

FALL 2014

# SMALL FARM QUARTERLY

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



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**LIVESTOCK AND POULTRY****Get Out of the Barn and Show Your Stock Off!***Why breeders show, and what can be gained by showing your well-bred animals.*

by Melody Reynolds

Our farm started to be exposed to animal shows as many do, with a youth program. The animals taught my children responsibility and the ability to nurture and love animals. The Rhode Island 4-H program offered many opportunities for the children to take their beloved goats out of the barn and enter them in fairs. The fairs encouraged the 4-Hers to work with their animals and display them to their best ability. The shows offered showmanship and fitting classes. Showmanship taught the youth how to best position their animals to the greatest advantage. Fitting classes inspired the youth to bring a perfectly groomed, trimmed and clean animal into the show ring to express the quality of care taken.

As my children were developing these skills and winning awards for their hard work a greater benefit for our dairy goat herd was developing. In addition to the 4-H fairs the older my children got the more "open" shows we attended. The open shows, usually held by the American Dairy Goat Association, exposed our goat herd to breeders from all over the United States all looking to improve their herds and competing for the "best doe in show" based on the perfect goat characteristics determined by the score card point system.

Exposing our herd to this bigger array of dairy goat breeders opened up the possibilities for us to improve our herd. We love our goats and did not realize we had become "barn blind". We, until that point, bred to bucks that were convenient and local. We were ensured kids but the quality of kids was always a roll of the dice. Yes, we did get lucky many times with award winning animals that measured up to score card standards but our breeding's were never consistent and we were not able to track or find characteristics that we wanted or knew how to duplicate.

Being exposed to a larger population of dairy goats and dairy goat people made us aware of traits in our breeding program that we liked. I was able to look into a show ring and say "that's where I want our herd to be". I would watch the ADGA shows and start asking questions to the breeders who had what I hoped to achieve.

This information was transferred to our barn decisions. We started to be able to look beyond the personalities of the goats and choose the stock that had the most desired characteristics. From that point a slow and steady culling of goats started to evolve and I became less "barn blind" and more observant of the flaws we needed to correct and where we could improve.

The exposure to open shows had many other benefits that affected the goat herd and our family as goat breeders. The more shows we attended, the more people started to see our breeding program and what we have. Last year we sold out of our buck and doe kids before they were born. This was a direct result of attending open shows and all the knowledge fellow dairy goat herders shared with us. We were able to make educated breeding and buying decisions.

The best benefit I receive from the open shows is spending a day with other likeminded people, "goat people". Having various conversations all day with potential buyers and breeders enriches us all. Yes, we are competing against each other in the show ring for the best dairy goat, but after the show, for the most part, we all want to help each other grow a well-developed, healthy, and milk producing herd.

The years of transporting my children to 4-H shows to teach them the skills needed in life taught me the skills I needed to best show our goats to their best ability, clean, trained and in great conformation.



Miriah Reynolds showing her well-bred Saanen.

Melody Reynolds owns the first certified goat cheese and dairy in Rhode Island and has been raising goats for 25 years.

For more information on showing dairy goats contact the American Dairy Goats Association at [www.adga.org](http://www.adga.org) or the Dairy Goat Journal at [www.dairygoatjournal.com](http://www.dairygoatjournal.com)

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# Cornell Small Farms Program Update

Summer is often a quiet season in the Small Farms office. Researchers and students head out to the fields to focus on seeding research plots and data collection, and our home in the Plant Sciences building gets pleasantly quiet and reflective. This summer, we had a productive meeting with our Small Farms Leadership Team who helps us plan upcoming projects and prioritize focus areas. We're all ready to jump into a busy Fall season of launching new programs and generating new resources. See below!

new 3 year training program to help prepare small and mid-size farmers to sell to distributors. The project, which will launch in October, includes trainings to educators and farmers to assess changes needed in production, storage, packaging and handling to satisfy larger markets. To learn more about the history and work plan for this project, visit <http://smallfarms.cornell.edu/projects/wholesale-marketing/> This work is made possible by Northeast SARE. [www.nesare.org](http://www.nesare.org)

Program offers a catalogue of 12 online classes to help you improve your farm production skills, marketing, record keeping and business management. These interactive 5-7-week courses are led by experienced educators and farmers. Visit the course calendar or course descriptions to see the offerings of all our courses organized by season. We've created a FAQ page to help answer any additional questions you might have. Visit <http://nebeginningfarmers.org/online-courses/> for info.



Ian Merwin demonstrating apple tree pruning.

## Sparking a Wholesale Revolution: Preparing Small and Mid-Size Farmers to Enter Larger Markets

We are excited to announce the launch of a

## Online Courses for Aspiring, New & Experienced Farmers

Registration for the 2014-2015 season is now open! The Cornell Small Farms

## Small Farms Program Releases First Orchard Management Video

Our videographer, Peter Carroll, has completed editing of our first orchard management video, featuring Cornell emeritus professor Ian Merwin demonstrating apple tree pruning and training at his farm, Black Diamond. You can view the video at <https://www.youtube.com/watch?v=DDI-rfxWfIA>. This video was funded partially with contributions to our Indiegogo campaign at the end of 2013.

## Steve Gabriel Joins Cornell Small Farms Program

We are pleased to welcome Steve Gabriel as the newest member of staff at the Cornell Small Farms Program. Steve specializes in agroforestry and permaculture and has co-authored the book *Farming the Woods* with Cornell professor Ken Mudge, as well as a number of other publications and fact sheets related to forest farming. We're excited to work with Steve to integrate mushroom production and agroforestry into our programs and resources.

