applications from farmers will be reviewed on a first come, first served basis until the farmer application deadline of June 21, 2013. Funding is also still available for farmers’ markets. Eligible farmers markets can receive one wireless terminal.

For more information, contact David Webber, 617-626-1754 or David.Webber@state.ma.us.

**Downtown Pittsfield Farmers’ Market Seeking Workshop Presenters**

We are looking for people to lead workshops on very popular subjects, such as raising chickens in an urban environment, raising bees, urban gardening, soil, growing mushrooms, fermentation, pickling, pruning, foraging, etc. 1/2 an hour to an hour would be great. We are also open to other workshop suggestions.

We are looking for the following dates (all Saturdays):
June 22, July 27, August 24, September 28, October 26
The market runs from 9am - 1pm.

If you would be willing to present or know someone else who may be willing, please contact Dawn at newdawnhealing@gmail.com.

**Great Falls Farmer’s Market is looking for local vendors!**

Wednesdays 2:00 to 6:00 pm May–October near the Discovery Center on Avenue A, Turners Falls. Sell plants, flowers, eggs, meat, vegetables, baked goods, maple syrup, honey, crafts etc. Can’t be there every week? No problem! $5 fee for setup each time, community organizations pay no fee. Find them on Facebook! Contact Don Clegg (413) 336-3648, greatfallsfarmersmarketturners@gmail.com or at http://www.greatfallsfarmersmarket.com/
Northeast Organic Farming Association
39th annual Summer Conference
University of Massachusetts
Amherst, MA
August 9-11, 2013

- Over 200 workshops on farming, gardening, land care, nutrition, food politics and more!
- Five pre-conferences: bees, flowers, poultry, profitability and soils!
- Over 100 exhibitors, live entertainment, children’s and teen conference, country fair, organic meals, dorms or camping!
- Keynote address by Atina Diffley: Minnesota organic farmer, land-use advocate, author and educator.
- Debate: Is organic certification right for you?

www.nofasummerconference.org

Save the date!
Thank you to Spring 2013 Appeal donors in May

Jean-Claude Bourrut
Lacouture
David Falk

Susan & Tom Powers
Rev. Janet V. Sandquist-Skagerlind

Richard W. Skarin
Cyd Reiman

New and Renewing NOFA/Mass Members in May

Leslie Ardisson
Muthu Arumugam
Alexandra Ash
Robert Ayres
Gordon Bemis, John Bemis, and Brian Cramer
Paul Benjamin
Jane Lyman Bihldorff
Shemariah Blum-Evitts
Margaret K Bradley
Jassy & Tom Bratko
Casey Farm
Karen Chaffee
Hedy Christenson
Susan Coles & Courtney Schlosser
Curtis Coolidge
Leesa Crocker
Alison Denn
Ketylina DeRenzis
Tricia Diggins
Priscilla Donahey
Christie Dustman, MCLP
Thomas Dzaugis
Carol Engleender
Robin Fielding
Lynn and Len Fisher
Lisa Fisher
Tim Friary
Michael Galasso

The Girasole Family
Ted Goodnight
Michael Heitke-Felbeck
Sally Hilgendorff
Linda Hoffman and Blasé Provitola
Michael Horan
Julie Hyde
Shawn Ilinitch
Ruth & Michael Ireland
Ellen Jenkins
Phil Jones
Pamela Kantarova
Sheri Kaufmann
Philippe Kelty
Kate Kennedy
Harlan Ketterling
David Kleinschmidt
Kimberly Ladue
John and Martha Lazarus
Jamie Lombardo
Greg Luckman
Dave and Kerri MacDonald
Peri McGuinness
Frederick M. Newcombe
Annmarie and David Niemela
Megan Pacelli
Fran Peterson
Susan Phelan

Sheri & Darren Pierce
Walter Punch
Anne Richmond
Mary Robinson
Ruthann Rudel
Adele Rustino and Warren Carberg
Adam Sacks
Pamella Saffer
Christine Samoiloff
Christine Serrentino
Adrienne Shelton
Sirois Family Farm
Ros & Dan Smythe
Russell Stafford
Hillary Stasonis
Marilyn and Steven Strong
Silvia Styles
Jennifer Thorne
Mary Trumbauer
Ann Uppington
Waltham Community Farms
Dorothy Weaver
Diane Welch
Daniel Whittet
Seth Wilkinson
Rus Wilson
**NOFA/Mass Workshops**

