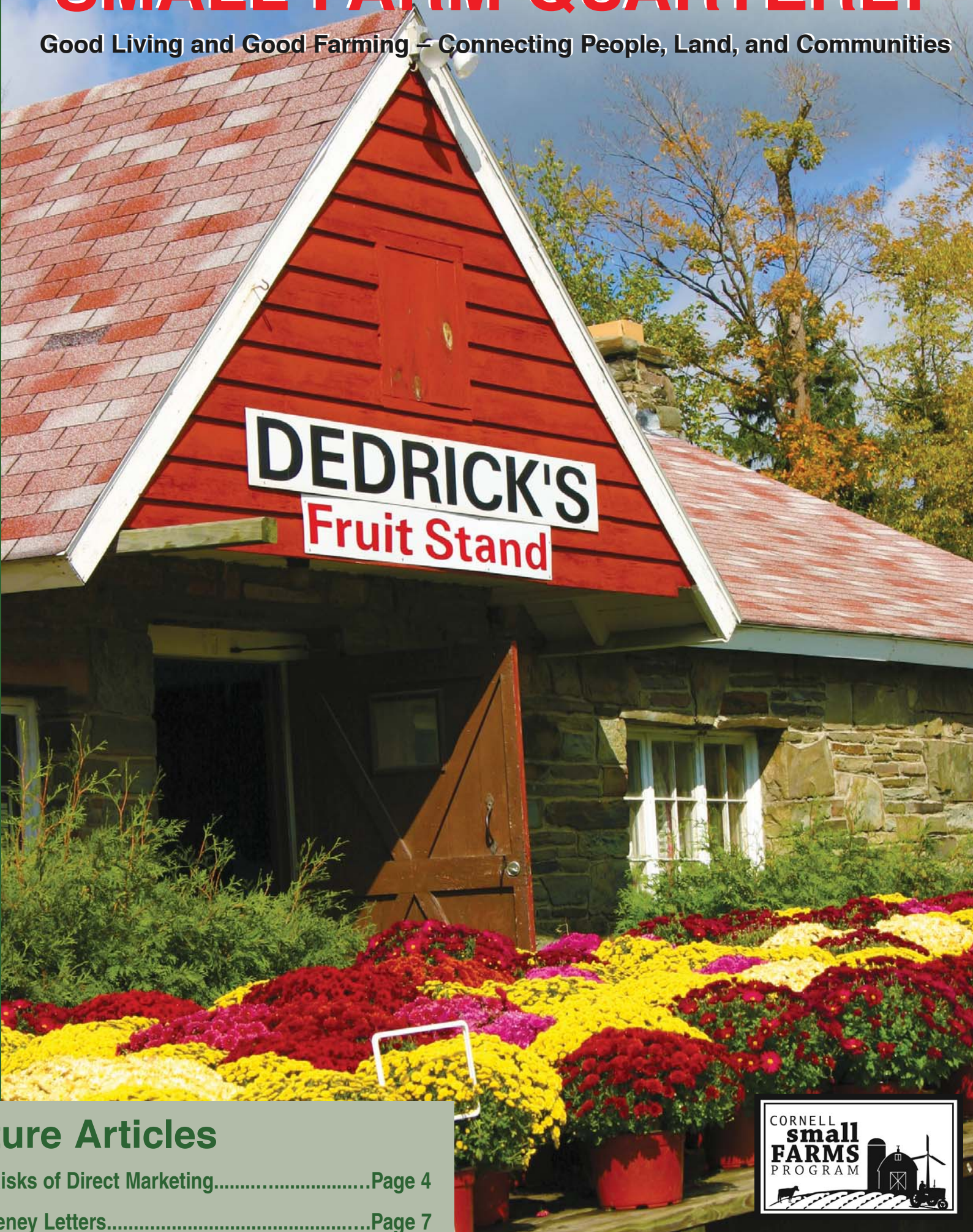


FALL 2012

# SMALL FARM QUARTERLY

Good Living and Good Farming – Connecting People, Land, and Communities



## Feature Articles

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# SMALL FARM QUARTERLY - FALL 2012

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Cover photo credit: Dedricks Fruit Stand in Dryden, NY sells produce and garden plants from May – October. Photo by Violet Stone

## SMALL FARM QUARTERLY

Good Farming and Good Living —  
Connecting People, Land, and Communities

*Small Farm Quarterly* is for farmers and farm families — including spouses and children - who value the quality of life that smaller farms provide. It is compiled by the Cornell Small Farms Program, based at Cornell University in Ithaca, NY. The Cornell Small Farms Program fosters the sustainability of diverse, thriving small farms that contribute to food security, healthy rural communities, and the environment. We do this by encouraging small farms-focused research and extension programs.

#### OUR SMALL FARM QUARTERLY GOALS ARE TO:

- Celebrate the Northeast region's smaller farms;
- Inspire and inform farm families and their supporters;
- Help farmers share expertise and opinions with each other;
- Increase awareness of the benefits that small farms contribute to society and the environment.
- Share important research, extension, and other resources.

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## Cornell Small Farms Program Update

### Fall, Winter, and Spring Online Classes for Small Farmers

Whether you are a seasoned, new, or aspiring farmer, there's something for you in our 2012-2013 line-up of online courses.

There are courses covering commercial production topics like raising veggies, berries, and poultry, and many more covering management of a successful farm, including business planning, holistic financial planning, marketing, and getting started in farming. Take advantage of this opportunity to interact with other farmers, develop your farming plans, and learn new skills from the comfort of your own home. Most courses are 6 weeks long and a bargain at \$200 each.

Learn more at <http://nebeginningfarmers.org/online-courses>.

### Guide to On-Farm Poultry Slaughter

We are pleased to announce publication of our new On-farm Poultry Slaughter Guide, geared toward farmers that process less than 1000 birds/yr. The guide outlines the challenges of small-scale on farm processing, such as getting liability insurance. Designed to complement a hands-on training in how to properly kill and prepare a poultry carcass for sale, this guide focuses on the critical points for producing a product that is safe to eat.

This 28-page guide contains sections on the

1000-bird limit exemption, where you can legally sell your birds under this exemption, labeling requirements, sanitary operating procedures and more. It includes several appendices, such as a sample flock record log and a questionnaire that your insurance company may use to assess your knowledge of safe poultry processing practices.

If you process less than 1000 birds/year on your farm, following the practices in this guide doesn't guarantee that you'll find an insurance company willing to provide you with liability insurance. But demonstrating to insurers your knowledge of best practices in poultry slaughter and processing may help convince them that you're not a high-risk operation. Download the guide at [www.smallfarms.cornell.edu](http://www.smallfarms.cornell.edu)

### Figs and Farm Energy

What do figs have to do with farm energy? Come out and visit Leo Seimion's 25 acre organic farm in Summit, NY on October 5th to find out. Leo is growing oranges, lemons and figs in his greenhouse which is warmed by radiant heat. He also has a 9.4 KW grid tied PV electric system and a roof mounted evacuated tube solar hot water system, among many other energy conservation and renewable energy features. The farm energy field day is the first of a series offered throughout New York during the month of October. For the full schedule and to register, visit [www.smallfarms.cornell.edu](http://www.smallfarms.cornell.edu)

### Do you like to write about farming? Be a contributor!

We currently have writer/editor positions open for the following columns: "Local Foods and Marketing"; "Business Management"; and "Farm Energy". We are especially looking for editors and writers from outside of New York State, so that we can improve our coverage of New England and Pennsylvania. All SFQ editors and writers are volunteers. If you're interested, please contact Violet Stone at 607-255-9227 or [vws7@cornell.edu](mailto:vws7@cornell.edu).

## Join the Conversation

Have a resource, opinion, or question to share? – Post a response to our online Small Farm Quarterly blog at [www.smallfarms.cornell.edu](http://www.smallfarms.cornell.edu), send us an email, message us on Facebook or send us an old-fashioned letter.

Our email is [smallfarmsprogram@cornell.edu](mailto:smallfarmsprogram@cornell.edu)

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## Message from the Managing Editor

Happy Fall! Is your kitchen getting foggy with steam rising from scalding ripe tomatoes? One of my favorite childhood memories of Fall is spending time in the kitchen with my mother and sisters boiling apples to crank through our hand-operated applesauce maker. The warm, sweet aroma of applesauce permeated the air and the heat rising from the pot kept autumn's chill from pressing in at the windows.

One of the nicest things about farming and gardening is the evocative nature of it. The experience of growing food and raising animals abounds with so many rich colors and aromas that it creates lasting impressions for many of us. This struck me clearly while reading through letters from Stuart Cheney, a 78 year old Vermont farmer whose memoirs we are introducing in this issue. While recalling farm memories from 7 decades earlier, he brings the sensory experience right to the surface. He describes hanging freshly butchered pork in the pantry as a young boy: "The salt pork shoulders and ham went into the crocks with brine to cure,

before we hung them in an old barrel and smoked them with nice dry apple wood. Later on, when winter moved in we cut some of the cured salt pork

up into one-inch squares and put them in a kettle. We set the kettle on the back of the wood stove. After the pork was melted down, we poured off the lard to get the tastiest fat scraps to eat - nothing better. Yum, yum!" I think you'll enjoy his vivid recollections of farm life in the 1940s over the next few issues. Flip ahead to "The Cheney Letters" to read more.

Do you have a memory of this or past farming seasons to share as we slip into a more reflective season? As always, we love to hear from you. Drop us a line anytime!

Best wishes,

Violet



## BOOK NOOK

## The Business of Growing Green Ideas

### Two Publishers Specialize in Small Farm and Sustainable Living Books

by Jill Swenson

Growing the seeds of good ideas into books is akin to farming in some respects. In publishing, like in farming, there are large multinational, multimillion dollar corporations dominant in the industry. Yet, the groundswell of good books about small scale farms, seasonable cuisine, and sustainable living reflects the growing market for good ideas. You may have noticed more books of interest in the feed store, the hardware, the farmers market, and library.

It's interesting to note that many big commercial publishing houses now see small farming and homesteading topics as an emerging sector of the book market. But it's most heartwarming to know about two publishers dedicated to small farm subjects whose success results from readers who are local, grassroots, and organically grown.

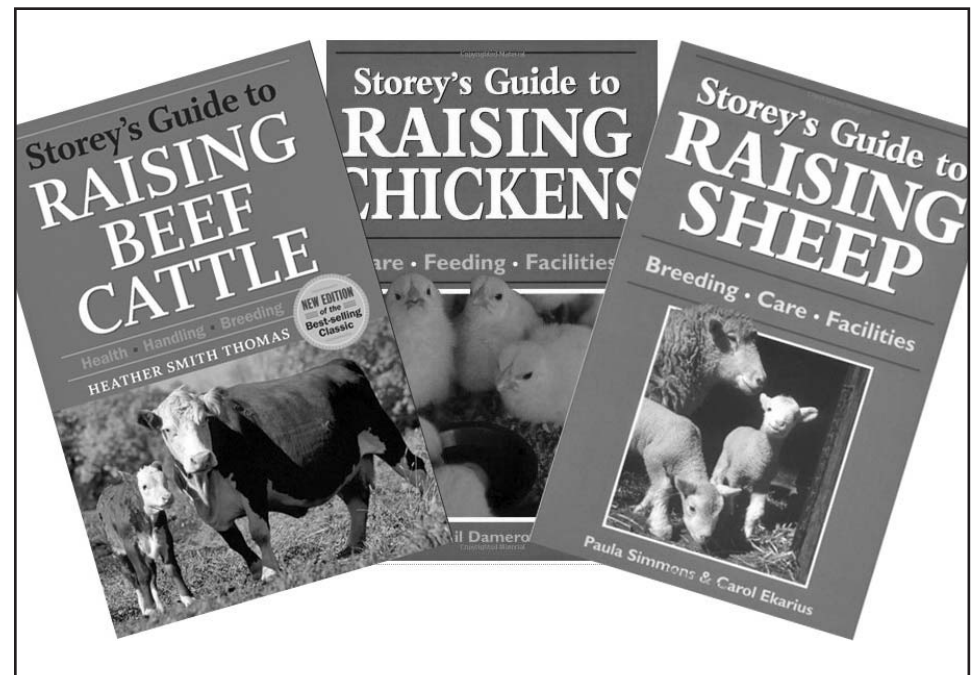
### The Story behind Storey Publishing

Most farmers don't have much time to sit around and read. But there are a few

books kept handy for reference on most small farms. If you pull it off the little shelf by the old telephone, dirty thumbprints, stained pages, and a torn cover provide the evidence of its utility as a reference. Open the inside cover, and I'm guessing the book is published by one of two American publishers dedicated for a quarter century to providing books about small scale sustainable farming.

Storey Publishing began as an independent publisher in

Cont. on page 4





## ***FARM BUSINESS MANAGEMENT***

# Legal Risks of Direct Marketing Your Product

by Jason Foscolo

There has never been a better time for New York farmers to sell their products directly to consumers. The number of farmers markets is growing exponentially, and public interest in local foods has never been higher. Our farmers now have more options than ever to get their products directly to consumers.

Farms transitioning into direct marketing need to consider how changes in their business plan might affect their legal exposure. Agricultural producers may be unwittingly exposing themselves to civil liability for illness or injury caused by their products.

In New York State civil lawsuits, all food producers are held "strictly liable" for the harm caused by their products. Strict liability is a legal standard of care which is best described as liability for injury without regard to fault or negligence. In a strict liability lawsuit, plaintiffs, and their tort lawyers, do not need to go through the difficulty and uncertainty of proving that a farmer has behaved negligently or carelessly in the production or processing of food. In a strict liability case, an injured party must merely prove that a product was sold in a dangerous or defective condition, and that this dangerous or defective condition was the cause of an injury. For plaintiffs, this is a simplified route to financial recovery. For our state's direct market farmers, it is the highest duty of care the court system can impose upon them.

