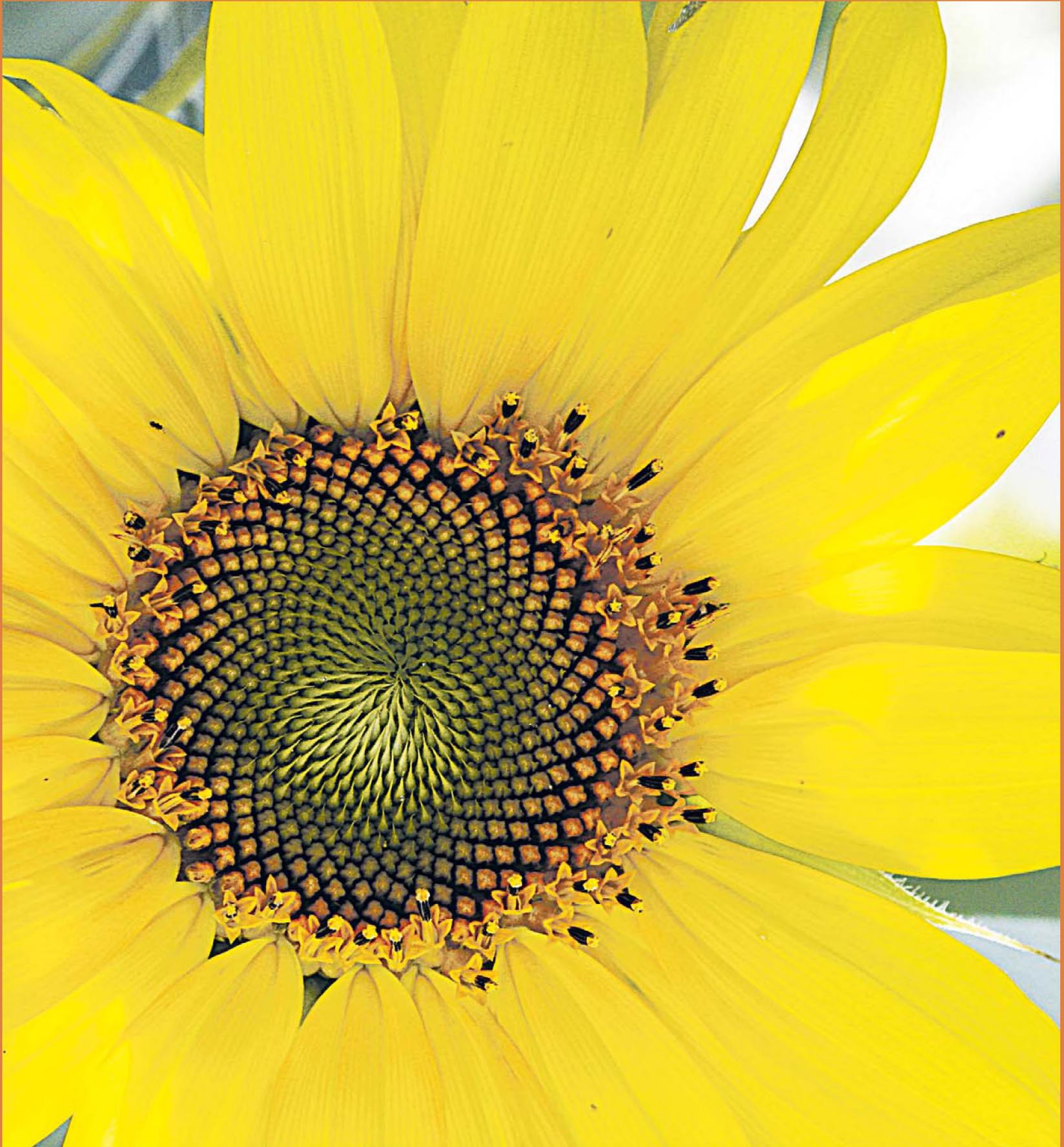


SMALL FARM QUARTERLY

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



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SUMMER 2017

Supplement to Country Folks

EXTENSION NEWS**Extension, NYS Apple Growers Partner on Innovation**

by RJ Anderson

For optimal yield and fruit quality, apple growers in the United States have long relied on chemical solutions to generate spring blossom thinning to promote the growth of larger, higher-quality fruit by giving them less competition for carbohydrate. However, in the last couple of years, one of the apple industry's go-to thinning chemicals, carbaryl, has come under fire with retailers such as Whole Foods Markets prohibiting the chemical's use on produce sold in stores.

Equally alarming for growers, says Cornell Cooperative Extension's (CCE) Mario Miranda Sazo, an orchard management and mechanization specialist with CCE's Lake Ontario Fruit Team, are the continued whispers of potential U.S. ban on carbaryl. The carbamate insecticide has been outlawed in Europe since 2008.

"Growers in the Northeast are especially dependent on carbaryl—nearly all of them chemically thin in the spring using carbaryl in combination with either naphthaleneacetic acid or benzyladenine," said Miranda Sazo. "Because of this region's humid climate, removing a key contributor like carbaryl from current management practices could create obstacles for growers and make them less competitive."

Such concerns prompted New York apple producers, CCE educators and Cornell researchers to team up for a recently-completed three-year study examining a mechanical blossom thinning alternative to carbaryl. Published in the winter 2016 issue of New York Fruit Quarterly, research led by Miranda Sazo and College of Agriculture and Life Sciences (CALS) scientists Poliana Francescato, Terence Robinson and Jaume Lordan Sanahuja, tested



Jason Woodworth operates a tractor-mounted Darwin string thinning machine to thin apple blossoms at the Lamont Fruit Farm in Waterport, NY. Lamont Fruit Farms participated in a recent Cornell study examining mechanical alternatives to chemical blossom thinning.

mechanical string thinning on Gala and Honeycrisp apple varieties at Lamont Fruit Farm in Waterport, NY.

Mounted on the front of a tractor, the Darwin string thinner resembles a large weed whacker crossed with a feather duster. Featuring rotating flexible two-foot-long injection-molded plastic spindles, the machine whips away a third to a half of a tree's blossoms. What remains theoretically will grow into bigger, healthier fruit.

"With this study, we wanted to identify the ideal thinning parameters while monitoring

and mitigating potential spread of fire blight (a destructive and highly contagious fruit tree disease exacerbated when tree tissue is wounded)," said Miranda Sazo, who received funding for the study from the U.S. Department of Agriculture Sustainable Agriculture Research and Education program and New York Apple Research and Development.

While measuring return bloom and potential yields for each tree, we looked at supplementing mechanical thinning with other chemical treatments."

"It was probably the largest research project focused on mechanical blossom thinning undertaken in North America thus far," Miranda Sazo added.

For the project, Lamont Fruit Farms committed approximately two-and-half acres of mature Honeycrisp and Gala trees. Rod Farrow, one of the farm's three owners, became intrigued by the technology after seeing it five years ago while visiting orchards in Europe.

"When I returned from Europe, we started some very basic and very small trials," Farrow said. "Then Mario approached us about conducting a larger three year project. My partners Jason Woodworth, Jose Iniguez, and I were more than happy to collaborate."

The first year of the study ended in frustration as they struggled to pinpoint optimal rotation speeds for the Darwin spindles and ground speed of the tractor. "The fruit size ended up being too small that year and we lost a considerable amount of money compared to grower standard for that acreage," Farrow said. "The second year we lowered the revolution per minute (rpm) of the spindle and improved our yield a little, and then

See Apples page 3

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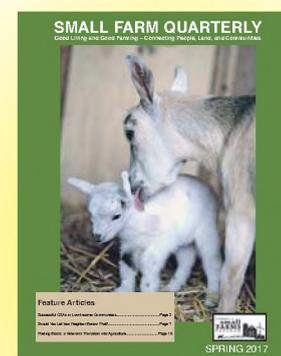
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Cornell Small Farms Program Update

Armed to Farm Returns to New York

The Cornell Small Farms Program in partnership with the National Center for Appropriate Technology (NCAT) are bringing the week-long Armed to Farm (ATF) training back to New York State. ATF gives veterans an opportunity to see sustainable, profitable small-scale farming enterprises and examine farming as a viable career.

Participants learn about business planning, budgeting, record keeping, marketing, live-stock production, vegetable production, and more. This year's event will take place in early August in Queensbury, NY. For more information, visit the Armed to Farm website (<https://www.ncat.org/armed-to-farm-events>).

This event is being coordinated by Cornell Small Farms Program in partnership with the National Center for Appropriate Technology (NCAT) with grant funding support from the USDA's National Institute of Food and Agriculture.

More information about Armed to Farm and other NCAT farmer veteran resources can be found on the Armed to Farm website: <https://www.ncat.org/armedtofarm/> Please contact Margo Hale, margoh@ncat.org, 479-442-9824, Kat McCarthy, kmm485@cornell.edu, or Dean Koyanagi, drk5@cornell.edu with additional questions.

Agroforestry in Practice: a 3-day training for Service Providers

October 17, 18, and 19, 2017

Watkins Glen, NY at the Schuyler County Cooperative Extension

Agroforestry is the science and art of combining trees and forests with crop production. It is a topic of great interest to many landowners and farmers and offers many promising enterprises including maple syrup, log mushroom cultivation, silvopasture, (combining trees and livestock) and others.

This three-day course is designed for service providers including extension educators, farm non-profit organizations, public and private foresters, and consultants who routinely work with landowners and farmers to implement best practices. The workshop is co-sponsored by the Schuyler County Cooperative Extension, Cornell Small Farms Program, with support from NE SARE, Penn State, and the USDA National Agroforestry Center.

The training will include both classroom time as well as many outings to established agroforestry farms to see these systems in practice. In order to optimize networking opportunities, registration will be limited to 40 participants.

Early bird registration for this three-day training is \$80 — registration will be \$100 after August 15. Register at <http://small-farms.cornell.edu/agroforestry-in-practice/>.

Apples from page 2

in the 3rd year we slowed the spindle speeds even more and found what we think is a sweet spot."

For Lamont Fruit Farms' narrow fruit wall, in which trees are spaced two feet apart with 11 feet between rows, the optimal spindle speeds lie within a range of 180 and 200 rpm. The ideal tractor speed is five miles per hour.

"With Mario's help, we really dialed those metrics in, which has been huge," said Woodworth, who operates the Darwin machine. "We also found that spraying with a benzyladenine product immediately following string thinning improved fruit quality and yield. And return bloom of the blossoms that were mechanically thinned last year has been more than acceptable."

The encouraging data prompted Lamont Fruit Farms to use the process on additional acreage this spring. "After the study, we felt very comfortable trying it out on a more commercial scale," Farrow said. "And at the conclusion of this growing season, we should be able to glean enough real-world yield return data to analyze mechanical thinning's true potential for our operation."

Still, the potential spread of fire blight, a disease that can spread quickly and significantly impact a farm's entire harvest, has pushed Miranda Sazo to conduct more research. This past April, he partnered with

CALS Associate Professor of Plant Pathology Kerik Cox on a one year trial at the New York State Agricultural Experiment Station in Geneva, New York aimed at assessing and minimizing the threat of fire blight following mechanical thinning. It is running concurrently with a similar study at Washington State University.

Going forward, Woodworth believes Miranda Sazo's research has already helped Lamont Fruit Farms better position itself should carbaryl exit the industry. "If it goes away, we're in a good place to react and hopefully remain profitable," Woodworth said. "And Mario has been a big reason for that. His expertise and energy has made a big impact."

Miranda Sazo believes potential exists mechanical thinning could become a game changing modality for apple growers in the New York and the rest of the Northeast. "We're on an accelerated learning curve," he said. "They've been testing and using these techniques for several years in Europe — what we've done in three is really exciting. It goes to show how much can be accomplished when you pair researchers with highly-skilled, forward-thinking growers who are willing to take a risk."

R.J. Anderson is a writer/communications specialist with Cornell Cooperative Extension.

From the Editor:

This issue is packed full of a wide range of articles, as mixed as the community of farmers who work long days all summer long to provide healthy, nutritious food while stewarding the land. We hear from many readers that the paper provides an excuse to take a break and relax, while still "working" on one of the most important aspects of the farm; learning.

Farmers are certainly lifelong learners, with a willingness to always do things a little better, coupled with a healthy dose of curiosity. Farming is all about relationships; we relate to our crops, our animals, and to our communities. And as it is with any relationship, it takes trust, patience, and honesty to make things flow. The things around us have lessons to teach us, every day, if only we pay attention.