**Raising Grazers with Grain-fed Animals**  
Saturday, June 22; 2pm to 5pm  
Simple Gifts Farm, North Amherst, MA  
Cost: $25 NOFA members; $31 non-members  
This workshop helps producers plan how to integrate multiple livestock species into a whole farm system. While the primary focus of this farm is vegetable production, livestock make crucial contributions to the whole of the farm. This workshop will cover scale thresholds that make animal operations an appropriate size relative to labor input, market potential, and husbandry needs. Each species will be considered for its needs, its economic value, as well as its contribution to overall farm functioning. The presentation focuses on synergies between grazing animals (cattle and sheep) and grain-fed animals (chickens and pigs), using annual cover crops as forage, creating a farm budget, managing production, and scheduling slaughter dates. Marketing discussion will present combined approach to CSA, direct retail, farmers’ market, and restaurants. Instructor: Dave Tepfer

**Stormwater Solutions at Mount Auburn Cemetery**  
Wednesday, July 10; 10am to noon  
580 Mount Auburn Street, Cambridge MA  
Cost: $20.00 ELA or NOFA members; $25 non-member  
Uncontrolled storm water, drought, and fire are major issues we must address in the face of global climate change. Habitat is more at risk than ever. Environmental stresses lead to habitat degradation and water quality concerns, especially in species reproductive habitat. Efforts must be implemented to preserve and protect wherever we can. Effectively dealing with nonpoint source pollution associated with sediment-laden runoff is a key aspect to an effective stormwater management plan. In the past few years, Mount Auburn Cemetery has completed several projects to address habitat preservation and water quality in their water bodies. Instructor: Paul Kwiatkowski. Sponsored by Ecological Landscaping Association. Registrations are limited! For more information email ela.info@comcast.net or Call (617) 436-5838. Register online: https://www.eventville.com/catalog/eventregistration1.asp?eventid=1010462.

**Organic Farming 101**  
Saturday, July 13 & Sunday, July 14; 9am to 4pm  
Many Hands Organic Farm, Barre, MA  
Cost: 244.50 (To register call 508-929-8127 or email dgce@worcester.edu)  
NOFA/Mass is partnering with Worcester State University to offer this 1-credit, hands-on, summer weekend course. Combine hands on work with discussion of principles of organic growing. Besides participating in daily animal chores and one or two specific field tasks, the participants will harvest and prepare lunch on both days. Topics include sustainable farm systems, appropriate energy use, recycling and resource conservation. Instructors: Julie Rawson & Jack Kittredge.

**Certified Organic Poultry, Pigs, Steer, and Worms**  
Saturday, July 27; 10am to 3pm  
Many Hands Organic Farm, Barre, MA  
Cost: $30 NOFA members; $38 non-members  
In this workshop, Julie will discuss and participants will see two sizes of meat birds, layers, brand new turkeys, pigs, cows, and worms. Participants will learn about the management of all these species and their relationships to each other on this tightly organized and rotated farm system, which includes 2 ½ acres of vegetables and...
1 acre of orchard. The workshop covers feeds, housing, pasturing, woods management, rotations with crops, sprouted grains, brooding, marketing, and finances. Participants have the opportunity to help slaughter some chickens. Instructor: Julie Rawson

**Summer Foraging**
Sunday, July 28; 2pm to 3:30pm
Brookline, MA  
Cost: $24 NOFA members, $31 non-members  
This workshop seeks to reflect the simple logic of finding food and resources in the places where the wild things grow. Our workshop will take a 1.5 hour long walk, answering questions as they come, learning a handful of species that grow local to Boston, and preserving some ancient and inherently useful knowledge. We will walk (nature permitting) through some of the very same areas of south Brookline where our facilitator first started foraging.

**39th Annual NOFA Summer Conference**
Friday, August 9 – Sunday, August 11  
University of Massachusetts, Amherst, MA  
For more information, visit http://www.nofasummerconference.org  
Join NOFA for a weekend of learning, networking, and fun with people who are transforming the food system in the Northeast. In addition to hundreds of practical skills and farming workshops, the conference features live entertainment, children’s and teen conferences, a country fair, organic meals, 100 exhibitors and much more.

**100% Grass-Fed Seasonal Raw Milk Dairy**  
Saturday, August 24; 2pm to 5pm  
Blue Hill Farm, Great Barrington, MA  
Cost: $25 NOFA members; $31 non-members  
The workshop will cover the basics of raw milk production, seasonal dairy management, and intensive rotational grazing, as well as fencing options and water systems for cows and calves. Participants will meet at Blue Hill Farm and view all aspects of milk production from the milking machines to the pastures. Instructor: Sean Stanton