New York's direct market farmers are held to this high standard of care regardless of their size or annual revenue. It may seem unfair to burden small-scale farmers with such a high standard of liability, but this legal concept has a compelling public policy goal. Its purpose is to encourage all food producers, regardless of size, to place the highest priority on food safety.

The legal risks of direct market farming, though high, are manageable. A generous insurance policy, one which covers product liability, is an essential part of a risk management strategy. Direct market farmers should make especially certain that policies cover processed food products if they are engaging in any value-added activity.

Performing all of your agricultural activities using a limited liability entity, such as a Limited Liability Company (LLC) or by incorporating, may also help to shield some of valuable personal assets from civil judgments in the event that a farm product causes someone to become ill.

Biological controls, however, are still the very best way to prevent harm or injury to consumers. The only way to avoid the potentially disastrous consequences of a strict liability lawsuit is to make a product that is absolutely safe. Maintain a zero defect mentality when growing and handling food products. Stay current with the latest good agricultural practices, and if engaged in value-added processing, rigorously adhere to a Hazard Analysis at Critical Control Points (HACCP) plan.



Farmers now have more options than ever to get their products directly to consumers, but legal risks can be high.

There is no such thing as "too careful" in the food business.

Jason Foscolo LLC, a general practice law firm dedicated to the special needs of farmers and food entrepreneurs.

Jason Foscolo is the principal attorney of

### Growing Green Ideas Cont. from page 3

an old creamery in Charlotte, VT. They published gardening books that helped people grow their own vegetables, fruits, flowers, and herbs. They added cookbooks and guidebooks to raising small animals, building fences and barns, and other self-sufficiency skills.

Now headquartered in North Adams, MA, Storey has sold more than 35 million books and lists more than 500 active titles, 70 of which have sold more than 100,000 copies. Storey has been at the center of a cultural revival of DIY lifestyles, fueled by environmental awareness and responsibility, with an appetite for homegrown local food, and a passion for nature.

Earlier in June this year, I met with Adrienne Franceschi, Trade and Gift Sales Manager for Storey Publishing at Book Expo America at the Jacob Javits Center in Manhattan. She recently joined Storey's team because they remain one of the only independent publishers dedicated to its core readership of small farmers. We're a loyal readership because these affordable paperbacks can be counted on for accurate information and practical advice. If you've got goats, rabbits, sheep or just some chickens in your backyard, Storey's "Guide to Raising" series belongs on your bookshelf.

Adrienne Franceschi of Storey showed me Sarah Anderson's *The Spinner's Book of Yarn Designs* to be released in November. As a spinner, I drooled over the step-by-step guides to help you create 80 distinctive yarns. Put this on your holiday wish list. Likely to be next year's bestseller is the forthcoming *Reinventing the Chicken Coop* by Matthew Wolpe. Kevin McElroy includes 14 complete buildings plans from the functional to the fabulously fun. On the trade floor of Book Expo they show-

cased what Storey Publishing has to offer in books on traditional skills, livestock, preserving, pets, equine, birds, and crafts. Their tag line says it best. The whole Storey: 25 years of personal independence in harmony with the environment.


### Chelsea Green Stakes its Claim on the Future: Employee Ownership

A second publisher leading the industry on books for the practice of sustainable living, Chelsea Green also took root in Vermont far from the publishing district in New York City. Margo Baldwin, President and Publisher, established a publishing house Chelsea Green based on a triple bottom line: one that benefits people, planet, and profit. Margo Baldwin's leadership is evidenced in the publisher's commitment to serve farmers with practical information that encourages personal independence in harmony with the environment.

Current bestselling titles from Chelsea Green include Sandor Katz' *The Art of Fermentation*, David Holmgren's *Permaculture*, and the new *Mastering Artisan Cheesemaking: The Ultimate Guide for Home-Scale and Market Producers*. Chelsea Green books have great shelf life. On my shelves are Eliot Coleman's books about organic four season harvesting, *The Straw Bale House*, and the eco-fable first published 25 years ago, *The Man Who Planted Trees*.

On July 2, 2012, independent book publisher, Chelsea Green, announced that it is now an employee-owned company, with close to 80 percent of its stock held by employees. In an industry dominated by investor-driven multinational corporations, this ensures the company's independence and roots in rural Vermont.


The business of books about small farms is healthy: no boom, no bust. No floods, no dustbowls nor droughts in the forecast.



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**STEWARDSHIP & NATURE****Happy Cows, Healthy Fish**

**Gordon Waite received funding to install a riparian forest buffer on his Vermont farm to protect the White River.**

by Carley Stein

Gordon Waite, a man with a friendly demeanor and steady smile, manages twenty Herefords on his 67-acre farm situated in Granville, VT. Gordon cannot picture himself doing anything besides farming. "I love farming, and I love my animals," Gordon proudly announced, an honest statement he demonstrated by calling each of his cows from a distance by name.

Gordon maintains his cheerful attitude because he enjoys caring for his animals' health and welfare, despite the constant concern of coyotes, foxes, and dealing with seventeen expectant mothers. Gordon currently is looking after fifty newly hatched chickens and helping his daughter succeed in the egg business, a true family collaboration. Gordon hopes to grow his herd up to thirty brood cows in the future, but wants to continue as a small farm because he feels his animals deserve personal attention.

Gordon started his first conservation work in 2011 and was a voluntary participant in the Farm Service Agency's (FSA) Conservation Reserve Enhancement Program (CREP). The program focuses on improving water quality through vegetative buffers, such as a riparian forest buffer, which Gordon now has on his property. The program is also able to provide up to 90% of the cost of the project and annual rental payments for fifteen years (this can vary by State) on the CREP land that is no longer available for grazing. Kate Teale, with the Natural Resource Conservation Service (NRCS), provided Gordon technical assistance, including development of a planting plan, and follow-up with field checks of the planting.

The main objective of Gordon's project was



**Fencing along Gordon Waite's riparian forest buffer.**

Photo by Katherine Teale

to protect water quality in the White River through the establishment of a riparian forest buffer. The White River spans 60 miles in the state of Vermont and is a tributary to the Connecticut River. The riparian forest buffer planted on Gordon's property includes several species of native trees and shrubs, which when fully grown will span a fifty-foot area between the river and grazing area. This buffer will greatly improve water quality by preventing streambank erosion and providing a new habitat for birds and small mammals. NRCS and FSA were not alone in this project; The White River Partnership

and US Fish and Wildlife Service proved to be valuable partners in this endeavor.

The White River Partnership had previously assisted Gordon on a river corridor easement project, which they believed would greatly benefit from a riparian forest buffer. As part of the CREP project the White River Partnership organized the labor to plant the buffer. This arrangement reduced the cost of the project and allowed for community involvement. Students from Vermont Technical College, Rochester High School, and Stockbridge Elementary School were all given the opportunity to get outside and assist in planting. The White River Partnership had worked on similar planting projects in the local area and the knowledge they shared was useful to Kate Teale when she was formulating the planting plan. All of the trees were ordered from local nurseries, which gave them a higher potential for success and kept all of the money local.

The United States Fish and Wildlife Service (USFWS) worked as a cost-share partner for the additional 10 percent of the cost that the CREP program did not cover. USFWS assisted in payments on the fencing that would ultimately protect 3,500 feet of the stream bank and 4.4 acres of riparian habitat. This fencing would also help protect the aquatic life in the river, most notably the trout. Gordon installed all of the fencing himself, with some assistance from his nephew. He is excited to see how the new buffer will work to protect his grazing land from flood damage. Gordon is especially sensitive to flooding after Tropical Storm Irene, which damaged his property.

Gordon truly enjoyed working with all of the different agencies that were involved in his project. Gordon would absolutely recommend this program and was grateful

for the help from all of the "good people at the NRCS." Gordon has volunteered his farm to be used by the USFWS as a long-term monitoring location. The USFWS will monitor the effects the buffer has on bird populations and the overall success of tree and shrub growth. This project highlights the collaboration between FSA, USFWS, NRCS, The White River Partnership, and farmer, Gordon Waite, for water quality and wildlife habitat enhancement in Vermont. If you would like to implement a riparian

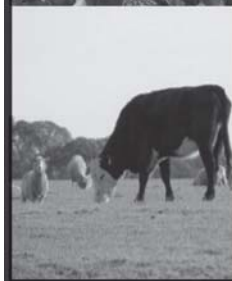
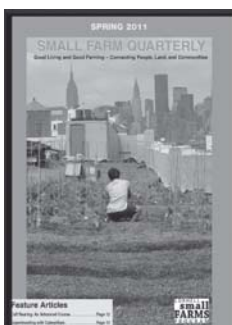


**Gordon Waite with his Herefords, Amber left, Casey, right.**

Photo by Carley Stein

forest buffer on your farm or would like more information on the Conservation Reserve Enhancement Program, please contact your local Farm Service Agency or Natural Resources Conservation Service office. For a directory see: [www.fsa.usda.gov](http://www.fsa.usda.gov) or [www.nrcs.usda.gov](http://www.nrcs.usda.gov) respectively.

Carley Stein is a Natural Resources Conservation Service 'Earth Team' volunteer.



## TARGET SMALL FARMERS THROUGH SMALL FARM QUARTERLY

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## FARM ENERGY

### Compost Power!

*Is it really possible to extract heat from compost to warm your barn, greenhouse or home? A grassroots research network is finding out.*

by Sam Gorton

Any farmer is well aware that a large heap of fresh manure, livestock bedding and other organic farm residuals will generate substantial heat for several weeks or months. What is less widely known - and what this article intends to introduce to readers - are the methods for capturing this heat for use on the farm while simultaneously producing high quality organic soil amendment. In fact, a growing number of farm businesses in the Northeast are already generating usable heat from farmstead compostable material! To build upon this progress, Compost Power, a small network of researchers, farmers, engineers and do-it-yourself enthusiasts has been investigating and experimenting with small farm and homestead-scale systems for extracting useful heat from compost. In the following article, I will present some results of our efforts thus far, focusing on those of interest and relevance to farmers at any scale as well as sustainable agriculture and renewable energy enthusiasts.

Before we dig in too deeply, you may be wondering: Does compost really generate enough usable heat? Well, it turns out our ancestors and contemporaries have repeatedly found methods for utilizing the heat by-product of compost. Firstly, records from ancient China depict heat utilization from compost heaps approximately 2,000 years ago. In more recent history, around the turn of the 20th century, in pre-automobile Paris, farmers disposed of the city's horse manure in composting "hot beds" which heated glasshouses for urban vegetable production [1]. This ancestral wisdom may have inspired post-industrial farmers to explore the value of compost heat capture in sustainable agriculture.

A rather extraordinary example of compost heat utilization is that of the French farmer and forester Jean Pain, who, through the 1960s and '70s, experimented with composting methods on his farm in southern France. In his book [2], Pain describes how he and a crew harvested fire-prone brushwood from his farm to create composting mounds of brushwood. These so-called "Pain mounds" were as large as 100 yards and produced enough thermal energy to heat a batch biodigester and provide the hot potable water needs of the farmstead. In his book, Pain describes equipment he used to capture and utilize the heat, biogas and fertilizer by-products of this integrated renewable energy sys-

tem. I should note that while compost heat extraction and biodigester technologies have been independently shown to be technically and commercially viable, there is no record of any replication of Jean Pain's combination of these technologies into a successful enterprise.

Closer to home here in the Northeast, there are a few examples of farm- and commercial-scale compost heat extraction. In the 1980s, at the New Alchemy Institute on Cape Cod, MA, Bruce Fulford and a team of applied researchers evaluated the concept of compost-heated greenhouses for season extension and carbon dioxide enrichment in a commercial farm setting [3]. Since 2005, in Franklin County Vermont, Diamond Hill Custom Heifers (DHCH) has been composting approximately 800 tons per year of heifer manure, bedding materials and local biomass to heat potable water and radiant flooring in its farm facilities [4]. Further north, in New Brunswick, Canada, the Greater Moncton Sewerage Commission (GMSC) has pilot-tested a system to extract heat from outdoor sewage-sludge based compost windrows [5]. Finally, since its founding in 2010, the Compost Power team has actively supported the construction or operation more than ten farm and homestead-scale compost heat extraction systems, mainly in Vermont and bordering areas [6].

So far, I have glazed over the exact methods and technologies for extracting heat from compost. All compost heat extraction technologies are based on either air-based and water-based (hydronic) heat capture methods. The best way to explain these two methods is through specific examples of their respective application. Air-based heat extraction is exemplified in Diamond Hill Custom Heifers' system, which employs Agrilab's proprietary IsoBar technology [7]. In the DHCH system air is pulled down through active compost piles (an arrangement referred to as "negative aeration composting") by blowers, which then force the resulting compost-heated hot vapor flow through ductwork and over the IsoBar array. The IsoBars are actually thermosiphon tubes, which rapidly transfer heat from the hot vapors within the ductwork to potable water in an insulated bulk tank with no direct energy input.

By contrast, Jean Pain, the Greater Moncton Sewerage Commission

and Compost Power have all employed hydronic heat capture methods. In the hydronic method, a network of pipes in embedded under, around or directly within an active compost pile. Water or glycol/water (antifreeze) solution is pumped through these pipes, which heats the fluid. The hot fluid is then pumped to a suitable heat load device, such as a radiant flooring slab, fluid-to-air radiator, or flat-plate heat exchanger. The compost-embedded pipe network and heat load device are thus connected in a heat exchange loop with associated expansion tank and pump.

Now let's get to some more specific detail regarding the energy-generating potential of compost. A heat capture rate of 1,000 BTU per hour per ton of active compost is the maximum reported from the compost heat extraction processes we've investigated. Such a rate has been recorded to last up to 18 months [2]. However, based on my own observations of this technology and consultation with experts in this field, a more realistic estimation for the heat generation potential of active compost is 1,000 BTU/hr/ton for no longer than 6 months. The heat generation rate and longevity are critical variables in determining the viability of heat extraction technology. As such, the Compost Power network is collaborating with experts in the composting community to develop low-cost methods for confidently estimating the heat generation potential of a given compost recipe. Such a method would allow for more rapid and realistic assessment of the viability of compost heat extraction methods.