Enjoy, and wishing everyone a safe, productive, and peaceful season.

Steve

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Cornell Cooperative Extension Orchard management and Mechanization Specialist Mario Miranda Sazo examines apple blossom prior during a mechanical string thinning study conducted at Lamont Fruit Farm in Waterport, NY.

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Cover photo by Elizabeth Weller

SMALL FARM QUARTERLY

**Good Farming and Good Living
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Small Farm Quarterly is for farmers and farm families — including spouses and children - who value the quality of life that smaller farms provide.

OUR 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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Small Farm Quarterly 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.

Anyone is welcome to submit articles for consideration. See our guidelines at smallfarms.cornell.edu/quarterly/writers/ and contact Steve Gabriel with inquiries. Articles should be 1,000 - 1,600 words in length with 2 - 3 high-resolution pictures.

Topics should be appropriate for a farmer audience, and not promote a single organization or business. We focus on articles with relevant information that helps to improve the practice of farming and agriculture in New York and the Northeast.

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FARM SAFETY

The National ROPS Rebate Program: A Lifesaving Initiative Just for Farmers

by Pam Tinc, Senior Research Coordinator, Northeast Center for Occupational Health and Safety: Agriculture, Forestry, and Fishing

In June 2010, New York Farm Bureau member David Huse was returning home after a day of mowing hay on a friend's farm when he was struck by an oncoming car that hit his tractor and flipped the tractor on top of him. David's death was a tremendous blow to friends, family and business partners, as well as to the larger agricultural community, who lost a passionate and outspoken advocate for sustainable farming in New York. David's neighbor and business partner, Judy Pangman, wrote the following in a heartfelt letter to her local legislator in response to this tragedy:

"For farmers, every day brings a new challenge. Getting to and from our fields safely should not be our most difficult and deadly challenge. We need to make farming safer to prevent the loss of our friends, children and other family members, and employees in such senseless accidents and request your assistance and support. We miss David terribly every day. Please help us make farming safer for everyone."

Tractors are an essential piece of farming equipment, but they can also be one of the most dangerous. Studies have shown that the leading cause of death and permanently crippling injuries on a farm is due to tractor rollovers, and the Northeast has the highest rate of overturn fatalities in the nation. In the event of a rollover, the use of a rollover protective structure (ROPS) and a seatbelt reduces the risk of injury by 99 percent. Wearing a seatbelt on a ROPS protected tractor will keep you within the "zone of safety" in the event of an overturn. While using a seatbelt with your ROPS

will give you complete protection, the rollbar alone still greatly increases your chance of survival.

Though newer tractors come equipped with ROPS and retrofit ROPS kits are commercially available for many older tractors, nearly half of tractors on US farms remain unprotected. For many farmers, the cost and



time required to retrofit a tractor are low priority, given the many other items needing attention on the farm. To make it easier for farmers like you to retrofit their tractors and keep themselves, and their family, safe, we created the ROPS Rebate Program more than 10 years ago.

You may have heard about, or participated in, the ROPS Rebate Program. Since 2006, we've retrofitted over 2,300 tractors in seven states, and more farmers are calling every day to sign up. The Program rebates farmers approximately 70% of the cost of retrofitting a tractor, including the ROPS kit, shipping, and installation (if applicable).

Now, we are expanding! Over the last several years, we've joined forces with manufacturers, insurance companies, agricultural organizations, health and safety organizations, farmers and their families, and many others to form the National Tractor Safety Coalition. This group has worked together to create The National ROPS Rebate Program, which launched on June 28. This is the same great program we've always had, but it's now accessible to farmers across the country, thanks to our donors.

So, how does the Program work?

We know you're busy, so we've worked hard to ensure that the National ROPS Rebate Program is simple and hassle free. If you're interested in getting a new ROPS for that old

tractor, here's what you need to do:

1. Call us at 877-ROPS-r4u (877-767-7748) or apply online at www.ROPSr4u.com.
2. We'll send you information about the kits that are available for your tractor, as well as the cost, and where to purchase.
3. If you decide to participate, give us a call for preapproval.
4. Once you've gotten the go-ahead from us, order your ROPS within 10 days, and give us a call back with the dealer estimates for the kit, shipping, and installation (if applicable).
5. When your ROPS is installed, send us proof of installation (before and after photos for self-installers, or an invoice from your dealership if they installed it), as well as all final invoices.
6. We'll send you a rebate check within 30 days.
7. Sit back and enjoy knowing that you've taken an important step toward keeping yourself, and others, safe on your farm!

What if I've already signed up and am on a waitlist?

Over the last several years, many farmers interested in retrofitting their tractors have signed up for the program, and have been added to a waitlist due to limited funding in their state. Thanks to a mixture of state funding and private donors, we are now starting to move through the waitlist and we will contact you as soon as possible.

Is it really worth signing up for the National ROPS Rebate Program?

Through annual follow up surveys with program participants, 19 farmers have reported experiencing an overturn with their newly retrofitted tractors and 197 farmers reported experiencing a close call (i.e., wheels coming off the ground, sliding down a hill, etc.). Each farmer escaped without serious injury and returned home to their families to continue farming. I'd say that's a good reason to sign up today.

What can I do to help ensure that the National ROPS Rebate Program sticks around?

Please share the information with your friends and neighbors who farm; encourage them to sign up. You can also share Program information with your local Farm Bureau, and ask them to make the National ROPS Rebate Program a priority. In New York, Farm Bureau is instrumental in securing funding each year. Finally, anyone who is interested in donating to the National ROPS Rebate Program can visit <https://www.ropsr4u.com/donate.php> to do so.

Those interested in signing up for or getting more information about the National ROPS Rebate Program may call toll free 1-877-ROPS-R4U (1-877-767-7748) or visit www.ropsr4u.com.

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FARM BUSINESS**Securing a Labor Force at Sweetland Farm***A vegetable farm raised wages to \$15 an hour and lived to tell the tale!*

by Elizabeth Henderson

Early in 2016, Evangeline Sarat at Sweetland Farm, in Trumansburg, NY, announced that she would be paying wages to her employees at the Tompkins County living wage level. Evangeline explained, "For me, it is very pin pointed: if my employees work, they should make a living. Especially, with food. If they're working to grow healthy food, I don't see how it's logical that they not get enough to live." Her declaration set off a flurry of emotional discussion among farmers and foodies that has not died down, especially with Governor Cuomo agreeing to gradually raise the state's minimum wage to \$15 an hour. Paul Martin, current manager of Sweetland, explained the consequences of Evangeline's decision for Sweetland.

To afford to pay higher wages, Evangeline raised the price of her farm's CSA shares by \$100. The immediate effect was that member numbers dropped from 380 to just 300. Paul still paid their four workers \$15 an hour for the 2016 season. After completing financial calculations for the season, he reports that things were "a little tight," but worked out. The drought made it harder: there was only enough crop for summer shares without the extra he had planned for summer wholesaling. Nevertheless, Paul is determined to make things work and says, "At Sweetland we are still experimenting on how to have an economically sustainable farm. The farm has to be thriving enough, an attractive business model so that my kids or someone else would want to buy the business. I still feel like it is important to pay labor, but it is just as important to pay the farmer a living wage and that has to come first." He has set out to achieve the balance among pricing to customers, the needs of his employees and his own needs.

Farmer-owner Paul began his farming career in 1997 at Simple Gifts Farm in Lancaster County, PA. He had grown up in that county, surrounded by farms and working in his mother's garden at a time of unrestricted development. Seeing houses "going up on beautiful dark soil" upset him so much that he told his mother, "When I grow up, I am going to stop them from putting houses on farmland."

After graduating from college, he decided to take a year to learn how to grow his own food. He was looking for work that "gave something back for me and the community." Simple Gifts had a CSA and did some wholesaling. "It felt good," Martin explained. "The community component of CSA really attracted me." After three years, Martin took a job managing a farm for Good Will Industries. The 1999 CSA conference, where he met a lot of other people in their twenties who were excited about CSA, was a turning point for him. There he met Evangeline and a bunch of the farmers who are now his neighbors in Tompkins County.

Sweetland Farm in Trumansburg, NY, will have its 10th anniversary in 2017. It is primarily a CSA farm. The farm's mission statement emphasizes the mutual benefit for farmers and supportive customers:

"A CSA is a farmer-friendly model. The farmer develops a stable, long-term relationship with reliable customers. This economic model benefits both the consumer and producer in its stability. This makes it easier for the farmers to plan yearly crops because they know what, and how much product their customers want. Additionally it allows the consumer to plan their food budget. The CSA model also enables farmers to do most of their marketing in the slow winter months, so that when the growing season rolls around they can spend more time producing excellent produce. It provides the farmers with a viable business, an essential element in sustainability."



Plowing a field

Although the farm has enough land for 400 shares, for the 2017 season, Paul plans on 300 plus members for summer shares and 80 winter shares and is engaged in an energetic social media campaign to attract them.

Last season, they introduced half shares at half price, but this year the price will be 3/4s of a full share. Members get a lot of choices. For 2017, Paul has found a drop off point at a school in New York City. Regional Access will make the weekly delivery. They will start with 30 shares and hope to grow to 80. Paul also does some winter wholesaling to distributors in the Finger Lakes region. The price from wholesaling is about half what the farm gets for CSA shares, but it is worth it when he can sell a few thousand pounds a sale and the additional revenues help cover labor costs.

Sarah Koski, one of Sweetland's members, commented :

"It's important to me that our kids not only eat whole and healthy foods, but to know where the food comes from. It's priceless to see them eating handfuls of sweet cherry tomatoes straight from the vine and crunching into carrots and turnips before we even get home with our farm share. Walking through the fields on a beautiful day, picking food I know my kids will eat, and greeting new and old friends, are things I look forward to every week. Our family has a sense of pride and ownership in "our farm," and in turn are excited to try new vegetables. Buying our food directly from a farm down the street makes sense on so many levels - we are supporting a friend and neighbor, keeping the land around us healthy and productive, and investing in the health and well-being of our family.

Creating jobs that maintain work/life balance and pay well is a totally noble goal. Sweetland's commitment to providing these jobs means that they can hire and retain farmers who care about the farm and its mission. We are proud to support a business that cares about its employees. All things considered, the price of our farm share isn't a huge factor for us. We would be happy to pay a little more if it meant the farm was a better place to work. With lots of payment options, most families could make it work within a budget."

Jen Wofford, who has purchased summer and winter shares for five years, lives less than a mile from the farm and finds Sweetland convenient. She explains: "We like being part of



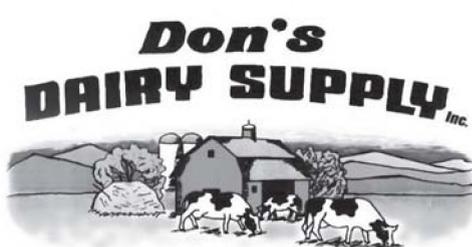
Paul Martin of Sweetland Farm

community that loves good food," and adds, "I'm glad Sweetland Farm has committed to paying a living wage. That said, Sweetland Farm has been and continues to be my CSA of choice, regardless."

For 2017, Paul intends to continue paying all four returning employees \$15 an hour. The discussion over whether or not to pay time and a half for overtime is not an issue for Paul. He feels very strongly that the work day should be 8 hours and no more so that, as he puts it, "they can continue to have life outside the farm." He would rather hire another worker than increase the hours. Paul wants a balance between life and work and believes that his workers need that too, and also that people are more productive if work time is limited and they have time for rest and recreation.

The work day at Sweetland starts promptly at 8 a.m. When workers arrive, he has pick lists ready and off they go. On

See Sweetland *page 7*



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- Producers must have the ability to obtain and ship fecal samples from their animals once or twice at least 4 weeks apart following NSIP recommendations.
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• For more information on the benefits of membership in NSIP please visit www.nsip.org or contact the NSIP Program Director, Rusty Burgett, (info@nsip.org).

OR

Non-NSIP members living in New England, NY, NJ, PA, WV, MD, DE who have a history of problems with gastrointestinal nematode worms.

- Are FAMACHA certified (online training program is available).
- Are willing to share FAMACHA scores as well as general herd/flock information/history.
- Have the ability to obtain and ship fecal samples from your animals once or twice at least 4 weeks apart.
- To allow us to provide this service to the maximum number of producers we are focusing the FEC testing on young replacement animals. On a case-by-case basis, FECs will be

available for animals in early lactation.