I'd like to close my discussion with a few key design considerations for farm-based compost heat extraction systems. It is important that you have a keen understanding of the composting process before embarking on any serious consideration of compost heat capture technology. A seasoned composter will know that critical parameters involved in a proper composting process include the C:N ratio, moisture content, the relative biodegradability, porosity of the compost recipe as well as the geometry and physical design of the active composting mass (pile, mound, windrow, bunker, etc). It's also important to utilize the heat generation to the fullest extent possible. In a recent feasibility study, a design team including myself, determined that heat extraction technology can only be economically attractive for a small-scale farm if the

design matches the farm's heating and nutrient application needs such that substantial energy and fertility costs are offset. While the calculation is sensitive to some variation, I believe this situation is only possible if compost heat is utilized for at least six months out of the year. And, in order to achieve such a level of utilization, the system may need to incorporate thermal storage mechanisms (i.e. insulated bulk storage tanks) to allow for "banking" of captured heat for short periods of time (like when the sun is out for a greenhouse heating application). This, of course, will result in additional capital costs and operational complexity.

By now, current and aspiring farm-scale composters reading this may be considering how to incorporate compost heat extraction technology into their operation. A good place to start is to estimate how much (approximate volume in yards) compostable material your farm generates, what may be locally available and key characteristics (production rate in tons/month, C/N ratio, moisture content, particle size, etc) of each material. Keep in mind that, oftentimes, composters at any scale are limited by the amount of carbon source they can obtain. Next, consider your seasonal heating needs. Do you have a baseload or regular demand for hot water at 120°F - 140°F? Using an estimate of 1000 BTU/ton/hr of active compost, do any of your heat loads match your compostable material generation rate? You may even start getting a little ahead of yourself like me and consider what new farm enterprise this plentiful heat source might power to improve your farm operation while reducing its impact on the environment. If you find yourself here, or stuck any point in between, be sure to look up Compost Power!

*Sam Gorton is a part-time PhD student at the University of Vermont and works as a process engineer involved in the research and development of clean technology. He can be reached at 802-370-5112, at gorton-sm@gmail.com or on Facebook and LinkedIn.*

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Cont. on page 7



Mound construction starts by preparing a foundation of wood chips. Then layers of compost, roughly 6" - 18" thick, are spread over the foundation.



A layer of coiled rigid black plastic water pipe is placed in between the layers of compost. The cinder blocks (2nd and 3rd photos in sequence) are removed when another layer of compost is piled on, so as to keep the coils in concentric loops and avoid tangling.



After several alternating layers of compost and water pipe are installed, the pipe ends are connected to the heat load (in this case a house's radiant floor system).



**COMMUNITY/WORLD****The Cheney Letters**

78 year old Vermont farmer shares memoirs with Lindsay Debach, daughter of a Pennsylvania-based butcher, after reading her Small Farm Quarterly piece "Slaughter Daughter"

by Stewart Cheney

**Introduction:**

*In late February of this year I received a letter bearing the name of Stuart Cheney. A native of Brattleboro, VT, Stuart wrote to tell me that he enjoyed my memoir piece "Slaughter Daughter" featured in the Winter, 2012 issue of this magazine. I was flattered and surprised to receive such a heartfelt message, especially in the increasingly rare form of a hand-written letter. Stuart continued on to tell me a bit of his own childhood growing up in a farming community; the yellow legal-sized pages of his letter recounted of his early childhood days killing chickens in the barnyard, taking a pig down to the old slaughterhouse and salting hams and bacon. Charmed by Stuart's unashamed and sincere style, I asked him if he wrote much and offered to read any stories he might like to share.*

*In the months that followed, Stuart and I became pen-pals. Nearly every week, I received a carefully addressed stamped envelope from him, each containing a new tale about Stuart's life: a jeep accident when he was a teenager, a missed encounter with a pretty girl at a barn dance. He shared the heartbreaking account of losing his childhood dog, and the humorous tale of a Halloween spent in jail. Be they tragic or comedic, Stuart Cheney has a lot of stories to tell and I am so thankful to have the opportunity to share these humbly-written tales with our SFQ readers. Over the next few issues, please enjoy some segments of what I tenderly refer to as "The Cheney Letters." I hope you are as blessed by these authentic recollections of Vermont farm life as I have been.*

~Lindsay Debach

**Hello Lindsay Debach:**

Please let me introduce myself. My name is Stewart and I live

alone up in the hills of southern Vermont. As I sit here at my table, I can look out over the hills to the west and see two ridge lines and quite a few open fields and pastures. I lost my good wife to lung cancer 13 years ago.

I read your wonderful story in the Small Farm Quarterly paper of January 6th, 2012. I have read it over at least every other day since then. You do such a good job of telling it like it is. As for myself, I started out when I was about 6-years old killing chickens. My father would go to the chicken house and catch one, and give it to me. I had to take it out back and lay the chicken over and old log and chop its head off. Well, those big axes were pretty heavy for a little guy like me to handle, and sometimes it didn't always go where I aimed - I have three pretty good scars on my left index finger to prove it - but, one way or another, I got the job done.

My Mother would have a pail of water all heated up and as soon as the old hen got through dancing around, I tossed her in the pail. At just the right time, I'd hang it up on a beam and pluck off the feather onto a newspaper that was laid underneath. When I got that all done, I'd take another newspaper and light it a fire and singe the whole hen. Then, I'd take it in on the sink shelf, which was wood, and draw the innards out, and give it a good rinsing; and it was ready for the pot. By the time I was eight, I was an expert chicken killer.

Meanwhile each fall, I'd help my Dad and Grampa kill and butcher a couple of pigs...By the time I was 13, all the wooden tubs we had were getting kind of worn and leaked pretty badly. So, my father made an appointment with the local butcher shop to butcher one of our four pigs. Saturday morning, Dad said to help him take the back seat out of the car. Then, he had me back the car around on the far side of the pen next to the barn.

He opened the door to the back and we hustled Mister Hog right in, and shut the door. Then he told me, "You can drive it down to the slaughter house", which was about 6 miles, all back roads.

So, off I went to Bert Whittermores slaughter house. They had some pretty big smiles on their faces when they saw me pull up to the old barn that served as a slaughter house. It was just a wooden table, pair of pully-blocks, a tub with hot water, and a 32 Winchester Rifle. It all done the job, and pretty soon, the guts came tumbling out and went down through a hole in the floor below. They showed me how to go down stairs, so I could hear the "music," as they called it. There must have been a million big, black, hard-shelled beetles down there. Sounded like a thousand soldiers rattling their sabers. I didn't stay long.

A couple hours later, I drove back home with two sides of pork laying on an old sheet in the back. When I got home, Dad carried the sides into the pantry and cut them up. The salt pork shoulders and ham went into the crocks with brine to cure, before we hung them in an old barrel and smoked them with nice dry apple wood. Later on, when winter moved in we cut some of the cured salt pork up into one-inch squares and put them in a kettle. We set the kettle on the back of the wood stove. After the pork was melted down, we poured off the lard to get the tastiest fat scraps to eat - nothing better. Yum, yum!

*Stuart Cheney grew up on a 145 acre diversified farm near Brattleboro, VT. He resides on the farm in a small 5 room house built by his grandfather in 1940.*

To read Lindsay Debach's story, "Slaughter Daughter", which inspired the Cheney-Debach correspondence, see <http://small-farms.cornell.edu/quarterly/archive-2/winter-2012/>

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**Additional composting resources:**

Highfields Center for Composting website,



Finally, the mound is "capped" with additional compost to insulate the heat capture system and increase the active composting volume.

<http://www.highfieldscomposting.org/>  
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**LOCAL MARKETING & FOODS MARKETING****Faces of our Food System: Red Rabbit**

by Becca Jablonski

For the fourth profile in a series highlighting distributors of New York State farm-grown products, I spoke to Rhys Powell. Rhys is the Founder and President of Red Rabbit, located in New York City. Red Rabbit was founded in 2005 "to fix the school food system". According to their website, they do this in three key ways, by: "partnering with local schools and providing them kid-tested, made from scratch, customized healthy meal programs; working with local farmers, suppliers and artisans to optimize the nutritional value of all meals, promoting sustainability while supporting and growing the local economy; and, educating kids, teachers, families and communities about wellness, nutrition and healthy eating choices so they can make the right decisions for themselves when not in school. And the best part is...this is all done at or below the current Federal reimbursement level."

**Q: How did you get the idea to start Red Rabbit?**

**A:** A friend of mine was having trouble finding healthy food for his four year old. He was looking for an option so he didn't have to cook her lunch every day. I agreed to help him and once I started looking, I realized that there were no good options.

**Q: How is Red Rabbit able to provide locally-grown products at or below the federal reimbursement level?**

**A:** One of the main ways is by working with local farms. One of the big misconceptions out there is that locally sourced produce has to be more expensive than traditionally sourced products. We found that is not the case. We also cook all of our meals from scratch so we have strict control over the ingredients used and the costs of the ingredients.

**Q: To how many schools do you currently supply meals?**

**A:** During the 2011-2012 school year we supplied meals to

about 70 schools. We are hoping to increase that number to 100 for this coming school year. We supply meals to a mix of public, private and charter schools.

**Q: Is it easier to work with private schools than public schools?**

**A:** While we have found a lot of success working with private schools and charter schools, the public schools, particularly in NYC, are challenging. I think it has to do with the fact that the public schools are all controlled by the Department of Education, and there is a lot of bureaucracy. It is difficult to determine who is a decision maker, who you need to approach in order to offer your services.

**Q: How many growers do you work with and where are they located?**

**A:** It changes based on the season, but in the height of the season, we work with about two dozen local farmers and artisans. Our local farmers and artisans are all currently located in the tri-state area.

**Q: How do you define 'local' and 'artisan'?**

**A:** We define local as in our region - 200 miles from NYC - but we don't have a hard definition. We definitely consider the tri-state region local. We do our best to source product from local producers, but sometimes we cannot find them - or we cannot find them in the quantity we need - and so we work with artisans. For example, we work with an artisan business called 'All Natural Bakeries' located in Long Island City.

We define artisan by encompassing various things such as scale (niche market vs. national/mass market), the people involved in the process, the way they source and produce their products and their mutual commitment to top quality. We visited All Natural Bakeries and their facility before we started working with them. We met with their head baker and learned about the ingredients they use. It is that level of access for which we look. We don't have specific requirements that all of our suppliers allow us to visit, but all of the farmers and artisans we work with have offered this to us and we try to get out to visit and learn more about their operation.

**Q: As you are based in NYC, how do you find and make connections with growers?**

**A:** A lot of on-the-ground work! We have been running around for the last 4-5 years and have built up a network. Grow NYC has been very helpful - especially in the beginning years. It is mostly about our commitment to going out and meeting people and being open with local growers. When growers contact us, even if we aren't ready to start working together at that moment, we keep the conversation open with them.

**Q: Are all of the products procured by Red Rabbit 'local'?**

**A:** Not all products are local and artisan, we have to supplement. We have found that the supply is not stable enough to provide us with all of our needs - particularly in the off-season. And there are items we just can't get locally, like pineapples. However, any vendor we do work with, no matter where they are located, is first vetted by us to ensure they are in-line with Red Rabbit's commitment to providing top quality ingredients to make healthy food for our kids.

**Q: How do you get product from local growers to your distribution center (in Harlem)?**

**A:** Though this can be a challenge, we are working with a combination of own vehicles and arrangements with the growers-including picking up at local green markets (farmers' markets in NYC), where many of our farmers come as part of their business. The infrastruc-



In this photo - an actual Red Rabbit school meal made with whole grain ziti pasta with part-skim mozzarella and parmesan cheeses in our house-made marinara sauce. A side of farm fresh, locally sourced steamed broccoli and locally sourced seasonal fresh cut fruit and a glass of nonfat milk from local partner RonnyBrook Farms.

ture is a work in progress.

**Q: Do you work with other NYS distributors as well?**

**A:** Yes, we have done some work with other distributors, but sometimes it is difficult for us to work with another middle business in terms of reaching an amenable price point. We are continuing conversations with a few distributors and will see if there are more opportunities to work together in the future.

**Q: Are all the producers you purchase from GAP certified? Are there other types of certification or inspection that you require?**

**A:** No, we do not require farmers to be GAP certified. We don't have specific certification or inspection requirements ourselves, but go through a vetting process with every farm we work with-allowing us to visit the farm and have open communication with us regarding their growing, harvesting and handling practices so we are confident in their ability to provide top quality products that meet our criteria for health and wellness.

**Q: What are the challenges you face working with local growers and/or obtaining locally grown products?**

**A:** Pack size is one of the challenges - inconsistent pack size. It is something we have found work-arounds for, but it is an added step in the process. We buy vegetables that school kids really like - broccoli, green beans, carrots, corn, tomatoes, and cauliflower. We buy products fresh from growers and then we cook them. In the off-season we sometimes work with a processor - like Farm to Table Co-Packers (<http://farm2tablecopackers.com>). We also got an idea from a facility we just visited in Massachusetts. They purchase vegetables in bulk from growers - similarly to how the contract growers operate. Growers drop off a truckload of vegetables, without wasting time or money putting them the produce into smaller boxes. We believe this could save growers - who often spend up to \$2/box - and help us keep costs down. We purchase in high volume, so we are very optimistic about trying this.

**Q: Are you looking for additional growers?**

**A:** Yes - we are always looking for the items we mentioned above. If farmers are interested in working with us, they can learn more about us on our website <http://www.myredrabbit.com> and call/email us at T: 866-697-3372 E: [help@myredrabbit.com](mailto:help@myredrabbit.com). However, farmers should be aware that a minimum order for us is currently at least 500 lbs - so we are looking for growers able to supply that sort of quantity.

For more information, please feel free to contact the author at [rb223@cornell.edu](mailto:rb223@cornell.edu). The author wishes to thank the following funders for their support of local food distribution research: the Cornell Center for a Sustainable Future, NESARE, and the Cornell Small Farm Program.



**New Heights Academy Charter School - A cooking lab held in the Red Rabbit Kitchen located at 1751 Parke Ave. with a group of 5th graders. The cooking labs teach children about food using all 5 senses. In this photo two students are smelling the basil they will be using to make their whole wheat pizza.**

Photos by Red Rabbit



**Rhys Powell, the Founder and President of Red Rabbit stands in the company's fresh fruit prep area with two kitchen team members.**



## Local Foods & Marketing

# What Makes Vermont's Award-Winning Cheese Engine Run?

by Martha Herbert Izzi

Vermont holds the brass ring as the premier state hosting the most artisan and farmstead cheese makers per capita in the country. Not bad for a little place with a lot of rocky hillside farms and barely 650,000 people. As the cheesemakers expand and improve, the prizes keep coming, the sales keep mounting and the cash registers keep ringing.

According to the Vermont Cheese Council, twelve of its 45 members (who produce over a 150 different cheeses) took home thirty ribbons in August of this year from the prestigious (known as the "big deal") American Cheese Society show in Raleigh/Durham North Carolina. In June, Vermont Butter and Cheese Creamery, a big winner at ACS was "elated to report" that it took soft Gold medal awards for all three categories at the National Association for the Specialty Food Trade annual competition in Washington, D. C. The celebrated creamery also took two golds, a silver and a bronze at the 2012 World Championship Cheese Contest.

So Vermont has been in the vanguard of a new revolution in the craft of American cheese-making which began about twenty five years ago with the first wave of 'back-to-the-landers' and ushered in the era of serious competition with European cheesemakers. The question is why? Why Vermont? Why now?

Nothing happens in a vacuum, especially in a small state like Vermont where people point to important players in the growth and success of the artisan and farmstead cheese industry. Artisan cheese refers to cheese that is handmade from milk purchased from nearby farms, while farmstead cheese is made on the farm where animals are raised.

### The Gatekeepers

To the question, 'Why?' came several salutes to people like Paul Kindstedt, Ph.D, Co-Director of Vermont Institute for Artisan Cheese (VIAC) at the University of Vermont. It is the first and only comprehensive center of its kind devoted to research and teaching intensive courses on artisan cheesemaking. People like Wendy Hallgren, President of

Provisions International, a purveyor who handles forty Vermont cheese-makers, says the Institute is "doing a wonderful job with the science of cheese craft." It is, says Hallgren, "leading to more consistency of product and more concern among cheesemakers for controlling environments and working out problems. That, and a huge amount of dedication as they continue to hone their craft."

Kindstedt, a mozzarella expert, tributes Vermont's success to "the Agency of Agriculture for being small-cheese-making-friendly since the early eighties." He says the Agency has "provided the vision and resources and gone to great lengths to help cheesemakers." Diane Bothfeld, Deputy Director of the Vermont Agency of Agriculture, proudly points to her agency's role as a key player in the cheese evolution because of its proactive policies that have the agency working with prospective cheesemakers from beginning to end. "We do a lot of work at the start up. Our regulators interact with [farmer/processors], help them to set up and work well. They must build a proper facility. If they don't maintain equipment according to code, they must shut down. We test quality of their milk and make sure they are processing correctly. Vermont is different from other states who come in at the end of the process." Bothfeld, in turn, hails Kindstedt and the faculty for their research, teaching, and books on the basics of cheesemaking.

Kindstedt, whose classes attract students from far and wide, says that "probably 50% of the farmstead cheesemakers have come from successful careers and are well capitalized. They have been attracted to Vermont for its special resources, its people, and environment. They are philosophically driven with almost a spiritual quality and want to make food that matches their values."

In his 2002 book, *The Cheeses of Vermont*, Henry Tewksbury pointed out that the newcomers "don't fit the image that the word farmer brings to mind. They're sharp businesspeople, expert problem solvers, protective of the environment and without exception they love their animals." Along with respect for Kindstedt, he too, credited the

Agency of Agriculture and another now familiar name, Peter Dixon, a widely respected veteran cheesemaker.

### The Cheesemakers

The lead players, of course, are the cheesemakers, whose profiles are often as diverse and fascinating as the cheeses they make. Angela Miller, owner of organic "Consider Bardwell Farm" in West Pawlet, came to Vermont in 2001 to buy a house. She never dreamed that today she would have about twelve employees, be shipping eighty five thousand pounds of cheese annually to renowned restaurants and specialty shops, and have several years of award winning goat and cow cheeses. Miller's 'Rupert Marches' took a silver at the ACS this year. Though she performs every duty on the farm ("We're all overworked and underpaid") Miller was and still is a literary agent with offices in New York City. Her book *Hay Fever* is a vivid account of her journey to the world of goats and cheesemaking.

Miller also credits the star-quality of many of the Vermont cheesemakers to the fact that many of them have come from other places, either through birth or travels and have brought their 'tastes of place' and food traditions with them. Places like South America, France, Corsica, Italy, Chile, Spain, Hawaii, England. The concept of 'taste of place' translated from the French *terroir* refers to the particular taste features that a locality contributes to its food products and is becoming a means of explaining the distinctive types and quality of cheeses that Vermont steadily produces.

Andy and Mateo Kehler are the owners of Jasper Hill Farm and the Cellars of Jasper Hill. The brothers grew up in Colombia, South America, but spent their summers in Vermont. Between 2009 and 2002, Mateo worked in the U.S., England, France and Spain making hard and soft cheeses, while Andy worked in Chile. They began making cheese in Greensboro, Vermont in 2003 at a time when consumer interest in local food was on the rise. Vince Rationale, once a cheesemonger from Chicago, now handles sales for Jasper Hill. The farm sells holiday assorted cheese gift baskets to the gourmet food supplier, Williams-Sonoma. He says, "Cheese is a place-based food. Vermont has cache to people in New York, Boston,



**This young Bayley Hazen Blue from Jasper Hill Farm will become a natural rinded blue cheese after 2-3 months of aging in the Cellars.**

California and Chicago, and those consumers are resistant to huge scaling up. They are focused on the hyper-local movement that is happening in food." But it's the cheese taste and quality that counts and this year at the World Championship Cheese Contest, Cellars at Jasper Hill took a gold for its 'Harbison' (a bark-wrapped bloomy-rind cheese with woody, sweet, herbal, and bright flavors) and a silver for 'Moses Sleeper' (bloomy-rind cheese with a buttery, bright, and savory flavor when young and brassica vegetable flavor when longer aged).

Vince also hails the work of Paul Kindstedt. "We send our employees to the Institute for hygiene and sanitation. They have a good reputation around the country. Their two week short course is probably the best thing available. The landscape would look very different without VIAC."

The Cellars at Jasper Hill is an artisan cheese partnership developed by the Kehler brothers that creates sustainable business opportunities for local dairy farmers. It is a

**Cont. of page 12**



**Angela Miller, owner of organic "Consider Bardwell Farm" in West Pawlet, VT.**



**Andy and Mateo Kehler are the owners of Cellars at Jasper Hill Farm.**



# The Next Generation of Small Farmers

4H teens learn about the hard work and creativity needed to run a successful small farm during Career Exploration Days on the Cornell University Campus.

## Small Farm Quarterly Youth Pages

Each summer, 4H teens across New York visit the Cornell University campus to explore academic fields and career exploration, develop leadership skills, and get hands-on experience in a college setting.

This fall, we are featuring Emaleigh Perry's essay on her experience participating in the "Exploring the Small Farm Dream" Career Exploration program.



Harvesting winter sorrel for tasting.

Photo by Jeff Perry



Raking hay with horses.

Photo by Jeff Perry



Cherry Knoll blueberry farm discussion.

Photo by Emaleigh Perry

During the 4H Career Explorations program, I took part in the 'Exploring the Small Farm Dream' group. In this group we learned about and visited small farms that have found ways to thrive and fit the lives of the owners. These farms included Dilmun Hill Farm, Boyce Thompson Research Farm, Northland Sheep Dairy and Cherry Knoll Berry Farm.

The first day we arrived, we went to visit the Dilmun Hill Farm which is the student run farm located on Cornell campus. Here we got to see many different ways of gardening. There were terraced gardens on the hill side and also raised beds down below the barns. On top of the hill was a permaculture garden. In this garden we got to see multiple layers, short and tall, of different plants that were all perennials. This was a neat garden to see because it was one that they did very little work to each year. During our visit, we got to harvest lettuce and winter sorrel. Then we used shovels to clear an area. We filled up the wheelbarrow with compost to place on the cleared area, and then planted rhubarb. This was a fun experience and taught me a lot about different ways you can garden and put a variety of plants around the same area.

The second day we started out by visiting the Thompson Research Farm in Freeville. It was amazing to see how big this facility really was. Here we got to see how crops are rotated through the fields every year and learn how they irrigate plants. They use a drip line

system that they have made so it works along the rows of plants very well. They also use a sprinkler system but wind prevents the plants from getting the full water amount they need. We also observed how they used materials that they had to fit what they needed. They had a planter that was the combination of three different pieces of equipment and it was amazing to hear what they went through to put it together. We also learned that part of the way they make their profit is renting plots out to different groups who want to experiment for different reasons. One plot we looked at, the professor who rented that spot was testing different types of pesticides on one type of plant. Visiting the research farm was very interesting and showed us a different type of farming.

Then we traveled out to the Northland Sheep Dairy. At this farm they process the

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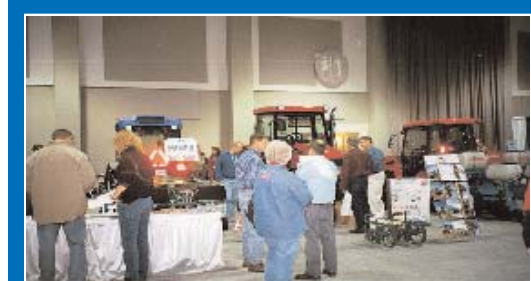
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## WEDNESDAY KEYNOTE SPEAKER

Jim Prevor's Perishable Pundit, the industry's most important forum for the discussion and analysis of issues relevant to the trade is widely recognized as a leader in understanding and assessing the state of the perishable food industries.

Mr. Prevor is the fourth generation of his family to be active in the food business in the United States. Prior to launching his own company, he served as a director of his family's company, which was an importer, exporter and wholesaler of foodstuffs.

Mr. Prevor combines the real world experience of one who has worked in the trade with the analytical perspective of an editor and analyst.

## THURSDAY-DIRECT MARKETING SPEAKER

Don Frantz- A three-time winner of the Guinness Record for the World's Largest Maze, Don developed a new, outdoor, family game called the "Amazing Maize Maze®." His American Maze Company has built hundreds of projects, entertained millions of players, instigated a world-wide maze fad and has given him the label of "Father of the Corn Maze."

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- New York State Vegetable Growers Association
- Empire State Potato Growers
- New York State Berry Growers Association
- New York Farmers' Direct Marketing Committee
- The New York State Horticultural Society
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- NYS Flower Industries

sheep wool as well as the milk. They have their own shop area with all the proper equipment to make sheep milk cheese. They keep it extremely clean and it is inspected so they are approved to make it. They also are going eco friendly and using horses to do the farm work that needs to get done. While we were there, their intern for the year was out raking hay being pulled by a horse. It was interesting to see a farm based on animals.

The last place we visited was the Cherry Knoll Berry Farm. This farm is family owned and has been in the same family for generations. They have acres of different types of blueberries and do u-pick when blueberry season comes around. The farmer does a lot of weeding and make sure the plants are accessible. He also has these small cannon machines that make a loud noise every few minutes to keep the birds from eating his crop. He keeps his farm going year after year by focusing on one crop which many of the other farms did not do. Seeing how much time and effort was put into this place, showed us what we truly had to do to make a farm successful. The owner also makes blueberry wine and vinegar to diversify the products that he

can sell.

The last day we stayed on campus and played the Exploring the Farm Dream Game. In this game we were given land and a financial scenario, and one or more difficulties that may go wrong. With what we were given we had to design a farm about what we were given. Some people chose dairy, some chose beef and many others also chose horses. Looking at all these things we were given showed us many different ways you could make land work for you. It gave us a good idea of what we would like to do for a future and was fun and enjoyable.

Overall, this small farms group was very enjoyable. We had fun and learned a lot. I think everyone would agree that we definitely explored the small farm dream.

To learn more about 4H, visit <http://nys4h.cce.cornell.edu>

*Emaleigh Perry is a 4-H member in Cortland County with the Mechanics and Metals club. She can be reached via the Cortland County Cooperative Extension at 607- 753-5077.*



Rhubarb planting in compost.

Photo by Jeff Perry

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## Resource Spotlight

# Marketing Help for Sheep & Goat Farmers

by tatiana Stanton

**SheepGoatMarketing.info** originated in the late 1990s. It grew out of the Northeast Sheep & Goat Marketing Project at Cornell University which received a grant from USDA with the goal of improving producer

access to equitable markets while building regional capacity to supply the growing consumer demand for high quality lamb and goat meat. The emphasis of the original grant was on producers and specialty markets in the Northeastern states. However, the web site was redesigned as

a national information resource when it was hosted by the University of Maryland for several years using NESARE funding obtained by Susan Schoenian. Through the effort of tatiana Stanton, the Small Farms Program at Cornell University provided funding in 2012 to again redesign the site and return it to be hosted by the Department of Animal Science at Cornell University.

and marketing information for holidays when lamb and/or goat is traditionally consumed.

The **Education section** has a wide range of articles to help farmers to evaluate their animals and educate themselves more about marketing and processing. It also includes information on livestock management and processing requirements for Halal and Kosher marketing and information about previous marketing projects.