Samples will be accepted for analysis during the summer months (peak worm season) 2017. For Northeast states, this is typically July through September when conditions are warm and humid. One indicator that worm season is active enough is when 10% or more of your flock/herd has a FAMACHA score of 3 or higher. Typically this means that the average FEC is at least 500 eggs/gram. Animals must not have been dewormed within 4 weeks of testing.

Please contact Holly Burdett or Dr. Katherine Petersson, University of Rhode Island at urisheepandgoat@etal.uri.edu to obtain appropriate fecal sampling and shipping instructions. Please include your name, farm name, mailing address, and whether you are currently an NSIP member.

For more information on parasite control visit our website at <http://web.uri.edu/sheepngoat>.

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harvest mornings, Paul and the workforce of four pick hard from 8 to 10 a.m. to get ready for distribution. Then they have a 15-minute break for which the farm provides coffee and an angel supporter brings baked goods. Five people do the harvesting for 300 shares - 60 members per worker. He designed the barn to maximize efficiency with an outdoor truck delivery dock. They use a lot of pallets, pallet jacks and two fork loaders. Most weeding is done mechanically, so the crew can plant and harvest. "You don't need a wheel hoe," Paul insists. "If you are weeding a lot, you have not figured out your tractor cultivation." The Sweetland ratio is 1 worker per 4 acres while Eliot Coleman has 1 per 2 1/2 acres.

Paul also does his best to respect the other end of the day - 4:30 sharp. An 8-hour day with half an hour for lunch. Occasionally, when rain is threatening, Paul will ask workers to stay later, but he says that is rare. He sits down with each worker at the beginning of each season to learn if they have issues from the previous year and get a commitment to the season to come. He has a written worker agreement for each employee and conducts an extensive and detailed introductory meeting each spring to be sure the terms and conditions of work are clear to everyone.

I asked Holly Taylor, who has worked at Sweetland since July 2015, what she thinks of Sweetland's labor policies. She says that Paul is a great boss, very aware of employee morale and making sure no one is overworked. She appreciates the consistent work hours and the 8-hour day. "If you want to stay and finish a job, Paul is cool with that," she explains, but if they have something else to do, Paul does not put employees under pressure to stay after 4:30. Getting a raise to \$15 an hour made a huge difference and played a big part in her decision to return to the farm for two more seasons: "We work hard all day from April to the end of November. Knowing you can live on what you earn is so helpful. You are not working for nothing. I try to live frugally. Last year, I took a winter job, but this winter I am working part time at Sweetland. Knowing I get a living wage for the whole season, I am grateful. I can make it through the winter even if I don't get other work, but it would be awesome to work year round at the farm. I love working outside and being involved in helping grow quality organic food that I am proud of for people in my community. I have entertained the idea of farming on my own, but right now, I am happy working for Sweetland."

Paul finds this a good way to stay friendly with his employees. As a result, the retention level is high. Most employees stay for 2 to 4 years. He has only had to fire one person in 10 years.

A benefit of focusing on the CSA, Paul says, is that they get to stay together on the farm with less driving around and less hassle. By planting fall root crops to fill the farm's refrigerated trailers for winter wholesaling, Paul is able to extend the season for his crew. They fill out days in October and November harvesting for winter sales. Whatever is left once the weather gets too bad, Paul leaves in the ground - this year, some radishes and Hakurei turnips. This winter, he had work for 1 worker part time. Winter wholesaling offsets labor costs.

Instead of maintaining the higher share price from 2016, Paul is lowering the full share price to \$580, just over \$25 a week, hoping that he will attract more members. He also offering additional sliding-scale payments as a voluntary option to pay \$600 - \$750. Paul justifies the pay option as a way to encourage those who can afford more to do so: "Part of that is our commitment to pay living wages, but also an investment by CSA members who want to be investors in preserving the farm and have the means to pay a little more." He admits that growing enough to cover all expenses and living wages for himself and his workers pushes him "to farm a bit more than we would like."

Although Paul does not claim to have hit the perfect balance yet, he remains true to the values that attracted him to CSA farming. He considers bringing people to the farm a special gift. The drought of 2016 actually helped members to feel more a part of them farm, to feel that they were "vested" in it. That connection is vital to Paul: "We want to be an important part of the community, preserve the farmland and grow in a sustainable way. For me, a key thing is I always enjoy the farm. There are few farms where people come to the farm and get to relate to one another over food. That is really important. I try to sell the farm as a way to get away from the day-to-day chaos and be real. We need to limit our time on social media. Reality has been hijacked. Let's declare media-free Sunday and make boundaries. A CSA farm gives a place where people can be real, pick food, and be part of the weather."

Elizabeth Henderson is lead author of *Sharing the Harvest: A Citizen's Guide to Community Supported Agriculture* (Chelsea Green, 2007) and Honorary President of the international CSA network Urgenci. She can be reached at elizabethhenderson13@gmail.com.

A longer version was published in *The Natural Farmer*, Spring 2017, *Farming for a Living Wage*.

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BUSINESS MANAGEMENT**A Dark Cloud Looms Over Farmland*****Farm Succession Planning in Vermont Shines Light for a New Generation of Farmers***

by Rachel Carter

"I want to die with my boots on," a New England farmer stated in a focus group held by the American Farmland Trust and Land For Good, to study U.S. Census of Agriculture data on retiring farmers and future plans for the farms.

According to the study in April 2016, nearly 30% of New England's farmers will most likely retire during the next decade, and only one in 10 are farming with someone age 45 or younger by their side. This paints a grim picture surrounding the future of farming and accessibility of farmland to the next generation of farmers for food production in New England.

"Some senior farmers may have a plan for their farm's future," said Jesse Robertson-DuBois, New England Director for American Farmland Trust. "But we learned through this study that many do not. A large number of older farmers are worried about their ability to retire and to find a younger farmer who can afford to buy their land."

At no point is a farm's future more at risk than during ownership transition. Farmers involved in the study expressed they need help to make sound transfer agreements.

"The 1.4 million acres they [farmers] manage and \$6.45 billion in land and agricultural infrastructure they own will change hands in one way or another," said Cris Coffin, Policy Director for Land For Good, who directed the study. "To keep this land and infrastructure in farming as it transitions, we will need better policy tools and increased support services to exiting and entering farmers."



Green Acres Milking Shorthorns cows were sold as a part of a successful farm transfer in Randolph, Vermont.
Photo courtesy of Green Acres Milking Shorthorns

Farm Transition Stories from Vermont

Joan Wortman is a senior farmer who had been looking to retire from milking 100 cows at her family farm, Green Acres Milking Shorthorns, in Randolph, VT.

"Lots of today's farmers are middle aged, getting into their late 50's and 60's as I am, and having family to take on the farm is such a rare thing now. There aren't as many young people who want to follow in their parents' footsteps," Wortman shared as she was making final preparations to sell her cows at auction in May.

The auction took place four years after Wortman began working with the Vermont Land Trust's Farmland Access Program to find a younger farm family to take over the farm. Farm succession planning takes time, and Wortman found it was challenging to find people who fit the criteria of what she was looking for so Green Acres would remain a small family dairy farm.

The diligence of the Vermont Land Trust paid off and Wortman sold the farm to a young family from Pennsylvania, originally from Vermont and looking to come home. The new owners are bringing their own herd to Vermont, leaving Wortman to put her cows up for sale—an emotional



Aires Hill Family Farm: The Atherton Thompson Family transferred Aires Hill Family Farm between generations.
Photo courtesy of Aires Hill Family Farm

experience, but one she knew was the last step in transitioning the farm.

"My cows have been part of the family—it's like putting all of your kids up for adoption," she shared. "But it's the best thing ever to have a program that can help young farmers connect to farmers looking to retire. I don't know where I would be now without the Vermont Land Trust—it's been a big relief!"

While the number of dairy farms that have family able to take over the farm may be shrinking, programs like the University of Vermont Extension's Family Farm Succession are helping Vermont farm families successfully transition within the family. Aires Hill Farm worked with UVM Extension so Karie Thompson Atherton, age 35, could take over the day-to-day operations of the 7th generation family dairy farm in Berkshire, VT. Atherton has been running the farm since 2014, which consists of 500+ acres, 220 milking cows and 150 young stock.

In a recent interview, Atherton very clearly articulated some suggestions to New England farmers in family transition situations:

Importance of Farm Succession Planning: It's important to get both generations to the table and, at the very least, start a discussion. There is no "correct" way to start the succession planning. Every farm and every farmer is different. There are so many unknowns it's important to see where everyone involved stands and not make assumptions. Your ideas may be closer than you think, or further from what you could ever imagine possible. It's a very difficult and complicated process and it will take many years to accomplish. It's never too early to start planning. You think you have time and then someone's health deteriorates and you're in panic mode. That is not ideal. It adds a lot of stress to a situation that is already stressful.

Challenging Conversations: Talking about transitioning the farm is very challenging and in my case involved several family members. We never talked about transitions over the years, and lots of assumptions were made. Those assumptions can be the death of a family, and I cannot stress how important it is to communicate. When you start talking about the farm, all of its heritage, and how much blood, sweat, tears, and sacrifices that have been made to get the farm to where it is today, it can get really personal and emotional. Modern technology can be a double-edged sword and divide the generations and it's important for everyone to be heard.

Making the First Step: Start talking the sooner the better—it's in everyone's best interest—both farming and non-farming family members. Just because some of the family doesn't actively work on the farm doesn't mean they don't care what happens to the farm. To start, both generations need to identify the goals for the farm and take small steps to change. It doesn't mean the younger generation has to farm "the way Dad did" forever, but it will be a huge help to get through the process in the early stages and earn each other's respect before making new changes. All parties involved should be able to have both financial and personal needs taken into the planning process.

Suggestions for Farmers to Get Transitions Started: Start the conversation. Listen, be respectful. Find someone you trust to guide you. Sometimes bringing in the most educated, experienced person isn't the right choice. Your local accountant, lawyer, or financial adviser that you have worked with for years and knows your farm, your family, and your specific situation may be the best person to help navigate the transition. The younger generation needs to be aware of the financials and have access to the books. Farming is a tough way of life and it's hard to make ends meet sometimes. Everyone needs to be fully aware of the whole picture, as it may be a rude awakening for younger family members who may not have been involved. It is better to know early on if a farm transition is feasible to remain in the family.

In Vermont, organizations including the Vermont Land Trust, UVM Extension, and Land For Good are working together as a part of the Farm to Plate Network with many other non-profits, farms and businesses, government agencies, and institutions to implement Vermont's 10-year (2011-2020) Farm to Plate Strategic Plan to strengthen the food system. Protecting and expanding environmentally sustainable farmland in agricultural production is one of the priorities of the Farm to Plate Network in the next five years. Access to affordable farmland is imperative to increase our local food supply and grow our agricultural economy.

Rachel Carter is the communications director at the Vermont Sustainable Jobs Fund, a non-profit organization created by the State of Vermont to help develop Vermont's sustainable agriculture, renewable energy, and forest product businesses. She can be reached at 802-318-5527 or rachel@vsjf.org.



Aires Hill Family Farm: Maggie Atherton, an 8th generation future Vermont dairy farmer.
Photo courtesy of Aires Hill Family Farm

Sources for more information:

American Farmland Trust – www.farmland.org
Land For Good – www.landforgood.org
UVM Family Farm Succession – www.uvm.edu/farmtransfer
Vermont Farm to Plate – www.vtfarmtoplate.com
Vermont Land Link – www.vermontlandlink.org
Vermont Land Trust – www.vlt.org

SOIL HEALTH**The Green Lie: Grassland Version**

by Rich Taber

At the time of this writing in early May, I look out the window onto a green, awakening landscape, with the sun trying to deliver its warm rays to kick start the green up process via photosynthesis. I think of those approaching warmer sunny summer days, and all of the hay I will be putting up for my livestock this coming year, and also grazing. I think of those beautiful green fields of pasture lands and hay lands that those grasses grow on, and of all the effort, inputs, and money it will take to keep them healthy and producing well.

In my work with many new and beginning farmers, I also think of "The Green Lie, Version Two". "The Green Lie", Version One, is a term coined by a forestry colleague of mine, that refers to woodlots that have been pillaged of all their



good timber trees, leaving only stunted, weedy species growing, with no planning for the future and leaving behind a ravaged woodlot, and frequently with impeded or non-existent regeneration of young tree seedlings. From a distance though, after such logging jobs occur, you can still see green trees growing, the birds are twittering, and all looks deceptively well; "The Green Lie" if you will. The woods are still there, right? In many people's minds, when looking at such woodlots, all must be well. But wait, what's all this about a "lie"? Hear me out!

I have a lifelong and consuming interest in not only woodlands, but also sustainable agriculture, and in particular, grazing and animal oriented agriculture; the farms and woods are my life. I have come to observe another version of The Green Lie, "The Green Lie, Grassland Version Two", all too many times in recent years. This version of the Green Lie applies to hay and grazing lands that have been neglected, with no inputs of any kind being returned to the land, and for all practical purposes, have been strip mined of most of their available plant nutrients and organic matter. Not only will these lands be nutrient deprived, they will have degraded soil structure. The health of this soil is poor. If you really want to know about the health of your soils, then avail yourself of the services of the Cornell Soil Health Testing Laboratory, where extensive information can be gained by having your soils analyzed there, and which goes above and beyond the traditional testing for pH and nutrient levels. Information on these services is included in a side bar on page 10.

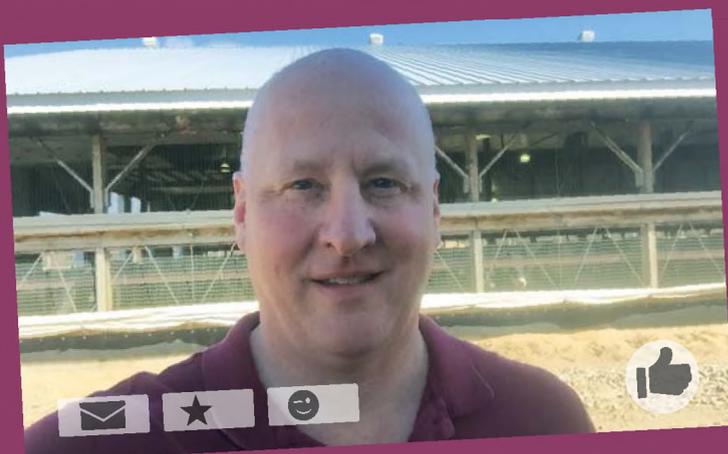
A more common soil test which tests your soils for pH and nutrient levels can be done by sampling your soils and sending them off to a soils lab, such as the Dairy One lab, at <http://dairyone.com/analytical-services/agronomy-services/soil-testing>.

Degraded soil situations typically occur on lands that have gone out of active farming, and have lain idle or used by someone else. Eventually, they are purchased by a new and aspiring landowner. The lands may have had hay "taken" from them each year by a neighbor, but with few or no inputs such as lime, seed, manure and fertilizer added in a long time. Maybe the pastures have been repeatedly grazed year

See Green *page 10*

LOVES

waterskiing, hockey,
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As an accounting specialist at Farm Credit East, Mark Hughes enjoys record-keeping ... a lot. In fact, keeping his clients' records up-to-date, accurate, and compliant with the latest ag-related rules and regulations is a passion that he brings to every project.

Whether providing on-farm accounting services, or preparing weekly, monthly or quarterly reports through the mail, Farm Credit East accounting specialists are committed to giving your business the solid records you need to assess your financial condition with confidence and to capture more profit.

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RESOURCE SPOTLIGHT

Agricultural Energy Audits Available to New York Farms through NYSERDA

by Lisa Coven

New York farms can cut energy use and energy costs with the Agriculture Energy Audit Program

Last spring, NYSERDA launched the Agriculture Energy Audit Program. The Program offers farms and on-farm producers no-cost energy audits. No up-front costs are required from the farmer as NYSERDA pays the consultant directly. Three levels of audits are offered. The level II audit adheres to ANSI/ASABE S612 standards and can be submitted with EQIP applications or to other third parties for funding consideration.

Audits are available on a first-come, first-served basis. The program runs through the end of the 2017 or until funds are expended. For general information or to request flyers for your office call 800-732-1399 or email aeeep@nyserda.ny.gov. To discuss the program further or contact the Program Manager, Lisa Coven, at extension 839 or lisac@ensave.com.

Applications available at <https://nyserda.seamlessdocs.com/f/AgAudit>

SOIL HEALTH**Mulch for Organic Vegetables—Grown in Place***Organic farmers and researchers utilize cover crops to reduce the labor and expense of organic mulches.*

by Brian Caldwell and Ryan Maher

Organic mulches like hay or straw can suppress weeds and improve soil. They are used by many small-scale vegetable farmers, but the cost of the material and application may be prohibitive for larger operations. However, there may be ways around this obstacle. In recent years, organic grain farmers and the Rodale Institute successfully pioneered a practice of using rolled/crimped rye cover crops as mulches grown in-situ for soybeans. What can organic vegetable growers in the Northeast learn from this approach?

Following up on farmer efforts, researchers at Penn State and Cornell University codified the practice. It is often referred to as "Cover Crop-Based, Organic Rotational No-Till". When winter rye is planted in mid-September in NY, it produces heavy biomass of 7500+ lb./acre, sufficient to suppress weeds when laid down in place as a mulch.

In late spring, when the plants are tall and in flower, they are run over with a roller-crimper (Fig. 1), which knocks them down and kills them. Then, a heavy no-till planter is used to

**Figure 1: Front-mounted roller/crimper.**

Reduced tillage practices take many forms. This story is the 7th in a series featuring organic vegetable growers that have adopted reduced tillage practices on the way to greater farm sustainability. Experienced growers at diverse scales are tackling weeds, managing rotations, and integrating cover crops while minimizing soil disturbance. Look for past and future SFQ issues to learn the practices that are helping these growers build better soils. Visit <http://smallfarms.cornell.edu/projects/reduced-tillage/> or contact Ryan Maher of the Cornell SFP for more information on this project, ryan.maher@cornell.edu

seed soybeans at a high density of about 250,000 seeds per acre, parallel to and in the same direction as the rolled rye. In fact, this can be done in one operation, with the roller/crimper on the front of the tractor and the planter behind. Usually, no weed cultivation is needed. Research plot soybean yields using this method are generally as good as or better than those of conventionally-tilled organic treatments.

For a fuller discussion, please see this article from the Cornell Sustainable Cropping Systems Lab: <http://blogs.cornell.edu/whatscroppingup/2016/09/29/on-farm-organic-no-till-planted-soybean-in-rolled-cover-crop-mulch/>

Organic corn plantings have had less consistent success on both research and commercial farms. Whereas soybeans fix their own nitrogen, corn is a heavy nitrogen feeder. The soil often cannot supply enough N for both a heavy rye crop and subsequent corn plants. Attempts to remedy this by using hairy vetch mixtures as roll-crimped, N-supplying cover crops have given variable results, sometimes with poor weed suppression and low corn yields.

The same has been true to an even greater degree for organic vegetables in cool northern climates. Planting cucurbits like pump-

**Figure 2: Organic roll-crimped rye and pumpkins.**

kins directly into rye residue is common among conventional growers in the mid-Atlantic, but has not worked for organic farmers further north. The amount of cover crop mulch produced is often insufficient, and crop growth in low-N conditions is not enough to keep weeds down (fig. 2).

In NY and similar climates, highly skilled organic farmers have come up short using this approach. What to do? Is the idea completely impractical in cool areas for anything but soybeans?

Farmer creativity addresses the problem
Michigan organic vegetable grower Tom Zilke made a fortuitous decision a few years ago. His rye cover crop had gaps between planter passes. In late May, rather than

plowing the whole business under, he mowed the rye, crafted a shank to till the bare strips, and planted melons (fig. 3). By narrowly tilling and fertilizing them, he allowed the melons to overcome the lack of fertility and rye root competition. The soil was easier to work, warmer around the plants than under the adjacent mulch, and there was plenty of room to re-mow the rye when needed. The crop succeeded though Tom found his melons grown on black plastic were more productive. Tom continues to "play around with this idea".

Meanwhile, in central New York, grower Lou Lego of Elderberry Pond Farm was working on a different angle. Lou mowed a thick rye cover crop with a sickle bar mower and planted winter squash into it by hand. He

Continued on next page

**Figure 3. Tom Zilke planting melons in strips between mowed rye.****Green from page 9**

after year as well, also with no inputs added. From a distance, there will be green grass growing and all will look well, but the grasses and soils are limping along at a fraction of their potential. Once again the Green Lie deceives us with the green grass, warm sun, and twittering birds making us feel warm and happy.

So when our new landowner or renter decides to do a soil test, they get a shock when they find out that these lands have been mined of nutrients for years, and now it's going to cost them a fortune to bring them back up to speed. Lime, seed, fertilizer, manure, and preparation all take a lot of time, money, machinery, and effort to apply. Let's take a look at just one important component, lime.

Hay and grazing lands need a soil pH (which measures soil acidity) level of around 6.2 to 6.5 to grow most hay and pasture species. If you want to grow some high octane legumes like alfalfa, you will need pH levels of up near 6.8 to 7.0. So now let's take a look at one scenario, the lime component, which can befall a new and beginning farmer when he or she gets ahold of some land that has had no inputs for a long time.

Our new farmer does a soil test, and they find that their soil pH levels are way down around 5.6 or so, which will hinder the growth of grasses, because all of the soil

components which attract nutrients are bound up by acids. The soil test may tell them that they need to add four tons of lime to the acre, and they have 75 acres of hay land, and now need to purchase 75 acres times 4 tons per acre times \$50 a ton for lime spread. This works out to about \$15,000 for the 300 tons of lime needed. Now, to add insult to injury, we find that the lime we purchase only has a neutralizing value of 60%, so we have to divide 300 by .6 to get 500 tons of actual spread lime needed. Now we are up to \$25,000. This works out to over \$300 to the acre just to get the soil pH level back up to speed, to say nothing of added for costs for plant nutrients, seeding, and labor.

What is the take home message from all of this? You need to manage your soil fertility levels every so often with maintenance levels of lime so that you don't end up spending exorbitant amounts of money all at one time! If you don't lime and replace other key nutrients, your yields can go down to as low as only 1 ton of forage dry matter per acre per year, despite the Green Lie making you feel warm and fuzzy about that green growing forage that will still grow. Well maintained soils in much of New York State and the Northeast can produce 4-5 tons of forage dry matter per acre per year, if they are healthy, have good organic matter levels, and have the correct amount of available nu-

trients for profitable and sustainable plant growth.

The ideas and concepts of soil health are only briefly hinted at in this article, but they are important to the sustainability and economic viability of our farms, landscapes, and communities. Get those soils tested soon, and maintain those soil pH and nutrient levels!

Rich Taber is Grazing, Forestry, and Ag Economic Development Specialist with CCE Chenango. He lives on a farm in Madison County with his wife Wendy where they grow hay crops, and graze beef cattle, sheep, and pastured poultry on their steep, acid prone soils. He can be reached at 607-334-5841 ext. 21 or email: rbt44@cornell.edu.

<https://soilhealth.cals.cornell.edu/>

The Cornell Soil Health Testing Laboratory is the home of the Comprehensive Assessment of Soil Health (CASH):

The Comprehensive Assessment of Soil Health is designed for farmers, gardeners, agricultural service providers, landscape managers and researchers who want to go beyond simply testing the nutrient levels of their soils. It is the first commercially-available laboratory soil health test that provides standardized, field-specific information on important constraints in soil biological and physical processes, in addition to standard nutrient analysis.

The Assessment is regarded as a key tool for soil health measurement by several national initiatives, including Soil Renaissance, the Soil Health Partnership, and the USDA-NRCS Soil Health Division. We have conducted over 10,000 soil health package analyses since its rollout in 2006. Half were for commercial customers. In addition to the laboratory results for each sample, we have developed a soil health management planning framework included with the sample assessment results to help you focus management changes where they will be most effective in improving your soil.

The assessment's indicators and management strategies for improving soil health are also detailed in the Comprehensive Assessment of Soil Health Training Manual, available free online.

added a quart of compost into each planting hole. The high fertility he had built up over the years resulted in a thick mat of rye mulch, which suppressed weeds well; and the squash plants benefited from the dose of compost (Fig. 4). Once again, the crop was a success. Variations on this method are now Lou's standard approach for squash and pumpkins. Sometimes he combines black plastic mulch with the rye. The plastic creates a warmer, larger space for the squash roots between mowed rye strips.