We welcome your suggestions to improve the site. Check it out at [www.sheepgoatmarketing.info](http://www.sheepgoatmarketing.info)

For more information contact Dr. tatiana Stanton, Cornell Small Ruminant Extension Specialist at 607-254-6024 or [tls7@cornell.edu](mailto:tls7@cornell.edu) or our webmaster, Linda Poppleton at [LJP2@cornell.edu](mailto:LJP2@cornell.edu)

## Photo Essay

Our Fall photo essay comes to us from Jasper Hill Farm in Greensboro, Vermont. Brothers Andy and Mateo Kehler began farming and

making cheese in 2003 with a goal of creating a model to be replicated by other farmers in Vermont who wished to diversify their quickly disappearing farms into more workable options. They wanted to demonstrate that it is still possible to prosper on a rocky hillside farm, create a vehicle for the renewal of their local dairy economy in the form of a business model that can be replicated on other dairy farms. Today the farm produces a collection of professionally aged and marketed cheeses in addition to custom aging cheese for other dairies in a 22,000 square foot underground cellar. To learn more about the farm, visit

<http://www.cellarsat-jasperhill.com>



Reed Kehler bottle feeding an Ayrshire calf.

### Vermont Cont. from page 9

22,000 square foot underground cellar over which the Jasper Hill brother's forty five Ayrshire cows pasture. Currently six cheesemakers turn their green cheese over to Jasper Hill where trained affineurs care for the unripened cheeses: customizing, testing, and tasting for quality. The collaborative also markets and distributes the cheeses for the producers. "We rent a corner of the building to develop new Jasper Hill cheeses," says Vince.

Just north in Westfield, Vermont, Laini Fondillier milks forty-two registered Alpine goats that produce cheeses that can be found from the Northeast to Chicago. Laini believes her organic farm name, Lazy Lady Farm, by providing obsessive attention to good care, feeding and nurturing of her herd. A workaholic who has been featured in the New York Times magazine, among other

national periodicals, one reviewer said her cheeses "rival anything from France." Though Laini worked on several farms in France and Corsica for several years before learning her craft, she started in 1986 with a few sheep and a garden and virtually no funds.

Laini and her partner, Barry built the cheese caves, shaped like lobster traps, where the many cheeses she produces are aged. They have lived off the grid for fifteen years using solar and wind which gives further evidence that Laini doesn't do anything the easy way. She is a consummate goatherder who pays strict attention to genetics, conformation and animal health. To that end, during kidding time in February, Laini 'sleeps' on the couch near the barn so that she is present for every birth of 44 freshening goats despite the fact that she has three employees. In that way she insures that before she sepa-

## Artisan Cheesemaking Resources

To learn more about artisan cheesemaking, consult the following books:

Mastering Artisan Cheesemaking: The Ultimate Guide for Home-Scale and Market Producers, by Gianaclis Caldwell

American Farmstead Cheese, by Paul Kindstedt

Cheese and Culture, by Paul Kindstedt

The Atlas of American Artisan Cheese, by Jeffrey P. Roberts

Mastering Cheese, by Max McCalman

rates each kid from the dam, the kid has plenty of the dam's healthy colostrum.

### The Consumers and the Vermont Cheese Council

The Fourth Annual Cheese Festival, sponsored by the Vermont Cheese Council in July, was additional evidence that the cheese market has continued to expand "even through the economic downturn," according to Paul Kindstedt. Cheese lovers and food professionals bought 1750 tickets at a hefty \$40 - \$50 for the day-long event.

Begun in 1996, The Vermont Cheese Council is the professional and public face of the Vermont artisanal and farmstead cheese industry. The Council showcases cheese and cheese producers through advocacy, marketing, educational and networking events. It also sponsors The Cheese Trail (which National Geographic included in its 'Drives of a Lifetime' Series) with maps, farms and cheese descriptions and invites cheese-lovers to visit about 35 cheese producers throughout the state.

### Conclusion

Vermont's remarkable rise as a premier artisan and farmstead cheesemaking state continues to expand and shows no signs of

abating. All of the cheesemakers who contributed to this story are increasing production and expanding their product lines. And price points at between \$20 and \$30 a pound do not seem to be meeting market resistance, though some people question why European cheeses are sometimes cheaper than domestic specialties. It appears that as long as the demand for locally grown and produced small scale foods holds up, the cheese market will meet that demand.

Though the Vermont 'mystique' is strong and products sold with the Vermont label regularly enjoy success, the competition outside of Vermont, for cheese especially, is also growing. It underscores the need for consistency, innovation and superior product quality of unique as well as classic cheeses. The producers also know that the national product shows and winning awards are key to their success. Lastly, the Vermont infrastructure that supports, guides and advocates for them are essential and unique partners. And their loyal customers are the 'holy grail.'

Martha Herbert Izzi is a writer and farmer at Bel Lana Farm in Shrewsbury, VT. She may be reached at [mhizzi@yahoo.com](mailto:mhizzi@yahoo.com).



Forty five Ayrshire cows graze on pasture in high summer at Jasper Hill Farms.



**NEW FARMERS****Loan Opportunities for New Farmers****Farm Credit East offers multiple programs to support young, beginning and next generation farmers****Marcy O'Connell of Holland Farm CSA in Milford, NH.****Photos by Samantha Stoddard**

The long range strength and soundness of the future of agriculture in the Northeast is dependent on individuals entering the industry. As with any industry, starting a new business comes with challenges. Farms require capital for upfront expenses, such as land, equipment, seed, etc. - capital that many startup operations lack. New farms often lack the credit history, repayment ability and/or collateral, so many lending institutions are hesitant to invest in their startup business. Furthermore, any new business lacks sufficient business knowledge, time management skills, confidence and marketing resources to efficiently launch and run a new business.

"Farm Credit has a long-term commitment of helping young, beginning and small farmers get started in agriculture and helping existing farms transition to the next generation" said Bill Lipinski, CEO of Farm Credit East. "We recognize the demands for capital and financial management skills that make it difficult for these entrants to establish

their business. To fulfill Farm Credit's vision of a vibrant, entrepreneurial agricultural community we have developed programs, such as Farm Credit East's Young, Beginning and Small Farmers Incentive Program (YBS), FarmStart, LLP and Generation Next to give strong, new entrants a healthy start in the agriculture industry."

In 2011, Farm Credit East's portfolio included 6,729 small farm loans, 4,274 beginning farm loans and 3,107 loans to young farmers. A young farmer is defined as a farmer, rancher, producer or harvester of aquatic products who is 35 years of age or younger as of the loan transaction date. A beginning farmer has 10 years or less of farming experience and a small farmer normally generates gross annual sales of \$250,000 or less. (Categories overlap for reporting purposes.)

"Young and beginning farmers face many daunting challenges when getting started in farming," said

Gary Bradley, an executive vice president who helped originate Farm Credit East's Young, Beginning and Small Farmers program. To help this growing customer segment get started in the industry, Farm Credit East's YBS Incentive program, established in 1995, provides special incentives to program participants. Incentives include discounts on services such as farm accounting software, tax preparation, consulting and appraisal for up to five years. These customers also receive discounts on FSA guaranteed loan fees and interest rate assistance. Farm Credit East's special incentives for 2011 were \$221,240.

FarmStart, LLP is a program to support talented, hardworking individuals entering agriculture. The first initiative of its kind in the United States, FarmStart invests working capital of up to \$50,000 to help northeast agricultural businesses become operational. The investment functions the same as an operating line of credit. It is intended to provide the critical last dollar of funding to be used as working capital.

"There are many excellent young people getting started in agriculture and we are very pleased to provide capital in support of these entrepreneurs," said David Boone, regional manager and FarmStart program director. Since the first investment approved in August of 2006, FarmStart has invested more than \$4.1 million to 96 participants (as of June 2012).

"Knowing there are funds available through the FarmStart program has helped me to stay calm in financial situations" explained

FarmStart participant Marcy O'Connell of Holland Farm CSA in Milford, NH. "The staff at Farm Credit East are extremely knowledgeable in farming, and knowing they are just a phone call away has allowed me to stay focused on my true passion, farming."

Each FarmStart participant works with a FarmStart advisor. This advisor provides substantial consulting and financial planning to help young farmers stay on track toward achieving their business objectives and establishing a positive business and credit history. Furthermore, each FarmStart recipient is required to complete a business plan. The business plan helps organize the new entrepreneur's mission and business goals, as well as define how to distribute their FarmStart funds. The plan serves as a roadmap for the first few years of their startup business.

Any beginning farmer, fisherman, forestry producer, farm related business owners and/or cooperative with great promise for success, but a minimal track record to date and limited financial resources is eligible to apply to FarmStart. To apply to FarmStart, an applicant must submit a FarmStart application, current balance sheet, income statement, monthly cash flow budget and a business plan, along with two personal references. For more information on the program and how to apply, visit [FarmCreditEast.com](http://FarmCreditEast.com).

Farm Credit East has also developed a 'Generation Next' program to assist those young farmers transitioning into management roles on the farm. This program provides management develop-

ment training for young people, ages 20 to 35, who are involved in the agriculture industry and are the middle-managers/managers of a farm or agricultural business. The program offers three seminar sessions geared towards progressing participants' overall business knowledge and management ability. For more information on the Generation Next program and for upcoming dates in your area visit [www.FarmCreditEast.com](http://www.FarmCreditEast.com)

Through programs such as the YBS Incentive Program, FarmStart, LLP and Generation Next, Farm Credit East recognizes the need to invest in the future of farming and agriculture in the Northeast. Northeast agriculture is strong for many reasons, including the diversity of its farm operations along with its wide array of farm products. The strength of Northeast agriculture will continue with the next generation and new entrants into the industry. Northeast farms contribute to a strong agricultural sector that provides wholesome, fresh products to consumers and essential economic activity throughout the rural communities of New England, New York, and New Jersey.

For more information on any of Farm Credit East's programs for young, beginning, small and next generation farmers, visit [www.FarmCreditEast.com](http://www.FarmCreditEast.com)

*Kristie Schmitt is Knowledge Exchange and Communications Specialist at Farm Credit East, ACA. She can be reached at 800.562.2235 or [Kristie.Schmitt@FarmCreditEast.com](mailto:Kristie.Schmitt@FarmCreditEast.com)*

**New Farm, Old Farmland****Ashley Loehr is the first non-family farmer cultivating Sparrowbush Farm since 1853.**

by Michael Chameides

Columbia County, NY has a vibrant farm history - the farmland at Sparrowbush Farm in Hudson, NY has been farmed since 1853. Generations of farmers have grown crops and fruit on the farm's rich, fertile soil. While Sparrowbush Farm is continuing the farming legacy, the farmer, Ashley Loehr, isn't part of the Palatine and Tinklepaugh families that farmed the land for over a hundred years. Her fifty-one acre farm, Sparrowbush Farm, is located on the land as part of a five-year lease agreement that Loehr has with the landowner.

Loehr is a participant in the Columbia Land Conservancy's (CLC) Farmer Landowner Match Program. The Program connects landowners looking to have their land farmed with farmers seeking land. It also provides support by showing landowners and farmers how to navigate farmer landowner arrangements, including leases, insurance, and the Agricultural Property Tax Assessments.

"The economics of farming has changed and farmland is disappearing," says Marissa Codey, CLC's Conservation and Agricultural Programs Manager. "The Farmer Landowner Match Program helps farmers adapt to the new conditions and provides land access options that enable local working farms to become economically viable." Since the program began in early 2009, CLC has had 21 successful matches, farming on 1,060 acres of land.

Loehr began farming at age thirteen. Living in Andover, NH, she spent her summers working at a local farm. When she graduated high school, she worked at the farm full-time for a year. Then she joined friends in Columbia County and started a farm in Germantown. She took a break from the project to get more formal training and spent a semester at Cornell University's College of Agriculture and Life Sciences. After a few years of growing her business, Loehr realized that she wanted a larger property with more land security - her Germantown land

was farmed through an informal rental agreement. Given how many acres she needed and the cost of real estate, Loehr decided that leasing

**New Farm page 15****FAST FENCE**

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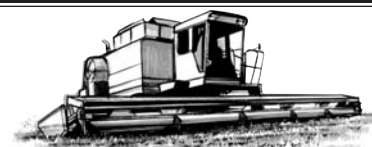
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## NEW FARMERS

# Holistic Training Helps Women Farmers Thrive

by Ann Adams

There's a group of women farmers in the Northeast that are turning their farms around and making an impact in their communities. They've been able to accomplish it as a result of participating in a unique training program managed by Holistic Management International (HMI) and partially funded by the USDA National Institute for Food & Agriculture's Beginning Farmer and Rancher Development Program. These women are implementing the Holistic



**Central New York Farmer Tricia Park (participant in the project).**

Management whole farm planning system and are successfully managing their farms for profit, land health, and quality of life. Here are their stories.

### Creekside Meadows Farm

Tricia Park claims that she and her family got into farming by accident. Accident or not, Tricia knew that when they started farming, they needed to get some business planning help. That's why she joined HMI's Beginning Women Farmers (BWF) Program in 2010. Since completing that program, Tricia has sold her 26-acre farm and purchased a 150-acre farm near Cazenovia, New York and begun making a tidy profit on her farm.

Tricia, her husband, Matt, and their son, Cameron, now raise grass-fed beef and pasture-raised chicken, turkey and pork on their new farm and are excited to be selling to an ever-increasing local market as a result of some key marketing efforts and word of mouth advertising.

One area of improvement has been forage management. "We used to run out of grass around July," Tricia says. "Now we're grazing until Halloween. This was at the old farm. Now at the new farm we never stopped grazing - all winter!!! We fed hay outside on the ground when we ran out of forage. It was pretty easy since we only overwintered 8 head of cattle (2 mom cows and rest young steers). The field we wintered them on hadn't seen cows in at least 10 years! It had been a hay field for that long."