Thus in some cases, "grow-mulch-in-place" methods have worked for cool area vegetable crops. Several insights and cautions have emerged from these farmer experiences:

1. Rye mulch can produce large biomass and suppress weeds when either mowed or roller-crimped. A heavy seeding rate, and proper timing of rye planting are important to maximize growth and weed suppression. Mid-September rye cover crop plantings get a good start in spring in NY.



Figure 4. Summer squash at Elderberry Pond Farm.

2. It is possible to grow mulch in place and get sufficient yields. However, in many vegetable crop attempts, weed competition has been severe.
3. Low soil N may reduce growth of non-legume vegetable

crops. Adding hairy vetch to the rye cover crop or supplementing with fertilizer or compost can help. But it is not clear how to best overcome low N problems, especially in more northern areas.

4. Lower soil temperatures under the rye mulch may reduce growth of heat-loving plants such as corn, melons, and squash.
5. Practices like strip tillage, that speed soil warming and increase microbial activity, can help transplants get off to a better start.
6. Rye regrowth may be a problem. Widely-spaced cash crops can leave room for additional mowing if necessary.

Research builds off of farmer experience

Such variable on-farm results call for field station research, where farmers don't have to take a financial hit to refine the method. Luckily, related research has already been done. In the warm Beltsville, MD area, Dr. Aref A. Abdul-Baki pioneered work with vegetables and in-situ legume mulch in the 1990's. Farther north in NY, Cornell researcher Dr. Anu Rangarajan has been working on a strip tillage system for conventionally-grown vegetables. Strip tillage loosens the soil in a 12-15" band where the crop will be planted and has the advantage of warming the soil and preparing a good seedbed for vegetables. In many cases, deep strip tillage is used, which shatters compacted plow pans created by many years of conventional tillage. The between-row area can be left undisturbed. In conventional systems, herbicides can be used to suppress weeds and soluble fertilizers are targeted directly to the tilled strips. This approach has been adopted on thousands of vegetable acres in NYS and growers report better soil health and significant time savings.

Now these in-situ mulch systems are being adapted for organic production. One innovation from Dr. Dan Brainard of Michigan State is planting cover crops in strips to correspond with strip tillage. Grain drills often have two seeder boxes, one for large seeds like rye or peas, and one for small seeds like clover or timothy grass. By blocking off units 10 on the drill, it is possible to plant a small-seeded cover crop alternated with a large-seeded one. For instance two rows of hairy vetch or crimson clover can alternate with two rows of rye. At a typical spacing of 7.5" between drilled rows, that produces alternating double rows of rye and vetch with vetch strips every 30". For vegetable crops planted with 30" between the rows, crop row strips are tilled, targeting the legume cover crop. Rye strips in between are undisturbed.

The pairing of hairy vetch and rye has performed well in research trials. The strip-planted cover crops are flail mowed when the rye is blooming, after both rye and vetch accumulate considerable biomass. Mowing earlier would result in less mulch to control weeds, and also the rye or vetch itself would tend to regrow, acting as a weed. Then comes another twist. Mowed residue in the vetch rows is moved aside with row cleaners just before the deep ripper strip tillage unit goes through. This concentrates the aboveground mulch in the area between the rows, while reducing trash in the seedbed. Vetch roots are easily incorporated into the planting row, adding nitrogen for the crop there. Ideally, the crop will grow in a warmed, nitrogen-rich soil, with a heavy rye-vetch mulch between the rows that suppresses weeds.

This approach addresses many of the issues brought up by farmer trials. However, more questions arise. Does the mulch consistently suppress weeds? What if some weeds break through—can they be cultivated through all that residue? How are weeds controlled in the un-mulched crop rows? Which cover crops are best in this system? Are crops productive under it? Can it be fully mechanized?

A suite of experiments in New York and Michigan is addressing these questions. Preliminary results indicate that hairy vetch performs better in this strip-planted cover crop system than crimson clover. The rye + vetch combination resulted in good fall cabbage yields, although a nitrogen-rich, straight hairy vetch cover crop did best. However, more research is necessary before any firm conclusions can be drawn. Stay tuned and visit our website <http://smallfarms.cornell.edu/projects/reduced-tillage/about-the-project/> for more information!

Brian Caldwell and Ryan Maher research reduced tillage for organic vegetable systems at Cornell University.

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HORTICULTURE**Heirloom Tomatoes: For Farmers, a Challenging Love Affair**

by Emily Nink and Hugh Joseph

Nothing captures summertime in New England like fresh, locally-grown heirloom tomatoes. Heirlooms have captured the imaginations of chefs and the hearts of farmers' market shoppers, who just can't seem to get enough of them; they are the poster fruit of the "buy fresh, buy local" movement. Small farmers have responded to the opportunity with gusto, but it hasn't come without its challenges, namely, that heirlooms are prone to unpredictable flavors, a short shelf life, irregular shapes and sizes, cracks, splits, and blemishes.

Despite these drawbacks, farmers are willing to assume the production risks to bring an allegedly better-tasting tomato to market, and consumers are certainly willing to pay for the experience. Knowing that taste quality varies considerably in the heirloom tomato market, both within and between varieties, we wanted to better understand how farmers choose to grow and market heirlooms. Our Research (www.tandfonline.com/doi/abs/10.1080/15528014.2017.1305828) included in-depth interviews with 15 Massachusetts heirloom tomato growers who sell at farmers' markets to explore these questions: (1) How do they decide how many and which varieties to grow? (2) Why do some lump their heirlooms together in one colorful display while others separate and identify the varieties? (3) How do they consider tomato flavor and texture when making broader production and marketing decisions?

The challenges of successfully growing tasty heirloom tomatoes begin with cultivar selection. With so many varieties available, farmers rely on a mix of strategies to identify desired flavors when choosing cultivars. For instance, one indicated, "I would say 75 percent we already know what they taste like, we've grown them before. And then I would say 20 percent, we would try new varieties that we read in the seed catalogs or hear about from other farmers that they really like the varieties."

Another grower described catalog descriptions of taste to be irrelevant, noting, "because taste and texture are affected by a lot of the other factors, you can't put too much trust in the catalog descriptions on that. So [the catalog descriptions are] never sufficient."

A different producer related his own experience of marketing produce to the challenges faced by seed catalogs in describing seeds accurately: "I think that they have the same problems that we have, where you don't want to say anything bad, because saying anything bad at all means you'll never sell it. Obviously if you have it in your catalog you think it's worth selling...so one lackluster adjective can doom it."

Overall, farmers explain that flavor ranks very high among decision factors for tomato cultivar selection, perhaps higher than for other produce such as peppers or salad greens (for which considerations such as disease resistance and shelf life can be more important).

Even when farmers are familiar with the cultivar flavors, catering to diverse individual tastes can be challenging. Farmers understand that taste is a very individual experience; one grower noted that he attends "a yearly meeting of area farmers, to discuss the best varieties...It's a great forum to hear what people like and don't like. But even there, I'll grow one variety, but I'll hear another farmer talk about how much they don't like it, or how much they like a variety that I've tried and had fail, so it's very individual."

Most farmers try to systematically incorporate feedback from consumers when making decisions for the following growing season; yet two farmers explained that they prefer to do taste tests with farm crews, whose opinions they trust more than shoppers' tastes, which can be fickle. Several farmers noted that they had dropped a variety due to negative customer feedback or low sales attributed to tomato flavors. Perhaps these individualized experiences are part of the reason that some farmers choose to grow so many different varieties, aiming to have "something for everyone." Some farmers described efforts to "stay ahead of the game" by growing new breeds (despite production risks), while some

preferred to stick with tried-and-true popular varieties.

Furthermore, farmers agreed that environmental conditions on the farm can affect flavor, noting that taste and texture are not necessarily consistent even within a single variety, due to factors such as climate, period of the season, time of harvest, and soil. While calcium and soil pH management are standard practices for tomatoes, the farmers we interviewed noted how these decisions can affect heirlooms' flavors. They then sample the crop in the field to assess the flavor prior to making harvesting decisions, such as whether to leave heirlooms on the vine longer to achieve higher sweetness.



Heirloom tomato display at a Massachusetts farmers' market with varieties separated and named, with some attributes also listed.



Multiple combined heirloom tomato varieties displayed at a Massachusetts farmers' market.

Even when a tasty heirloom tomato crop has been successfully selected, grown, and harvested, farmers' subsequent decisions can affect how shoppers perceive its quality. Farmers indicated efforts to educate consumers on tomato taste, including taste tests at markets; signage with information on sensory attributes, recipes, and other handouts; and oral communication with consumers at markets. One farmer who grows many heirloom tomatoes noted the importance of taste education at the market:

"We are 100 percent heirloom. Most of the varieties that we feature are unheard of, they're generally unknown to customers...I find that sampling them is by far the absolute best way to get them interested, get them hooked, and illustrate the amazing differences in flavors."

Yet regulations on cutting fresh produce for tastings at the market can impede taste education. According to one farmer, "we're not really supposed to sample at the market, because of the Board of Health."

At the farmers' markets, growers in Massachusetts employ a range of marketing strategies with regard to heirloom tomato display. A minority separate and label heirlooms by cultivar in order to provide consumers with more information and clear choices, while most producers in our study lump all the heirlooms together into single displays, wherein varied colors, shapes, and sizes seem to appeal to shoppers as much as distinctive varietal flavors. When heirlooms are grouped together like this, all varieties are priced the same. Farmers who do this told us they didn't see any immediate benefits to ex-

pending extra effort separating and identifying the varieties, since they typically sell out anyway. Yet in a stark contrast, these same vendors will sort and label their cherry tomatoes and their apples by variety, in order to cater to shoppers' specific taste preferences and to differentiate them by price.

Generally, better quality is a key motivator for food shoppers to make the trip to a farmers' market for their produce. In the long run, lumping heirlooms together in a single display may constrain sales growth if shoppers don't feel that the benefits of better flavors and textures justify the price premiums (which in turn help farmers assume the extra burdens and risks of growing heirlooms). In particular, the diverse and inconsistent flavors and textures of heirloom tomatoes argues even more strongly for this approach; if tomatoes are to remain emblematic of the tide towards buying fresh, locally-grown food, they'll need to preserve their reputation for superior taste quality.

That's a learning process for all involved, and could be abetted by displaying tomatoes in a way that provides shoppers with the specific information needed to make a decision that can incorporate flavor and taste without sampling. If shoppers are able to better discern which varieties among the hundreds available have preferred flavors and mouthfeel, farmers will gain a better sense of which ones are worth the extra time and risk to grow and sell, and could charge different prices for particular varieties, as they do for other produce. This process may reward small farmers who are already incorporating flavor into a broad range of production and marketing decisions, by creating customer loyalty to certain heirloom varieties that are known to be of superior taste quality.

Heirlooms are a challenge for small farmers—but those who grow them believe they are worth the extra effort. As one farmer said of the Hungarian Heart: "they're very hard to grow actually. But when they grow well, they're amazingly delicious."

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These interviews with farmers were part of a larger project to explore heirloom tomatoes (heirlooms) in the context of a resurgence of interest in more traditional, authentic and distinctive foods, reflected in the popularity of farmers' markets. Through online surveys and telephone and in-person interviews with Massachusetts farmers' market consumers and vendors, we explored the relative importance of organoleptic properties, particularly flavors and mouthfeel, that influence consumer selection and farmers' production priorities for heirlooms.

Results, reported as attribute rankings and related preference indicators, suggest that shoppers generally lacked familiarity with the names and flavor profiles of different heirloom varieties.

Findings suggest that, despite premium product prices and shoppers' declared importance of taste, they were often inclined to overlook flavor and textural qualities in deference to visual appeal and greater varietal selection, and the authors question how much taste really matters to their popularity and to the overall viability of these heirlooms.

Joseph, H., Nink, E., McCarthy, A., Messer, E., & Cash, S. B. (2017). "The Heirloom Tomato is 'In'. Does It Matter How It Tastes?" *Food, Culture & Society*, 20(2), 257–280. <https://doi.org/10.1080/15528014.2017.1305828>

FARM BUSINESS

Business Obstacles Successful Farmers Overcome

by John Lavelle

be part of your contract.

not the employer, the farm owners are personally liable for unremitted taxes. Certain supervisory managers or general executives of the farm business, if any, may also be liable. This is true

even if your farm operation is a corporation or limited liability company.

These payroll problems happen all too often. The net

See Obstacles page 15



In my prior three articles, we discussed estate tax implications of large land ownership, business succession issues in farming operations, and the tax benefits of conservation easements. Now let's discuss something completely different: the day-to-day issues all business owners must cope with, but that are particularly challenging for farmers.

One of the fastest ways to go out of business is to ignore the basic rules of compliance with all the various governmental entities. This article is not going to cover special issues that are peculiar to farms: environmental and land use, grant compliance, crop programs and insurance are often covered in detail by your local farm bureau, cooperative extension and county. Rather, we are going to review some compliance obligations that can impact any business and even cause business failures.

My day job as a lawyer and my other job as "CFO" of my wife's farm business have exclusively been in New York jurisdictions. While rules and regulations can vary even within a state, it is especially true from state to state. For non-New York farmers, these pointers need to be adjusted for your state and local experience.

Payroll

If you hire employees outside of the family (there are exemptions from some payroll obligations for your spouse and minor children), payroll compliance has to be a top priority. A very strong recommendation is to use a payroll service. Do not be tempted to save money processing payroll through your own accounting software. Making one payroll mistake will often cost you interest and penalties that could have paid for a service for a year.

Carefully interview the service to determine their capabilities and what is covered and not covered by them. A really good payroll company will advise you on wage reporting, withholding and prepare forms. They should also help with overtime rules, hiring and firing practices and so forth. Bottom line for a service: if their services cause you penalties, the penalties are on them, not you. That should

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NEW AND BEGINNING FARMERS**Funding Sources Info - Or Is 'Free Money' Worth It?**

A brief recap of several of meetings across ENY Liz Higgins of the Eastern New York Commercial Horticulture Program (ENYCHP) held to discuss the reality of hunting and gathering funding for starting or expanding ag businesses.

by Liz Higgins and Sandy Buxton, Cornell Cooperative Extension

My phone rings on a regular basis with a future client asking questions about grants available to help them start farming. Unfortunately, the answer to that question is often not what they want to hear.

There is no such thing as free money. And money which may appear free, rarely is. A business owner must choose a funding source that complements the business and does not create a distraction or drive the business in a direction outside of the business plan.

Several months ago, Liz Higgins of the Eastern New York Commercial Horticulture Program (ENYCHP) held several of meetings across ENY to discuss the reality of hunting and gathering funding for starting or expanding ag businesses. While many wannabe or expanding farmers seek grant money, it is rarely the boon they hope for.

When seeking an infusion of capital for projects, business owners first need to understand where it can come from and what the strings are. The three most common forms of government or quasi-government money are: Grants/Cost Share, Loans, and Tax Incentives.



Something to consider is investigating and accessing smaller, targeted pools of money for projects. NYCAMH has a grant program for equipment which improves safety for small purchasing items, such as this squeeze chute for working with livestock.

Photo by Sandy Buxton

Grants/Cost Share — the most popular— provide money which, generally, doesn't need to be paid back. It can help subsidize adopting a good practice, reduce barriers for entry/expansion into a new area or grow jobs. For example, NRCS has a program assisting farmers with grants for hoop house structures for growing season extension.

However, these programs are generally reimbursement oriented, meaning the business must outlay the cash for the project BEFORE they receive the money. They

have contractual obligations to provide deliverables and numerous paperwork requirements. There is also a long time frame from application to disbursement of funds.

Sources to check: SARE Northeast, NYS Beginning Farmer Grant (due annually in January), USDA Value Added Producer Grant, NYS Consolidated Funding Application, NRCS EQIP Cost Share Program

Loans — can come in several forms; subsidized loans offer money at lower than market interest rates. Guaranteed loans reduce the risk of a lending institution by standing with the farm business owner which makes money more available and accessible, possibly at a lower interest rate.

While the money does need to be paid back, it is usually on a long timeframe and arrives before or coinciding with the purchase.

Sources to check: FSA Microloans, Operating, Direct and Guaranteed loans; Dirt Capital; NYS and USDA loans for farmworker housing; USDA SBIR

Tax Incentives — are available at the federal, state and local levels. Programs may reduce the cost of purchase/bill (sales tax exemption, property tax exemption) or refund money (energy tax credit, farmer's school tax program).

The process is less arduous due to much of the information already being collected. The information is reported and if you qualify, you get the benefit.

Sources to check: ask your tax preparer, cooperative extension educator, town assessor, USDA REAP Energy Efficiency; NY-SERDA

Additional sources of funds come from areas typically tapped by new businesses: crowd-funding and friends and family. When utilizing the friends and family connection, the assistance may not be actual cash but may be supplies, labor, expertise and network connections. If you decide to actually borrow money from someone, show them your business plan, create a repayment plan, and schedule. Treat it professionally. The habit will serve you well going forward and reassure your 'lender'.

I do not recommend asking for a co-signed loan. This makes your co-signer legally obligated to repay the loan while they have NO oversight over you and the money. Such a choice has destroyed the credit standing of many people.

Crowd funding (Indiegogo, Kivazip, Kickstarter, etc.) is something many of our younger farmer entrants are taking advantage of. Like a grant, this money does not have to be paid back, as sponsors donate to your project. Much of the general population is supportive of farmers, and is willing to help if they feel connected. However, the most successful crowd-funded projects already had a crowd of supporters who feel connected to that specific business. It is challenging from a new and unknown business to stand out.



Other funding programs may provide money to host a speaker to talk about non-traditional practices, such as this pasture meeting with Troy Bishopp.

Photo by Sandy Buxton

Before taking any federal money, grants or loans, it is important to note some of the restrictions that can impact the project. A recipient cannot be delinquent on any federal, state, or local taxes or debt, as you may not be eligible for many publically funded grants or loans. This includes student loans. An eligible recipient also cannot be in violation on many local, state or federal laws. This includes environmental, labor and safety laws. You must be fully in compliance and remain that way for the course of the project.

If you 'take' federal money, you may also be obligated to use a bid process to make purchases or perform work with approved contractors, not always according to your choice. The reporting requirements also must be met or you risk your reimbursement. When approved for a grant, no work or purchases can be done until the contract is signed. Any costs outside of this time frame are not reimbursable. The final payment will also be held until there is independent confirmation the work has been

completed satisfactorily.

There are many ways to approach gaining access to funds to accomplish changes, improvements or expansion on farms. Think through the options and decide what is right for you, your time frame, and risk tolerance. The effort you, the owner, need to put into the source of funding (grant/loan/incentive) should be proportional to the value of benefits received and achievable with your resources. Spending an enormous amount of precious time on a grant project competing with a huge pool of candidates may not make the most sense.

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Sandy Buxton (sab22@cornell.edu) is a Senior Extension Educator, Farm Business Management with Capital Area Ag & Hort Program, based in Hudson Falls, NY.

Several of the resources highlighted in this article are worth checking into for more detailed information.

<http://www.beginningfarmers.org/funding-resources/>

<http://smallfarms.cornell.edu/resources/funding/>

<https://esd.ny.gov/new-farmers-grant-fund-program-for-NYS-residents/businesses>

<https://www.sba.gov/starting-business/finance-your-business/loans>

<http://www.nesare.org/>

<http://www.nycamh.org/programs/john-may-farm-safety-fund/> for NYS farmers only



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Obstacles from page 13

payroll deduction generally comes out of the operating or payroll account automatically each pay period. The taxes are often billed by the payroll service on a different schedule when due. Once a payroll period happens, however, those withholdings are owed to the government. Unlike other farm expenses, they must be paid when due. There are interest and penalties for late deposits, but worse yet, the government has little patience for unremitted taxes.

Garnishments are another problem. The state or federal government and sometimes a local court may contact you about an employee's unpaid personal taxes, spousal or child support. These notices to withhold from an employee's paycheck are mandatory, binding obligations. Failure to comply can cause huge penalties to the farm employer.

Unemployment Insurance (UI)

Once the big step is taken to go with non-family labor, UI becomes an issue. In most states, it is part of the payroll function and is mandatory. Usually based on gross payroll, UI can only be controlled by the employer through good hiring practices. The more employees who are terminated who claim unemployment benefits, the higher the employer's rate gets. In every case, you must timely respond to the agency involved, and have your facts on record to control your exposure. Respond promptly—deadlines are often very short. Best of all, implement vigorous hiring practices to avoid employing short-term problem employees and know which terminations trigger UI payments.

State unemployment payments affect your

federal liability. Review your payroll filings regularly to confirm they are accurate. Problems with UI withholding or claims can trigger a general department of labor audit. Yikes.

Worker's Compensation (WC)

This can be a disaster for many farms. In our farm operation in NY, with no claims since inception (10 years), our WC cost is as high as our business liability insurance premiums. There is a state fund and several commercial alternatives. In our experience, the state fund is most difficult and expensive. Annual audits raised the cost every year, despite no claims filed. When we switched to a farm insurance provider, classification issues were easy to manage, but costs were not much cheaper.

In any event, your farm's classification and payroll drive the cost. Make sure it is accurate, and ask around for a good provider if that option is available. If there is a self-insurance option, only the largest and most profitable farms should consider it, and be cautious about it. In other industries in NY, these self-insurance pools have imploded with long-term consequences.

Tax Compliance

Farm operations are blessed with many special tax rules that make income taxes less of a concern for all but the largest, most profitable farms. Beyond the scope of this article, tax planning should be managed by the owners and reviewed on at least an annual basis. Farm profits can generally be reinvested in a deductible fashion to minimize current taxes.

Farm compensation to owners, on the other hand, can be expensive. In addition to income taxes, farm owners are generally self-employed and have self-employment (or, if paid by a family entity, FICA) taxes to consider. This latter tax directly affects the farm owners' Social Security benefits. Taking measures to minimize payroll taxes of owners can also wipe out a substantial retirement benefit. Owner retirement planning must be reviewed at the earliest stages of a farmer's career. Income tax planning should never run contrary to good retirement planning.

Sales tax is another concern. In NY, exemptions exist for most farm purchases, although "zero" sales tax returns are recommended. However, if the farm also operates retail stores, gift shops, or other direct to consumer sales, exemptions should be checked. Often sales tax may be due on some or all of these items. Once sales tax is collected from the consumer, it works like withheld payroll taxes discussed above. Liability for failure to remit sales tax collected is a personal liability of the people involved, including farm owners.

Labor Practices

In addition to the above tax and benefit issues in connection with having employees, farm management must be familiar with both federal and state labor laws. Wage and hour laws are in constant flux. Plus, special rules frequently apply to farms. There can be different rules for overtime, paid time off, minimum wage and the like. The higher the number of employees, the more rules generally apply. Also, discriminatory hiring and firing practices must be carefully avoided to nullify potential claims by disgruntled applicants or terminated employees.

Since housing is often a component of farm labor compensation, make sure you know the tax rules. Housing furnished for the farm employer's convenience is a tax-free benefit



to the employee. This makes it a very valuable benefit for the employee and should be factored into his or her cash compensation. However, housing provided by the employer for the employee's convenience is fully taxable. Documentation showing why you need a particular employee in your housing should be maintained to support the tax exclusion.

Managing many of these issues can often be outsourced to a good payroll service or HR consultant to some extent. Any payroll service under consideration should be familiar with the myriad of agricultural special rules. In addition, for non-payroll labor issues, the various farm resource organizations often have an HR advisory service. Finally, even your farm lender or insurance company may offer help in some of these areas.

This is a very select group of the compliance issues that drive us all crazy and these areas in particular can destroy a farm business. Farm managers must be alert to these issues and farm owners must acquire resources through outside contractors, like payroll services and farm lenders or insurers. Eventually, hired administrative staff can help to protect their farm investment. Whether you're managing these critical functions solo or as a team, navigating these potential business killers is no place to "wing" it.

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In early June, Cornell University researchers established three industrial hemp trials, one in Ithaca on the Cornell University Agricultural Experiment Station and two in Geneva on the New York State Agricultural Experiment Station. There are no industrial hemp varieties developed for New York, so we are testing commercially available varieties from central and eastern Canada as well as from Poland, France, Denmark, Ukraine, and Italy. We will determine which varieties yield well under different field conditions. We have 17 entries in our trials including four fiber varieties and 13 grain or dual purpose ones.



For more information about this research program including dates and times for field days, please visit <http://blogs.cornell.edu/industrial-hemp/>.

Two month old industrial hemp plant
Photo by Patrick Shanahan/ University Photograph

EXTENSION NEWS**'Meat and Greet' Fair Brings Farmers to Local Tables**

by RJ Anderson

When it comes to shopping for meat, more consumers are looking for products raised locally. Many of those consumers, however, have trouble connecting with nearby farms to satisfy their buying preferences. Looking to break down that barrier in upstate New York was the inaugural Meat & Greet Farmer and Chef Fair.