Tricia also realized that just because you sell all your product, doesn't mean you are a successful farmer. After looking at the numbers, she realized they weren't making any money. In HMI's Beginning Women Farmer Program, she learned what she needed to do. "The financial classes helped us figure out expenses and get a grip on what money was flowing out the door and how it was happening. By then the egg enterprise was out the door. We ditched it. It failed for everything.... Too much time, no profit, and we

didn't even like them anymore! We decided to concentrate on 4 main enterprises: Grassfed beef, pasture raised chicken, pork and turkey."

In the first year of participating in the program, Tricia found that using the Holistic Management testing questions helped her make more informed decisions, create \$7000 more profit, and have more time to do the things she wanted. When she went to the bank manager to procure a loan for the new farm, she was able to show the jump in one year from \$1,000 net to \$10,000. "The bank manager didn't even want to see our business plan," says Tricia. "She could see we had a solid understanding of our financials. I even showed her my certificate from the Beginning Women Farmer program. They gave us our loan."

The near-term goal for the Parks is to make enough money farming that Matt can quit his off-farm job and farm full-time with Tricia and Cameron. The longer term goal is to make the farm successful enough that Cameron will be able to start his own enterprises and be the second generation farming on Creekside Meadows Farm.

### Maple View Farm

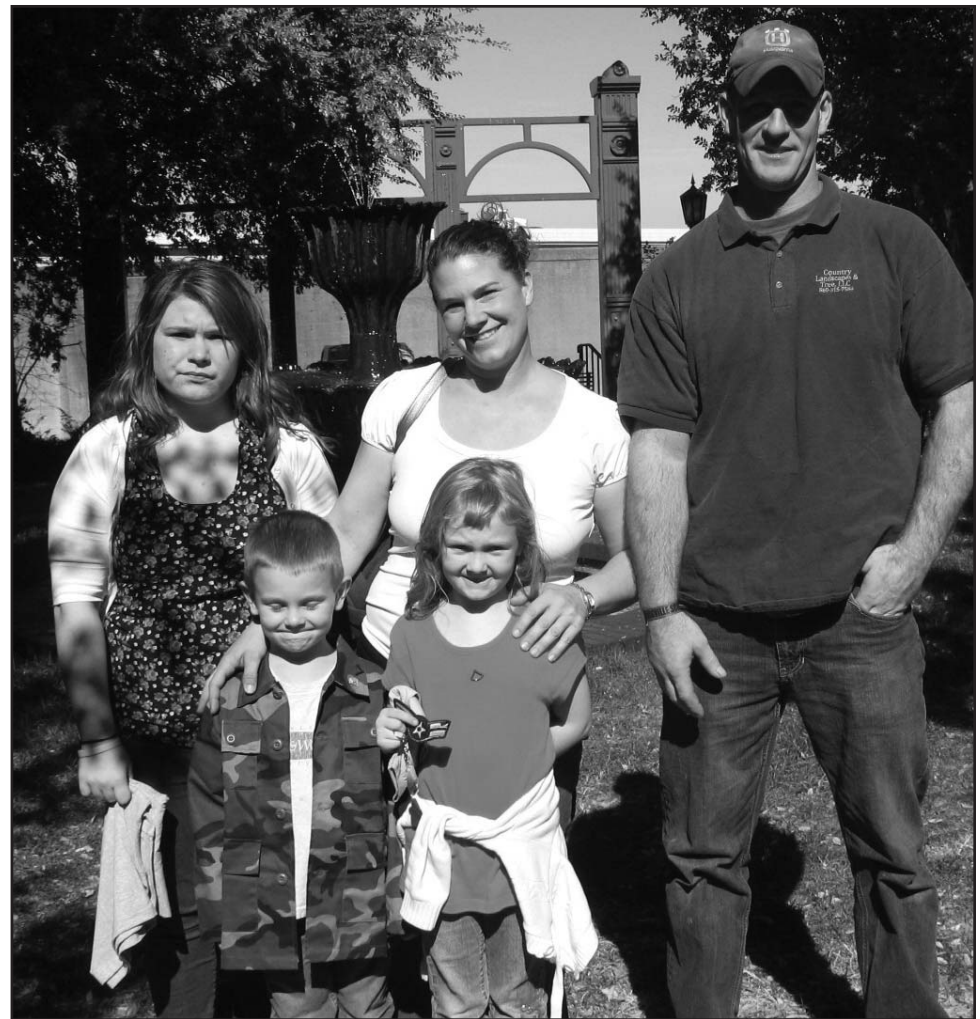
Kate and Jason Bogli moved back to Maple View Farm, the Bogli family farm, in 2003. This 50-acre, 3rd-generation farm founded in 1950, is near suburban Hartford, Connecticut. Kate had previously worked in the fashion industry and had no farming background, but when Jason, an attorney, said he wanted to return to the family farm, she agreed to take on the role of farmer's wife as well as new mother. When she heard about HMI's Beginning Women Farmer program through HMI's Connecticut collaborator, Northeast Organic Farming Association-Connecticut (NOFA-CT), she decided to join the 2010 class to improve the success of the farm.

The farm offers a variety of farm products including chickens, goats, cows, and Christmas trees which they sell through their on-farm store as well as offering horse boarding and riding lessons.

"We've had to figure out how to make money," says Kate. "The financial planning sessions really helped with this. I started with the horse boarding enterprise. One boarder had a special deal with us. When I started doing the numbers, I realized I was paying him to keep his horse. I felt bad about asking for more money, but I did the numbers and knew it was crazy not to do something now that I understood what was going on. That knowledge then helped me do the numbers for the other enterprises. It even made it fun. Things have improved 1000%."

Kate says the networking in the Beginning Women Farmer program has been really important. "It's really cool to be with other women doing the same thing. I decided to get together with other Granby women farmers so we can use each other as resources. Now there are 18-20 of us meeting regularly."

"What I learned from the program was that it's okay to get started. Do anything. Bravo for you! It's like a little baby walking. Try some things and don't worry about failing. It



**Heather and Daniel Driscoll with children, Megan, Riley, and Gavin.**

made me want to come to class, and the whole class with all the women was an inspiration."

### Green Valley Farm

Heather and Daniel Driscoll began farming in 2007 at Green Valley Farm in Eastford, Connecticut. At that time it was a homestead operation where they raised a few pigs for themselves and family. "It was a lot of work, but we wanted to raise a heritage breed (Berkshire) and be able to sell a quality product," says Heather. That commitment to a great product and the desire to make a full-time living from farming is what brought Heather into HMI's Beginning Women Farmer in 2011.

"I was frustrated when people would tell me you can't make a living farming," says Heather. My grandparents raised 7 kids on the profit they created from their dairy farm. I believe you just need to be a good business person if you want to be a successful farmer. That's why I participated in the program."

After working the kinks out of the system, the Driscolls started to sell to the general public in 2008. They started with a handful of customers. By 2010, they had about 30-40 customers which included organic grocery stores, the University of Connecticut, and some restaurants. Their primary marketing strategy was by word of mouth. They have about a 50/50 split between retail and wholesale customers.

But to grow the farm, Heather knew she had to push the marketing. "I really like my retail customers. These people come to the farm with their kids and it's a great experience for everyone," says Heather. "We had 50 pigs in 2011 and we are planning on doubling that

to 100 for 2012. We can increase the production so we are working to get all of the products sold."

To address this marketing weak link, Heather worked with Beginning Women Farmer Program mentor, Emily Brooks, on her marketing plan. In particular, they focused on gaining clientele from the internet, through their website and social networking.

"The marketing is really paying off. We can begin to pay ourselves the wages we want for our work," says Heather. "I worked as a paralegal before and was making \$30/hour. I need to think about making that same wage as a farmer."

"The program really helped me to get a handle on the numbers. You've got to be clear about the numbers so you know what you can or can't do. We were originally thinking about getting into breeding and doing feeder pigs. The good news was we would be able to get rid of the product quickly. Taking the pigs all the way to finish was more of commitment, but when we did the numbers we saw how much more profitable that was. Selling them as feeder pigs cut into the profit and just wasn't worth it."

With the Driscolls' focus on good business planning, Green Valley Farm is moving toward being a steady supplier of premium Berkshire pork products and an integral part of the local food system in Connecticut.

*Dr. Ann Adams is the Director of Education with Holistic Management International. She can be reached via email at [anna@holistic-management.org](mailto:anna@holistic-management.org). To learn more about Holistic Management go to [www.holistic-management.org](http://www.holistic-management.org).*



**New Farm from page 13**

was the best option. That way, she could focus her efforts on building the business.

Now, at age twenty-six, Loehr is starting the first growing season of Sparrowbush Farm. After searching for land for over a year, she found a good match and is leasing 98 acres that is mostly comprised of USDA designated prime soils, prime where drained soils, and statewide important soils. While acknowledging the stress of running a farm business, she is glad that she has the opportunity. "I feel most stimulated and alive when I'm challenged to make decisions." And there are many decisions the farmer of a new farm has to make.

"It takes a lot of time to learn the nuances of new land," says Loehr. "That's why it's really important to have a long-term



**Chicken in front of chicken coop at Sparrowbush Farm.**

land agreement." Given the unique drainage, sun, and soil conditions of any given property, it takes a season or two to adjust to a new location. As Loehr calibrates what works best on her farm, she is producing a wide array of products. She has chickens, pigs, and twenty different crops. She will also soon add lambs to her farm. Next year, she will review which crops worked best and reduce the number to ten.

Loehr is developing a winter CSA, or Community Supported Agriculture, where members pre-purchase a share in the harvest. Loehr will combine her harvest with food items purchased from other local producers to create an omnivore's package of fresh bread, milk, meat, eggs, cheese, dry beans, and winter storage produce. CSA members will pick up the food twice a month from November through May.

"I want to work year-round and less feverishly," explain Loehr. Farmers typically work grueling hours during the growing season and then have stretches of downtime during the winter. By putting off the distribution of some of the harvest until winter, she will create a more consistent work schedule.



**Feed sign in greenhouse at Sparrowbush Farm.**

The specifics of the winter CSA were based on feedback from Loehr's prior CSA members. She developed relationships with her customers and solicited comments and suggestions. People expressed excitement for obtaining a diverse array of local food in the winter.

In addition to the winter CSA, Sparrowbush Farm has egg shares available for pickup at three vegetable CSA's: Lineage Farms, Great Song Farm (a successful Farmer Landowner Match), and Shoving Leopard. Sparrowbush Farm also sells products at the Hudson Farmers Market on Saturday mornings.

In the interest of promoting more discussion and training on successful farm leases, Sparrowbush Farm is hosting



**Farmer Ashley Loehr (left) speaks with Columbia Land Conservancy's Marissa Codey (right).**

**Photos by Michael Chameides**

Columbia Land Conservancy's Down To Earth farm leasing workshop on Oct. 14 from 1-4 p.m. "I'm excited that the Columbia Land Conservancy is working to create infrastructure for local farms," says Loehr.

The Farmer Landowner Match Program is part of the Columbia Land Conservancy's mission to ensure that farming remains a central aspect of the local economy and landscape. CLC holds conservation easements on 21,980 acres which permanently protects the natural characteristics of the land, including soil resources. Approximately 1/3 of this land is working farmland. CLC is currently working with the Columbia County Agriculture and Farmland Protection Board to craft a plan to support and promote local agriculture. For more information on CLC's Working Farms program, contact Marissa Codey at 518-392-5252, ext. 211 or [marissa@clctrust.org](mailto:marissa@clctrust.org), or visit <http://clctrust.org/working-farms/>. To learn more about Sparrowbush Farms, visit [www.sparrowbushfarm.com](http://www.sparrowbushfarm.com)

*Michael Chameides is Outreach Associate at Columbia Land Conservancy. He can be reached at [michael@clctrust.org](mailto:michael@clctrust.org).*

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**FARM TECH****Water Saving Strategies for Your Farm & Garden**

by Patricia Brhel



**Good soil structure improves water infiltration and decreases runoff and erosion.**

**Photo by USDA SARE**

It's been a long, hot summer. July was the hottest month in over a century, and a lot of farmers, from tiny one acre plots to hundreds-of-acre century farms, have been worried about their water supply. It turns out that those who farm using old fashioned or organic principals are faring best in this new era of climate disruption.

Mason Gilbert, a small farmer in Brooktondale, NY, worried about the lack of snow last winter, and delayed planting, hoping that more rain would fall. He credits the crops he has to a five pronged approach: using raised beds, planting closely to minimize water evaporation, mulch, saving the water from his roof and using the available water in a controlled manner. For instance, his tomatoes get regularly scheduled water boosts to help avoid blossom end rot and the carrots, in the raised beds, get enough drainage to keep from being temporarily overwatered and splitting when it does rain. The late start delayed his entry into the nearby Caroline Farmers Market by a few weeks and initially didn't help his bottom line. What did help, however, was embracing the new social media outlets. The web site that his son put together to showcase the family farm and regular updates on Facebook have made a big difference in their sales. With that extra advertising, their produce is now selling fast at the local Caroline Farmers Market and to customers that visit the farm. His wife, Donna, also car-

ries produce to work to fill orders generated from the web. Check out [gilbertfamilyfarm.com](http://gilbertfamilyfarm.com) to see what's tripled their sales.

Christmas Tree Farmer Bob Hunt, in Trumansburg, NY, says, "We're not in trouble yet. The trees haven't started changing color, but that's partially due to the clay soil on much of our 233 acres. It tends to retain what water we get and while that may be a problem in the spring when I'm waiting for the ground to dry up enough to get the equipment into the fields, right now it's a help." With the soil moisture from Spring rains disappearing, Bob is concerned that he has no practical way to water his trees. "Our strategy right now is to pray for rain. If it gets worse we'll try to run a pump from our ponds and water the seedlings so that they don't die, but that's expensive and what do we do if the pond dries up?"