Held March 11 at Hobart and William Smith Colleges in Geneva, NY, the event was a collaboration between Cornell Cooperative Extension (CCE) and Hobart and William Smith Colleges' Finger Lakes Institute. Also sponsored by the Meat Suite Project and Finger Lakes Culinary Bounty, the event brought together more than 20 farms and well over 100 consumers, including home cooks, professional chefs, restaurateurs and food distributors.

When Kyli Knickerbocker, co-owner of Firestone Farms in Livonia, NY, first heard about the Meat & Greet Fair, she was quick to sign on as vendor. In taking advantage of the networking opportunity—both with consumers and fellow farmers—she and her partner, Jake Stevens, appreciated having a much-needed forum to explain and promote their farm's value-added agricultural practices.

"I think communities do a great job supporting local vegetable farmers," said Knickerbocker, who raises beef, poultry and heritage breed hogs along with vegetables and herbs. "However, for whatever reason, consumers aren't quite as confident taking the plunge to buy meat from local farms."

Having a positive story and access to an audience, she said, is essential for overcoming that barrier.

"At our booth, we saw a steady stream of consumers from the area who wanted to hear about our pasture-raised livestock and

our farm," said Knickerbocker, also a high school math teacher. "It goes a long way when we're able to explain and show the care we put into our animals and the sustainable practices we use, such as supplementing feed with scratched or bruised produce from our fields and local grocery stores, and how we work with local breweries and distilleries to reuse their spent brewer's grain for cattle and pig feed."

Event organizer Nancy Glazier, small farms specialist with CCE's Northwest New York Dairy, Livestock and Field Crops agriculture team, has worked with Firestone Farms on a variety of projects, including sustainability measures and obtaining quality assurance certifications. She said the challenges Firestone faces are hardly unique.

"Producers do a great job of taking care of their animals and the day-to-day things, but marketing often does not always come naturally to those folks," said Glazier. "But it is so important that farmers get out and let consumers get to know them. There is no one better positioned to tell an animal's and farm's story than the farmers themselves."

In addition to the display booths manned by farmers from around the region, the Meat & Greet Fair featured cooking demonstrations from four local chefs using products provided by event vendors. Scott Riesenberger, chef at Ravinous Kitchen at Ravines Wine Cellars in Geneva, who prepared fried duck and waffles using fowl from Ox Creek Farm in Canandaigua, NY, recently moved back to the area after 17 years cooking in and around New York City. He told the crowd that in culinary circles, duck from the Finger Lakes region is recognized as the best in the northeast.

That day marked the first time he had cooked with a duck from Ox Creek Farms. "It was a great opportunity for chefs like me



Cornell Cooperative Extension's Marie Anselm and Nancy Glazier along with Sarah Meyer (right) from the Finger Lakes Institute at Hobart William Smith Colleges organized the recent 'Meat & Greet' fair, an event that brought together meat producers and local consumers.

to get exposed to new producers from around the area that we otherwise might not," Riesenberger said. "My restaurant focuses on incorporating local ingredients into our menu, so making these connections is ideal."

Despite being held on a snowy, bitter-cold day, organizers said the Meat & Greet exceeded all expectations. "Attendance was great and we got tremendous feedback on the networking aspect," said Glazier, who spearheaded CCE's efforts along with Marie

Anselm, agriculture economic development specialist. "Driving the event's success was the collaborative effort between CCE and the Finger Lakes Institute at Hobart and William Smith Colleges. We at extension have the farmer connections and my co-organizer Sarah Meyer from the Finger Lakes Institute has a rich network of restaurants that she called on. It was a successful recipe."

R.J. Anderson is a writer/communications specialist with Cornell Cooperative Extension.

RESOURCE SPOTLIGHT**Register to Count in the USDA Agriculture Census**

In just a few months, America's farmers and ranchers will have the opportunity to make a positive impact on their operations and communities by taking part in the Census of Agriculture. Conducted every five years by the USDA's National Agricultural Statistics Service (NASS), the census captures a complete count of all U.S. Farms and ranches and those who operate them. You can find the results of the 2012 Census of Agriculture at <https://www.agcensus.usda.gov/>.

The Census of Agriculture provides a unique picture of U.S. agriculture since it shows the contributions of farms of all sizes at the county, State, and national level. It is also the main source for demographic data (age, sex, race/ethnicity) of U.S. farmers.

NASS is in the final stage for preparing the 2017 Census of Agriculture mailing list. If you are new to farming, or didn't receive a 2012 Census of Agriculture questionnaire there is still time to be counted by signing up at <https://www.agcounts.usda.gov/cgi-bin/counts/>. Simply click on the 'Make Sure You Are Counted' button and provide the requested information.

For those of you that work with immigrant or refugee farmers and ranchers and language may be an obstacle, I encourage you to work with your Regional or State Statistician. You can find contact information at <https://www.nass.usda.gov/>, locate your State in the drop down box in the U.S. map, then follow the Contact link on the left side of the page. For those of you in the New England State, I plan to be contacting you in the next couple of weeks or you can contact me at the gary_keough@nass.usda.gov.

All individual information provided to NASS is confidential and only used for statistical purposes. In accordance with the Confidential Information Protection provisions of Title V, Subtitle A, Public Law 107-347 and other applicable Federal laws, your responses will be kept confidential and will not be disclosed in identifiable form to anyone other than employees or agents. By law, every employee and agent has taken an oath and is subject to a jail term, a fine, or both if he or she willfully discloses ANY identifiable information about you or your operation.



R.J. Anderson/www.CCE.Cornell.edu

Chef Scott Riesenberger from Ravinous Kitchen at Ravines Wine Cellars in Geneva prepared fried duck and waffles as part of a cooking demonstration at the 2017 Meat & Greet Fair at Hobart & William Smith Colleges

BUSINESS MANAGEMENT

Small Farm Product Liability

by Reuben Dourte

If farming was to be broken down to its most simple definition, one could describe it as the supply side of a complex 'manufacturing' assembly line. Agricultural products raised or produced by farmers find their way into an expansive array of goods. As with any type of manufacturing, a products liability exposure inherently exists. Additionally, the alteration of farm produce can create different liability exposures, and in a time where farmers are looking for additional revenue streams, the insurance conversation quickly lends itself to new, and more nuanced, questions.

If you have begun to engage in farming operations, hopefully you have already realized the need and benefit to insuring your operations via a Farmowner's policy. A typical, unendorsed Farmowner's policy will provide you with liability coverage for your premises and your operations, including the farm products that you produce. The definition of exactly what qualifies as "farm products" may vary greatly between insurance companies. It is important to verify that your operations fall within the definition of farming and the items you are selling are not outside of the scope of farm products.

For example, Insurance Company A may consider the apples you sell at a roadside stand on your premises as farm products and thus covered for product liability on an unendorsed Farmowner's policy, while Company B may consider the roadside stand and the gross receipts you make from this enterprise as a commercial exposure. This may mean you will be compelled to purchase an agribusiness policy to receive the Products Liability coverage you need, or endorse your Farmowner's policy to provide coverage for "Incidental Business Pursuits".

In other situations, Farmowners' policies may not provide product liability when a product is sold directly to the public vs. being sold to a contractor or wholesaler. For example, if you raise organic chickens and sell directly to a large integrator, a typical Farmowner's policy will be able to provide you with coverage. However, if you sell those same eggs directly to the consumer, many agricultural insurers will require that you declare this as a Business Pursuit on your Farmowner's policy, and pay additional premium as consideration for the company providing coverage for the heightened liability exposure inherent with sales to the public.

Likewise, products you buy for resale, even if they are the same products you raise on your farm, are not considered farm products. This means if you have a bad tomato crop and need to supplement your supply with some of your neighbor's tomatoes, the sale of the products bought for resale will (likely) be considered, by your insurance company, as a commercial business pursuit, and as such the products exposure would need to be covered through a Farmowner's policy endorsement or a commercial Agribusiness policy.

Differentiating between farm and commercial products becomes easier as soon as the farmer alters their product in some way. This is because insurance companies will rarely consider altered products as

'farm product', since it has been changed and is, in the case of food, one step further from the field, and one step closer to the fork. If your roadside stand not only sells whole apples, but also pre-slices them, this simple act has likely made the apple no longer a farm product in the eyes of your insurance company. The altering of the apple has now, presumably, opened it up to a higher risk of contamination and foodborne bacteria. If you are turning your apples into pies, your recipe may call for one of your organic eggs in order to make the crust. Should that pie be undercooked by accident, your customers could be potentially inflicted with food poisoning. The heightened risk that is associated with altered farm products requires the company to assign a rate and a liability classification, based on actuarials and prior loss history, to your Farmowner's or Agribusiness policy for you to receive the appropriate coverage for the Products Liability exposure present with your operations.

Aside from the potential coverage pitfalls that arise from the nuanced definition of farm products, it is important for both large farmers and hobbyists, alike, to know and understand the coverage forms and exclusions on their insurance policy. While Products Liability coverage provides protection for claims arising from the production, manufacturing, distribution, growing or sale of your products, certain companies may exclude coverage for certain types of causes of loss. Policies may have a foodborne pathogen exclusion written into them, or a foodborne contamination sublimit of insurance which reduces the amount of insurance the company will make available to pay a claim brought against you. Other policies may contain wording that appears ambiguous, such as a bacteria exclusion that could possibly be used as justification for a claim denial.

In addition to a comprehensive insurance plan, sanitation best practices, voluntary USDA checks and consulting with quality control organizations are other ways to affordably mitigate your probability of risk. Having a recall plan in place is an effective way to greatly reduce the cost of a Product Liability loss, should one occur. Insurance can often seem confusing, and the litigious nature that exists within our cultural climate makes it imperative to work with a knowledgeable, licensed insurance agent to ensure that your policy is adequately covering all of your liability exposures.

Reuben is a Account Executive in the Farm and Agribusiness department at Ruhl Insurance in Manheim, PA.

Disclaimer: Coverage forms vary greatly by insurance company and by state. The information provided above is for discussion purposes only and should not be construed as a formal comprehensive review of individual policies or coverages, nor is it situation specific advise. Readers should personally consult with a licensed insurance agent before making any decisions about their policies or insurance coverages.



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YOUTH FARMING**Introducing Sustainable Food Production to Buffalo Youth:
The Massachusetts Avenue Project**

by Claire Collie

For over 14 years, Massachusetts Avenue Project's (MAP) Growing Green program on Buffalo's west side has employed young people, teaching them how to grow food and make positive changes in our local food system. The organization began as a single lot community garden, and has grown to an urban farm spanning 13 lots, with a high tunnel and greenhouse. By next growing season, MAP's Farmhouse & Community Good Training Center will be complete, housing a commercial kitchen, dry and cold storage, classroom, and office space. This new space will open up opportunities to educate more people on food production and ways we can improve our food system.

Produce grown on our urban farm is sold on our mobile market, a small, refrigerated box truck covered in veggie people. Our mobile market travels to neighborhoods in Buffalo that are food deserts—areas where fresh, affordable food is not available. Young people are involved at all steps—from crop production on the farm, to processing and prepping food for market, to the market itself and interacting with customers. Teenagers get to experience as many stages in our local food system as possible, so they become aware of the hard work it takes to produce food crops, the knowledge it takes to feed us, and their ability to make positive change.

We work with a diverse group of young people. Some come from cultures in which maintaining a large kitchen garden in the backyard is common. For others, working on MAP's urban farm is their first exposure to seeing what food actually looks like before it's chopped, ground, baked or cooked. So, a major goal is to simply show young people what food looks like when it is growing.

Growing Green participants have their own growing space where they have free reign to choose what to grow, plan where to plant based on a 4-year crop rotation system, maintain the space, and harvest produce. During the winter we discuss what we can grow, and why mangos, oranges, and bananas will never be possible to grow in our cold, Buffalo climate. Each year, we grow about 50 varieties of crops in this space. The produce grown is used to make weekly lunches for MAP's community during summer months.

One of the first activities I do with young people new to our program is labeling the crops growing in the youth space. Each teenager is given 6-8 signs labeled 'tomato' or 'carrot.' Their job is to place the sign in front of the correct plant. Teens are encouraged to taste or smell leaves to help figure out what plant they are looking at. Strawberries, tomatoes and eggplant are quickly identified if they are bearing fruit. Salad greens can be a bit confusing

since they are mainly green leaves. But it's the root crops that are usually unknown and misidentified; Carrots labeled cilantro, radishes marked as lettuce. This may not be surprising, since we rarely see root crops in the market with their stems or leaves. Once all the plant labels have been set in front of a plant, we see if it's been correctly identified.