Don Barber and Rita Rosenberg of Rosebarb Farm in Ithaca, NY use horses to farm their acres using organic principals. They sell from a roadside stand and preserve their own food. "I've been trying to retain all the water I can." He explains, "We use gutters to direct and save the water from our house and some of the outbuildings. I've got water barrels and we've buried a 500 gallon tank as backup. We also mulch and water sparingly, putting the water where it will do the most good. For instance, we water the berries as they're setting fruit and as the fruit is plumping up. It's the only way to ensure a crop. There were some blueberries that didn't get enough water and they just dried up on the plants. We could probably do a little more in the way of retaining water and if this climate disruption keeps up, we'll have to."

The Hatches have been raising sheep, bees and vegetables on their acreage for about 40 years. "We water using drip hoses in a controlled manner. We used to spray the vegetables using water from our pond, but the pump was noisy and expensive and it wasted a lot of water. Now, with controlled application we can use the well in our barn and we haven't run out of water yet. It might help that we live on a hill with an abundance of water and a forest surrounding us. When we moved here 40 years ago we planted trees as a windbreak and learned to use



**A screenshot from an instructional video titled "Rainwater Catchment from a High Tunnel for Irrigation Use".**

mulch. It all makes a difference in both the amount of work we have to do and in the bottom line."

Cal Snows family farm in Caroline, NY has been in existence since 1816 and two of his sons are following in the family footsteps. Son Aaron has helped them branch out into a value added product, cheesemaking, to help grow the business. With nearly 200 years of family wisdom Cal has a number of things to suggest. He relays an old country saying that some farmers who were hit by last year's floods might relate to. "They say that a dry year will scare you to death but a wet year will starve you." Still, the lack of water this year is not easy to cope with.

"We plant at least 15% more than we expect to need during any year. That way if we have a very wet or dry year, or hit a cold spell, we've got a margin of error. If we end up with more hay and feed than we need, that means that we have a little extra income that year that we can set aside for a bad year. With the amount of land we have and while trying to grow the feed for all of our animals, irrigation isn't practical. We do mulch, use crop rotation, avoid over plowing or over compacting the soil and we plant varieties of alfalfa and other crops that can handle the drier weather. We planted the small grains early enough this year that they got some growth when there was still some rain, but

our corn is stressed. There are more harmful insects in the fields than normal, but we're not buying or spraying any insecticide. The cost of the chemicals, the fuel to spread them and the damage to the beneficial insects isn't worth it. We use a pond to water our livestock and so far the springs that feed the pond haven't failed us, but the heat, even with giving the cows as much water as they want, is still cutting into milk production and their general health. For instance, fertility declines when the temperature rises."

Cornell Cooperative Extension and the USDA SARE (Sustainable Agriculture Research and Education) have a number of tips for soil management and conserving water. They include water capture in rain barrels and tanks, mulch and drip irrigation on smaller acreage, planting drought resistant varieties and native forage whenever possible and saving and recycling any water that does fall. Taking care to till in a limited way, so that you're not kicking up dust and further drying the soil will also help. Building up the soil with organic matter, using cover crops and crop rotation will also help. There is also information on innovative systems for tillage, irrigation and runoff collection.

*Pat Brhel is a community volunteer and freelance writer who lives in Caroline, N.Y. She can be reached at [lsparrow@hotmail.com](mailto:lsparrow@hotmail.com) or 607-539-9928.*

**Vegetable Equipment Considerations for New Farmers**

by Sara Runkel and Tianna DuPont

*Editors Note: This is the first in a series of three articles.*

Equipment is expensive. But often it can pay for itself quickly if you get the right tool for your farm. We would like to share a few considerations and tips we have learned through a recent equipment demonstration at the Seed Farm New Farmer Training and Incubator Program in Emmaus, PA as well as from our wonderful farmer neighbors and a few good resources. We hope descriptions of different

options will help you find the right equipment for your farm.

Hoes have been around since pre-dynastic Egypt, and there are many types out there. **The stirrup hoe** is a standard on small vegetable farms. The oscillating blade slices right under the soil surface, cutting off small weeds on both the pull and push. Available in many widths, it works well in most soil conditions. Like all hoes it works best on small weeds, but it can be used on larger weeds too. The **collinear hoe** works only on the pull. The thin blade

works best on small weeds. It can slide into tight places between plants and you can slip it right under drip tape. **The European push hoe** (Photo 1) is a favorite of some of our apprentices. It has a really long handle with a pistol grip which makes it easier for the operator to stand up straight and have a comfortable grip. The whale tale shaped blade rides just under the soil surface cutting off small weeds. With a wider blade than most, it works well on widely spaced crops, but more challenging to use for in-row weeds. **The swan neck hoe** from Dewitt also has a long handle

which helps even tall folks stand upright while they hoe. It is used with a sweeping motion that can be hard for Americans to get used to.

No matter which hoe you use, it is important to think about ergonomics. The blade should be parallel to the ground. You don't want to be hunched over. And make sure you sharpen your hoe! It can really cut down on productivity and be hard on your body to deal with a dull hoe. When explaining how to sharpen tools I like to use steps I borrowed from Josh Volk, Slow Hand

Farms: For a hoe you want a 30 degree bevel. A six inch single mill bastard file with a handle works well. Files cut only on the forward stroke. Try not to drag them backwards which will dull the file. Slide the file smoothly across the blade using even pressure all the way across. For many hoes like a stirrup where there is an angle on only one side of the blade, use one or two quick strokes to take off the bur on the back. The bevel should be flat, not rounded.

There are many types of cultivators out there. Many of our neighbor farmer col-

leagues prefer belly mounted cultivators with sets of sweeps or knives (Photo 2). The great thing about a belly mount is you are looking down on the crop and so you can get very close and run a lower risk of looking back which causes the inevitable swerve to the side. Specialized cultivating tractors with offset seats and engines improve the operator's view of the crop.

We are currently using two cultivators at the farm: a Low Residue Cultivator (from I&J) and the Williams Tools System with side knives and **Vegetable page 17**



## FARM TECH

### Vegetable from page 17

tines. The **Low Residue Cultivator** has a set of S shanks with duck sweeps (Photo 3). The S shanks have a little flex so they vibrate vigorously, shattering soil, knocking soil from weed roots and leaving weeds exposed on the soil surface [1]. Instead of one larger sweep between rows there are multiple sweeps attached to a parallel linkage on the main tool bar which helps get all the weeds. However, they call it a low residue cultivator because all those sweeps also do a good job of catching field trash and wrapping it around the sweeps. This cultivator, like many others, works better on a flat bed system. It is very useful to have a set of gauge wheels to keep sweeps at a consistent height. Since the sweeps are just going an inch below the surface you don't need a lot of horse power to use it. Our Kubota only has 23 horsepower and it works fine.

We also trialed a multi-component weeding



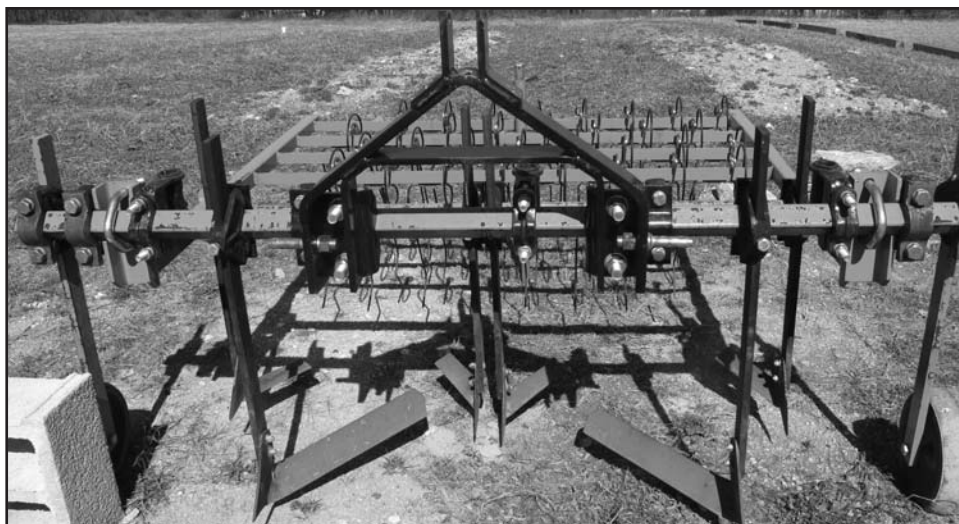
**Photo 2.** Belly mounted sweeps allow for precision cultivation. This tractor also has an offset which allows the operator to look down on the crop he/she is cultivating.

frame called the **Williams Tools System** (Photo 4). The Williams is a tool bar with multiple sets of spring (or flex) tines as well as an additional tool bar where you can mount side knives or other cultivators (we use side knives). The flex tine weeder can be used to blind cultivate or by lifting up tines over the row to work around crops up to 16" tall. The tines rake the soil surface to

emergence for large seeded crops. For example, at Summit Valley Farm in New Holland PA, Wade Espenshade uses a Kovar flex tine four or five days after planting corn. The crop is not up yet and corn planted 1 1/2 inch deep is not bothered by the surface disturbance. The trick with tine weeding is it works best on tiny weeds before they emerge. If you can see the weeds it may already be too late. Three great things about a flex tine weeder are: (1) it kills in-row weeds, (2) it's fast (Wade runs it at 8-10 mph) and (3) it helps conserve moisture and suppress new weeds by creating a dust mulch in the top

inch. This thin dried layer holds moisture below and makes it hard for the weeds to germinate.

Vegetable farmers we know also use flex tines pre-emergence on carrots and other slow to emerge crops. The carrot seed which has not germinated yet just moves



**Photo 4.** Toolbar with both side knives and spring tines. The large knives on the front are pumpkin knives that can reach in under spreading crops.

Photos by Tianna DuPont

pull out and expose sprouting and emerging weeds. Many farmers use tine weeders pre-

around under the soil. After the crop is up you have to go much slower but you can tine weed many direct seeded vegetable crops, killing in-row as well as between row weeds. Don't use it right away though on transplanted crops and you have to get to know which direct seeded crops can take the thrashing. For example, Bill Chambers in Oregon says he does not disturb pumpkins for ten days after germination [1]. Disadvantages of flex tines include (1) Cultivation timing is critical weeds with four or more leaves and (2) emerged grasses at any stage are rarely



**Photo 1.** European Push hoe.

Photo by Jodi Torock

controlled. Therefore, early-season flex-tine harrowing should be integrated with a more aggressive cultivator. Research in transplanted broccoli, snap beans, and sweet corn has shown that flex-tine harrows can reduce crop stand and yield when used before the crop is well rooted [2].

Once the plants (or the weeds) get a little bigger we use side knives on the same tool bar to cut off weeds and throw some soil into the row to cover other weeds. Side knives do not generally throw as much soil as sweeps. You can reverse them to throw more or less soil.

When you are buying a tool bar mounted cultivator, make sure it is sized for your tractor. You want to make sure you are covering your tire tracks. You will also want to make sure that the duck sweeps used to cultivate behind your tires are wide enough. They should be matched to your wheel width.

If you are mid-scale and plan to seed or transplant by hand, another useful tool might be a row marker. With an idea bor-



**Photo 3.** Seed Farm manager Sara Runkel demonstrates a low residue cultivator with S tines and sweeps set up for two rows at a recent field day.

rowed from Quiet Creek Farm in Kutztown, we mounted a set of three row marking knives on a tool bar. This allows us to mark three (or two) parallel furrows down the bed. Then, even when hand seeding or transplanting we can still come back and cultivate with the tractor without knocking out plants (see marked rows in Photo 3).

For more information about the Seed Farm equipment demonstration visit [www.the-seedfarm.org](http://www.the-seedfarm.org). The Seed Farm links new farmers with training, equipment and land through its Apprenticeship and Farm Incubator Programs eliminating the top three barriers to farm entry, and opening doors for a new generation of farmers. The training program is currently accepting applications due October 15, 2012.

*Sara Runkel is the Seed Farm Executive Director. She can be reached at [sara\\_runkel@theseedfarm.org](mailto:sara_runkel@theseedfarm.org). Tianna DuPont is a sustainable agriculture educator with Penn State Extension. She can be reached at [tdupont@psu.edu](mailto:tdupont@psu.edu) or (610) 746-1970.*

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- [1] Bowman, G., ed. *Steel in the Field: A Farmers Guide to Weed Management Tools*. 1997, Sustainable Agriculture Network: Beltsville, Maryland.
- [2] Grubinger, V. *Cultivation Equipment for Weed Control: Pros, Cons and Sources*. Vermont Cooperative Extension, 2001.



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## Northeast Sare Spotlight

Welcome to the Northeast SARE Spotlight! SARE (Sustainable Agriculture Research and Education) offers grants to farmers, educators, universities and communities that are working to make agriculture more sustainable – economically, environmentally, and socially. Learn about whether a SARE grant would be a good fit for you.

## Taking Agritourism as High as a Hot Air Balloon

**Donna Quadri developed a comprehensive agritourism plan to help vineyard owners and businesses enhance tourist experiences**

by Rachel Whiteheart

Anyone who has driven through the Chautauqua-Lake Erie Wine Region of Western New York has seen the rolling hills of wine country that expand out as far as the eye can see. Farmland totaling 30,000 acres, populated by 23 wineries, blankets the region and provides it with a unique cultural and economic character. But, despite the huge economic contribution that these wineries provide, Dr. Donna Quadri-Felitti, a New York University tourism specialist, found that there was room for improvement when it came to tourism marketing in this region. In 2011, she received a SARE 'Sustainable Community' Grant to conduct research on the ideal tourism experience for visitors to this region and to disperse her findings to small businesses, wineries, and tourism specialists in the area.

Donna had a concern that "most marketing just looks at what the consumer wants and advises businesses to build their products around that." So, when she began to design her SARE project, she incorporated a more comprehensive approach. She put together surveys that would gather feedback from both the supply-side (vineyards/businesses) and the demand-side (visitors and tourists) about their agri-

tourism preferences. She disseminated these surveys to area farmers and businesses, consumers, and tourists whose names she collected from the visitor logs of businesses in the region.

During the subsequent 2 months, over 1000 tourists and 180 regional business owners and wineries responded to her surveys. The number and nature of the responses suggested that visitors to the region, in Donna's words, held a "desire to understand this asset [farming] in the region" and that vineyard owners and other area businesses had a strong need for consumer education - a way to teach visitors about the value of farms to the community and the methods of producing wines and other products. The survey responses also provided Donna with important demographic facts about the region's wine tourists. For example, many were 55 or older, middle class, college educated women, and the majority travelled to the area from New York or Pennsylvania.

When all the data was compiled, Donna used the feedback to design a series of educational resources, essentially an "agritourism toolkit", for the farmers and businesses of the Chautauqua-Lake Erie Wine Region. In part, the "toolkit" included resources on broad topics like the four themes of the agritourism approach (see sidebar) and the basic ingredients in any type of tourism experience. It also offered information on more region-specific topics like the type of wine tourism experience that tourists in this particular region want and examples of region-specific tourism strategies applied to business types (e.g., vineyards, wineries, retail, foodservice, accommodations). Some of the suggested strategies to attract more visitors included hosting musical concerts inside the wine cellar, offering visitors rides on grape pickers, or scenic hot-air balloon tours over the vineyard. Donna also found that, for the demographic that most frequently visits this region, putting emphasis on aesthetic appeal (the unique natural beauty of the area) has the greatest impact on a visitor's intent to return.

Donna, with the help of Penn State and Cornell University regional programs, local tourism organizations, and



**Riding a hot air balloon over wine country is popular in California. Champagne sunrise flight, anyone?**

Photo courtesy of 'California Dreamin'

chambers of commerce, used a range of techniques to distribute her toolkit as widely throughout the region as possible. Her main outreach was through a series of PowerPoint slides, a tool she saw as the most "readily consumed and efficient way to disseminate information." She hosted two 90-minute workshops, open to the public, during which she reviewed these slides and discussed how her findings could be used by local businesses to enhance the region's agritourism experience. To view these resources, visit SARE's website, [www.sare.org](http://www.sare.org) and search for Donna's project (Project Number CNE11-091).

Donna, an Erie PA native, saw an opportunity in her home region and was eager to do something about it. Luckily, for the small businesses and vineyards of the Chautauqua-Lake Erie Wine Region, she was able to combine her vast amount of tourism experience with her strong personal tie to the region, to help fill in the tourism marketing gaps and bring a new level of economic vitality to her home.

To access the agritourism toolkit, visit [www.sare.org](http://www.sare.org) and search for grant CNE11-09 or contact Donna at [quadri@nyu.edu](mailto:quadri@nyu.edu).

*Rachel Whiteheart was a summer intern at the Cornell Small Farms Program during summer 2012 and is now a junior Environmental Engineering major at Cornell University. She may be reached at [rmw95@cornell.edu](mailto:rmw95@cornell.edu).*

Agritourism applies the "four-legged chair" approach to tourism marketing. The four 'legs' describe aesthetic, educational, entertainment and escapism components. For example, the natural beauty of rolling hills sprinkled with vineyards initially entices the tourist (the aesthetic component). After tourists learn more about the region (education), have fun while learning (entertainment), and experience the relaxing elation of being free from the constraints of the modern world (escapism), the tourists are hooked. By increasing consumer involvement in production/processing, agritourism can also enhance the demand and appeal for local products and can consequently help promote diversification of products for farmers.

## Upcoming SARE Grant Deadlines

### Partnership Grants - Due November 1st

Partnership Grants are for agricultural service providers-extension staff, consultants, nonprofits, state departments of agriculture, and others working in the agricultural community who want to conduct on-farm demonstrations, research, marketing, and other projects with farmers as cooperators. Projects must take place on farms or directly involve farm businesses. Reviewers look for well-designed inquiries into how agriculture can enhance the environment, improve the quality of life, or be made more profitable through good stewardship. Grants are capped at \$15,000. Learn more at: <http://nesare.org/get/partnership/>

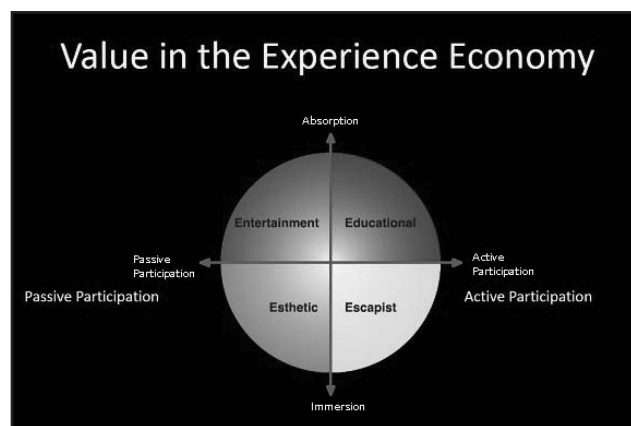
### Sustainable Community Grants - Due November 15th

Sustainable Community Grants are for projects that strengthen the position of sustainable agriculture as it affects community economic development. Communities and com-

mercial farmers must benefit from these proposals, and the selection emphasis is on model projects that others can replicate. Grants are capped at \$15,000. Learn more at: <http://nesare.org/get/sustainable-community>


### Farmers Grants - Due November 27th

Farmer Grants are for commercial producers who have an innovative idea they want to test using a field trial, on-farm demonstration, or other technique. Farmer Grants let commercial producers explore new ideas in production or marketing; reviewers look for innovation, potential for improved sustainability and results that will be useful to other farmers. Projects should be technically sound and explore ways to boost profits, improve farm stewardship, or have a positive impact on the environment or the farm community. Grants are capped at \$15,000. Learn more at: <http://nesare.org/get/farmers/>



**The experience economy approach encompasses four main persuasion methods: using aesthetics, entertainment, education, and escapism.**







Photos by Donna Quadri-Felitti



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HORTICULTURE

Chrysanthemum White Rust: Good Management Prevents Major Losses

by Elizabeth Lamb, Margery Daughtrey and Margaret Kelly

Chrysanthemum white rust (CWR) is a fungal disease of chrysanthemums caused by Pucciniahoriana that can cause severe dam-

when they come in and regularly thereafter for symptoms of white rust. Water with drip tapes or individual emitters if possible to avoid splashing spread via overhead irrigation. Do not keep any decorative plantings of chrysanthemum on your property from year



More advanced symptoms on bottom of leaf.

until the plants are in the proper environment. Cool weather (40-73°F), high humidity (over 75%) and wet foliage for at least 5 hours promote the development of CWR. If temperatures stay above 73°F and no rainfall is predicted, no treatment is necessary. If rainfall is predicted for a 24-hour or longer period and the temperatures are expected to be near or below 73°F, preventative fungicide treatment is prudent even on crops that appear healthy.

Many weather websites provide temperature and precipitation forecasts based on your zipcode or a nearby airport. Some options are: <http://www.accuweather.com/>, [www.weather.com/](http://www.weather.com/)

When using rust fungicides preventively, rotate among active ingredients and FRAC codes. Use contact (e.g. chlorothalonil and mancozeb) as well as systemic (strobilurin and DMI) materials within the rotation. Follow all label precautions regarding whether treatments are recommended for plants in flower.

For additional information on fungicides for rust management, check the Cornell Guide for the Integrated Management of Greenhouse Floral Crops or the Cornell Pest management Guide for the Production and Maintenance of Herbaceous Perennials <http://ipmguidelines.org/Greenhouse/Chapters/CH06/default-39.aspx> <http://ipmguidelines.org/HerbaceousPerennials/Chapters/CH05/default-1.aspx> Remember to check the label for specifics of use.

Because chrysanthemum white rust is a Federally regulated pest, you must contact your NYS Horticulture Inspector if you suspect your plants are infected. For contact information for your local inspector, call the Division of Plant Industry at 518-457-2087.

Elizabeth Lamb is the coordinator for ornamental IPM for the NYS Integrated Pest Management Program. She can be reached at 607-254-8800 or [eml38@cornell.edu](mailto:eml38@cornell.edu).



More advanced symptoms on top of leaf.



Early symptoms on top of leaf.



Early symptoms on bottom of leaf. Photos by Margery Daughtrey

age, including complete crop loss due to direct effects of the disease or to quarantine procedures. Pot mums, garden mums and mums grown for cut flowers are all susceptible to the disease. The characteristic symptoms are small white to yellow spots on the upper leaf surface corresponding to pinkish to white pustules on the lower leaf surface. Early infestations may be hard to identify. Train workers how to identify CWR so that any outbreaks can be identified early before they spread through the crop. The disease is very contagious within a mum planting, and can be spread to other plantings by the wind during rainy weather.

For more information on identifying and preventing chrysanthemum white rust, additional references are available at: [http://www.nysipm.cornell.edu/pest\\_alert/chrys\\_white\\_rust/default.asp](http://www.nysipm.cornell.edu/pest_alert/chrys_white_rust/default.asp).

Prevention is the best method of control. Buy cuttings from a reliable source. Inspect them

to year. Infected plants may not show symptoms

Cucurbit Downy Mildew on Cucumber: New Strains, New Varieties

by Dr. Michael Mazourek

Cucurbit downy mildew (CDM) (*Pseudoperonosporacubensis*), is a serious disease of cucurbits worldwide that attacks all cultivated cucurbits. Symptoms progress from yellow, angular lesions on the upper leaf surfaces restricted by leaf veins to the production of gray sporangia that can be seen on the lower leaf surface. Lesions expand, become necrotic, and kill the leaves. The sporangia become airborne, land on other leaves and, with appropriate temperature and leaf wetness, will germinate to infect the plant. This rapid production of large numbers of sporangia makes *P. cubensis* a particularly explosive pathogen. (See [http://vegetablemdonline.ppath.cornell.edu/NewsArticles/Cuc\\_Downy.htm](http://vegetablemdonline.ppath.cornell.edu/NewsArticles/Cuc_Downy.htm) for more photographs of symptoms)

The identification of CDM is straightforward at the initial stages on cucumber plants where the jigsaw puzzle pattern on the upper side of leaves is quite unmistakable, but these early symptoms can be much less distinctive on melon and squash. With all the cucurbits, the appearance of spores directly below the yellow sectors is dependent on environmental conditions. The disease progresses rapidly and as quickly as within two weeks the leaves will be completely dead, brown and shriveled. Squash petioles survive noticeably longer than the leaves and remain green and erect, holding up the brown, shriveled leaves.

In the U.S., CDM was the most serious pathogen of cucumber until the late 1940's and 50's, when resistant

varieties were released. However, in 2004 and 2005, the pathogen re-emerged as a serious threat to cucurbit production in the US. The pathogen cannot live year round above 30 degrees latitude (southern Florida). Thus, each year the first crop in the US to be infected with cucurbit downy mildew is found in Florida sometime between mid-February and early April. The pathogen will then move north as additional cucurbit crops are planted. For many years, cucurbit downy mildew would not be seen in Upstate New York until very late in the season (late August or September). However starting in 2005, the pathogen has been found in cucumber fields in July. It is possible that winter greenhouse production of cucumbers is enabling *P. cubensis* to overwinter and infect field-grown plants earlier in the season.

Regardless of origin, new strains that overcome host plant resistance are now present in the US. Cucumbers are very vulnerable, and although early season production is often harvested before the pathogen arrives in our area, mid and late season harvests are tenuous. Melon harvests are largely influenced by a loss of fruit quality as the pathogen depletes the plants' production of sugars for the developing fruit. Summer and winter quash are fortunately more resilient.

High tunnel production is a promising approach to controlling the CDM. High tunnels naturally maintain a drier atmosphere than open field production that limits leaf wetness thereby depriving the pathogen of the wet environment it needs to complete infection cycles. Other pathogens remain



Picolino - a susceptible cucumber variety, Aug. 26, 2010.



Marketmore 97 - a resistant cucumber variety, Aug. 26, 2010.

Photo by Michael Mazourek

problematic or are amplified in a high tunnel environment. Powdery mildew does not require free moisture like CDM and is able to multiply readily in high tunnels. Bacterial wilt symptoms are often amplified in a high tunnel environment because the bacterial accumulation in the plant vasculature restricts transpiration.

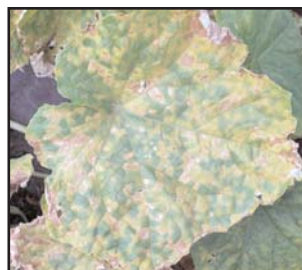
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**HORTICULTURE****Cucurbit from page 20**

CDM management in NY now requires a combination of new cultivars with resistance to the new strain, and precisely timed chemical controls. Growers can monitor the distribution and movement of the disease in the US online through the CDM ipmPIPE ([www.CDMipmPIPE.org](http://www.CDMipmPIPE.org)) This website helps growers know when to spray a cucurbit crop or make other decisions by being

**Right: Symptoms of powdery mildew on cucumber for comparison.**



**Leaf symptoms of cucurbit downy mildew on cucumber.**

aware of when downy mildew has been observed in a neighboring county. For automatic updates, the CDM alert system allows growers to receive updates by e-mail or text messages when pathogen has been reported a selected distance from a chosen location. In 2012, the site received confirmed reports of CDM in Suffolk County on July 17th, Erie County July 25th, and Ontario and Seneca Counties on August 7th and 8th respectively.

The search for resistant cultivars had not been promising until recently. Studies on melon identified undomesticated sources of resistance decades ago but little work



**Symptoms of bacterial wilt on cucumber for comparison.**

had been done to transfer this resistance into a modern commercial cultivar. A survey of squash done at Cornell in 2009 identified several sources of resistance. In the case of both melon and summer squash, Cornell is actively working on the development of new cultivars with this needed resistance. Cucumber has received more attention. Several

studies from North Carolina have identified weak resistance in some cultivars. Studies at Cornell have identified partial resistance in a slicing cucumber that is commercially available, 'Marketmore 97'. Two new cultivars from Seminis Seed Company, SV3462CS and SV4719CS, promise to have improved resistance and are available as treated seed.

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