The next step is introducing the amount of labor and knowledge it takes to grow our food. We use hand labor and sustainable farming methods to manage our 1.5 acres of land. This means the teenagers who work with us spend a lot of time preparing fields with a broad fork, hand hoes and rakes. They call this the human tractor. Our compost piles are turned over by hand (this task is often cited as a 'least favorite'). However, when completed, both of these rudimentary tasks offer the satisfaction of a completed job—with sore muscles to prove it.

With time, the teens discover which crops are successful and which don't work so well in our small growing space. For example, the most requested item to grow is watermelon. In 2015 we dedicated a significant portion of the youth growing



A major goal at MAP is to simply show young people what food looks like when it is growing. Farm Education Coordinator Clare and MAP youth employees explore what's growing.
Photo taken by Birch Kinsey

young lady had researched the steps and plant spacing to do this task. I left her and a coworker to start planting. A few minutes later I saw them struggling with step one—dibbling 6 inch deep holes—because the ground was hard and dry to make clean holes to drop leek seedlings into. I watched as they tried digging holes with trowels and pounding their dibbling sticks in with the back of a shovel. Neither of these worked. They left and came back with two watering cans and proceeded to heavily water rows of soil. They figured out not only to soften the soil so they could make deep holes, but also how to keep the rows straight when planting.

I like to allow time for observation and exploration at work. Watching the natural world around us, and seeing interactions between soil and plants, plants and insects, and our manipulations of the environment is key to becoming a farmer. Last summer, during the drought, I had two young women who helped me water everyday. The youth growing space is watered by hand, which means every plant gets individual attention. The girls noticed that the valuable water often flowed away from plant stems and roots, and then would evaporate quickly. So, they started building wells around each plant stem to keep water where it was needed: In turn they mentored other teens why it was important and what they had learned by doing this task.



At MAP we allow time for observation and exploration during work. During the summer this means looking for insects and figuring out if they are 'good bugs' or 'bad bugs' for our crops.

Photo by Birch Kinsey

space to grow sugar baby watermelons. Throughout the summer we watched with anticipation as fruits grew larger, only to find them smashed on the sidewalk in September. In 2016, we tried again—this time dedicating less space to the vines and growing them up a sturdy trellis. There were no vandals this time, but the fruits were small and not that sweet. After two seasons of disappointment the teenagers were ready to give up on watermelon and focus on crops that would be more successful in our area, and less susceptible to damage.

This year we're growing lots of salad greens, radishes, carrots, green beans, and four kinds of tomatoes. The more exotic plants we're trying this season are both vines in the cucurbit family: luffa—a gourd used as a sponge in the shower, and bitter melon—a long gourd-like fruit eaten by many Burmese and Thai people in our neighborhood.

As an educator, I try to provide the teens tools, materials and knowledge about a task, and then step back and let them learn by doing it. Experimentation with a new tool or getting the feel for the motions of a new task is important for personal development. It also leads to new, creative ideas. For example, last week we were transplanting leeks, a

At every opportunity I try to have teenagers who are more experienced with a task teach those who are newer to growing crops and working outdoors. Passing the role of leader on gives the young people a greater sense of responsibility in the work they are doing. Hopefully, it also instills a deeper understanding into the task. Knowing how to do a task is one thing, but teaching someone else how to do it and why we do it is a path towards mastery.

As I write, we are preparing to welcome a new crop of teenagers to work with us during the summer. Summer is an exciting time of growth for both crops we plant on our farm, and for the young people we work with. This year will be particularly exciting and transformative for our organization as the Farmhouse & Community Good Training Center is constructed on our farm. I look forward to the opportunities this space will give us to work and educate more young people in our community about the power of food and those who grow it.

Claire Collie is the Farm Education Coordinator at the Massachusetts Avenue Project. She can be reached at Claire@mass-ave.org.

For more information about the Massachusetts Avenue Project visit mass-ave.org. To read about working at MAP from Growing Green youth visit <http://growinggreenmassave.blogspot.com/>.



MAP's youth growing space consists of 17 raised beds on one city lot. This year we are growing over fifty crops, including four varieties of radishes.

Photo by Rebekah Williams

LIVESTOCK AND POULTRY

List of Items for a Beginning Sheep Farmer, Part One

by Ulf Kintzel

“What do I need when I start?” It is a question that is posed to me often. The almost inevitable follow-up question almost always is “Where do I get it”? I figured I should compile a list of items that one needs and while I am at it, also state where to get it. I remember how difficult I found it to figure out where to source various times when I first started out. This list should be helpful. I will not get into much detail about each item since this would go beyond the scope of this article. However, if you want to read about it in depth you may find your answer in one of the comprehensive articles I wrote for Small Farm Quarterly over the years, which almost certainly address any item or subject I touch in this article; all nicely compiled on my website under “articles” at <http://www.whitecloversheepfarm.com/prl-articles.htm>.



Getting a good harness means keeping your rams comfortable.

Please note that I don't have any financial interest in any of the companies or their products that I will mention. I merely will state my preference of where I purchase my supplies. Call them up if you don't have internet access. They all send you a free catalog. Furthermore, this is part one of two. The second part will be published three months from now, which will leave you time to ask for the source of a specific item on the commentary page. I will include any relevant info if it wasn't already included in the second part of the article.

First, I will start with some general information about companies that offer supply for sheep farming. On that list is Premier One Supplies, 800-282-6631, <https://www.premier1supplies.com/>. In my view, the company tends to be on the high end of prices compared to others. However, their free shipping policy can at times make an item competitive or cheaper if you spend enough money to get over their \$100 threshold for free shipping. Aside from that, this company carries a few items that no other U.S.-based company seems to carry or not at that qual-

ity. For instance, I get my leg crook there, although you can always get the leg crook attachment at other places and mount it on a handle. I also order my customized scrapie ear tags from their wide variety of choices.

For fencing needs I can recommend Kencove, 800-536-2683 <http://www.kencove.com/> It isn't specifically a company catering to sheep farmers, but is a good source if you are an able fence builder yourself. I like their clip-on plastic electric fence signs that I found nowhere else.

PBS Animal Health, 800-321-0235, <http://www.pbsanimalhealth.com/> is one of my preferred sources for veterinary supplies because of their competitive prices and a generous free-shipping policy. I get my de-

wormers there most of the time. They offer more than just vet supplies. Others like getting their vet supplies from Jeffers, 800-533-3377 <https://www.jefferspet.com/> or Valley Vet, 800-419-9524, <https://www.valleyvet.com/>. Another company offering vet supplies is Pipestone Veterinary Clinic 800-658-2523 <https://www.pipevet.com/>. I have found this outfit to be the only source for wound clip forceps and wound clips if you need to treat the occasional inverted eyelid yourself. I also like to get my Selenium-Iodine Premix there to make my own minerals without unnecessary additive.

Hunter Nutrition, 765-563-1003, <http://www.hunternutrition.com/> is on my list because of their Matingmark products. I find their red nylon ram harness second to none, simply because it stays on better and doesn't cause the same skin irritation after days or weeks of wearing that other harnesses I previously used tend to do. In addition, the crayons can be snapped in, which eliminates the cumbersome use of a pin.

The Mid-States Wool Growers <http://www.midstateswoolgrowers.com/> are worth mentioning as well, even though I don't shop there often. The number to call depends on where you live: West of Mississippi River Call 800-835-9665, East of Mississippi River Call: 800-841-9665.

Locally, I like my Tractor Supply Company (TSC) <http://www.tractorsupply.com/> here in Canandaigua, NY. It is convenient and their manager Steve is very good. I get vaccines, troughs, salt, cattle panels, syringes, needles, flat-back buckets, dog food, work clothes, and T-posts there, just to name a few.

Check out local dealers also. I had good success in beating prices by purchasing from various Mennonite dealers, like Sensenig Electric in Ephrata, PA (717-445-9905). My six-Joule Speedrite plug-in energizer unit was nowhere else to be found for less money. I bet some of these dealers can beat the prices of more known suppliers.

Now let's focus some more on various individual items. The law has it that you must individually identify your sheep with scrapie approved ear tags when they leave the farm.

See List page 20

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First, you need a premise ID number. If you live in New York state, contact Anna Draisey (USDA) at 518-858-1424 or Anna.Draisey@aphis.usda.gov. The USDA also hands out a certain number of plastic tags for your replacement ewe lambs and metal tags for your market lambs at no cost to you. The number depends on the size of your flock. Leave yourself extra time when you order and you plan on using these for lambing season. You can also purchase custom-made tags at places like Premier One Supplies, their choices are much greater.

Assuming you will graze sheep, regardless of whether you intend to supplement with grain or wish to do grass-fed, you will need fencing. If you have deep pockets and consider permanent fencing, I suggest woven wire fencing. If you want to use temporary fencing, I suggest electric nettings. They are offered by various companies. Premier One Supplies has a rather large selection. If you use fewer than 20 nettings you will be fine with a two-Joule energizer. A two-Joule charger is the smallest size energizer suitable for sheep.

Personally, I use the IntelliShock 20 Energizer from Premier One Supplies when I am off the farm, powered by a deep-cycle marine battery. You want two of these batteries so that you can run the fence while you re-charge one. The smallest size available is the right size. The bigger ones are very clumsy and you will soon start regretting having to move them around. If you use a plug-in unit, you will need to do the research what size you want and then buy just a little bigger to leave room for further growth. There are numerous places that sell these plug-in units, I mentioned some companies above. Almost any fencing or sheep supply company will carry energizers.

Watering sheep is a necessity. You will need troughs and you may need means of water transportation if you can't reach every place with a hose. You want to get a low trough with a height no more than a foot. I have been using the 50-gallon Rubbermaid troughs for many years. Smaller sizes



Minerals are critical for sheep health.

for fewer sheep are available also, just make sure it is a low trough that your lambs can reach the water.

For water transportation, if you want to omit water lines in your pasture, you may consider a flat-bottom portable water tank, which can be easily strapped onto the bed of a pick-up truck or small carry-on trailer. I have no specific recommendation where to purchase these tanks, since they are offered at so many different places. During lambing when you set up jugs, you will need to water individual sheep. I want to make sure that no newborn lamb drowns in a bucket, so I hang a two-gallon flatback bucket into the jug. I like TSC's Fortiflex brand bucket, eight quarts in size, because I have lambing during the winter months as well and these buckets have rubber incorporated, which keeps them from cracking and breaking when I try to pound the ice out.

Supplementing minerals assures that your sheep have the macro and micro elements that your feed stuff doesn't pro-

vide or of which your soils are deficient. I don't like using readily available sheep minerals because the ingredients include grains or molasses, which increase intake to an unnecessary level, just like fat, sugar, and salt does in your snacks that you can't lay down once you started. It costs additional money but serves no good purpose. The vitamins in these sheep minerals are not needed for sheep that graze, simply because they either consume any necessary vitamin while grazing or can generate them themselves. Supplementing vitamins is most often unnecessary, unless you lock your sheep in a barn for prolonged times. Instead, I mix my own minerals, using salt and the afore-mentioned Selenium-Iodine Premix from Pipestone. I also like to blend in trace mineral with iodine and selenium as well. I don't mind the copper in it since I am grass-fed and therefore my sheep have no copper intact that's in grain. In fact, at times that additional copper is needed, i.e. during pregnancy of the ewes.

Why is my mineral protocol so complicated? Why not using just one source? Because one year I ended up having iodine deficiency in a few lambs, which killed them, although the label stated iodine as an ingredient. If you are more trusting than me, feel free to pick one source. In the pasture, I use high-wall rubber pig feeders to provide the minerals and in the barn, I use buckets made from the same rubber, which I hang on a post or tie to a panel. They are long lasting, in fact mine are more than 20 years old, but need to be removed outside for the time being when it rains since they are not waterproof.

Ulf owns and operates White Clover Sheep Farm and breeds and raises grass-fed White Dorper sheep and Kiko goats without any grain feeding and offers breeding stock suitable for grazing. He is a native of Germany and lives in the US since 1995. He farms in the Finger Lakes area in upstate New York. His website address is www.whitecloversheepfarm.com. He can be reached by e-mail at ulf@whitecloversheepfarm.com or by phone at 585-554-3313.

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