## Message from the Director

It is with both excitement and some sadness that I share the following news. I will be transitioning out of my position at Cornell to assume a new role as the Director of the Hudson Valley Farm Hub, which is sponsored by the Local Economies Project and The New World Foundation.

I was drawn to this position because it represents an opportunity to execute a vision for local farm and food systems that I have worked toward for the last 25 years. I will put 'boots on the ground' in one community/region and direct my efforts toward local change and growth. As Farm Hub Director, I will work with a diverse team to:

- Create a Professional Farmer Training program
  - Support research and demonstration of new farming approaches to enhance farm resiliency in the face of climate change.
  - Cultivate networks to advance local food and farming systems as critical to local economic development
- I will be working with our Leadership Team to hire a new Director for the Cornell Small Farm Program. I will miss being at Cornell, but I will not be that far away! I invite you to learn about the Hub and come visit when you are in the area.



Anu Rangarajan

Best Wishes,

Anu

## How can I get Small Farm Quarterly?

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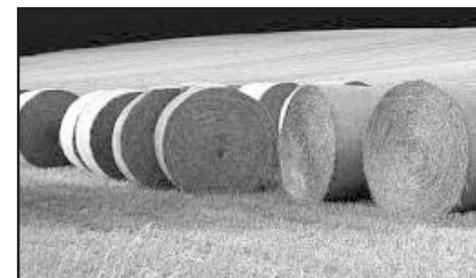
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## RESOURCE SPOTLIGHT

### Hay Storage Considerations: Don't Waste it!

by Nancy Glazier

Fall may be a good time to think about hay storage. In some parts of the Northeast hay-making has been tough due to the frequent rains. I have had some producers tell me they hadn't finished making first cutting hay by the first week of August due to the weather. Make sure you put more thought into storage so less waste will occur.



Round bales

Large bales are a convenient form of hay for one-person operations. These bales can be moved, stored and fed relatively easily with the right equipment. Hay loss can occur when baling, moving and feeding so some is unavoidable. The biggest loss — both dry matter and digestibility — occurs with outdoor storage. Dry matter loss can reach 50 percent depending on the beginning quality, storage conditions and length of storage. It is not always realistic or practical to build a barn to store hay. Here are some tips to minimize waste from outdoor storage.

Hay that has been tightly baled tends to shed water better. The outer layer forms a thatch to reduce water infiltration. Placing the bales lined up tightly together end to end helps with shedding precipitation. Pick a site that has good ventilation, away from hedgerows and wooded areas. This gives bales a better chance to dry out from air movement. Row spacing of at least 3 feet for good air flow and sunlight penetration is an excellent strategy. It's also a good idea to keep vegetation mowed between rows.

Ideally, bales should be stored off the ground. Hay stored directly on the ground may lose up to 12 inches on the bottom of the bales due to wicking action. Find some waste material such as old fence posts, pallets or tires and place the bales on top. Gravel or stone may work too. Research was conducted by University of Tennessee comparing different methods of storing large round bales of grass hay. The hay was cut and baled in June. The bales were weighed at the time of harvest and storage. Then they were weighed again the following January at the time of winter feeding. Table 1 lists the type of storage and the resulting percentage hay loss.

Note the difference between storage in the barn and on tires and covered. Some small changes can make a big difference! Plastic tarps can be relatively inexpensive when the savings from reducing loss is calculated.

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Table 1

Losses of Hay Stored using Six Methods of Storage	
Type of Storage	(%) Hay Loss
On ground, no cover	37%
On tires, no cover	29%
On ground, covered	29%
On tires, covered	8%
Net wrap on ground	19%
In barn	6%

For more information on hay production, see 'Hay Production Resources for NYS and Similar Climates' available online at <http://blogs.cornell.edu/ccewashington/programs/agriculture/field-crops-and-composting/557-2/>

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Cover photo:

The height of the goat breeding season at Tending Goats and Hopes Farm in Au Sable Forks, NY. Photo by Stephanie Fisher

## SMALL FARM QUARTERLY

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

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

### 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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**LOCAL FOODS AND MARKETING**

**Finding and Keeping Your CSA Members**

*On average, CSA's have to replace 55 percent of their shareholders every year, so what can we do to keep them coming back?*

by Brian F. Moyer

One of the attractions of having a CSA (Community Supported Agriculture) farm is it allows you to focus more on farming and spend less time on trying to figure out where you are going to market your harvest.

While there may be some truth in that, one still needs to find the "community" portion of the CSA that will support your farming venture, so let's look at some ways to find shareholders or members and explore some methods you can use to keep them.

According to a survey of shareholders of CSA's in the Mid-Atlantic Region that was compiled by Lydia Oberholtzer for the Small Farm Success Project, on average, CSA's have to replace 55 percent of their shareholders every year. This can be a lot of work and worry every winter when you'd probably rather spend your time planning and ordering seeds for your upcoming season.

**Who are your shareholders?**

Spend some time learning about the members of the community you want to grow food for. What are their staple foods? What do the demographics look like?

Knowing who is in your community might influence the products you will offer, drop off points, what kind of shares you will offer, events you may have, and how you communicate with your shareholders.

**Finding shareholders**

No matter what form of agriculture you do, you will have to be involved in some form of marketing and CSA's are no exception. The dictionary definition of marketing is: the total of activities involved in the transfer of goods from the producer or seller to the consumer or buyer, including advertising, shipping, storing, and selling.

Marketing requires three things; time, tools, and a bit of knowledge. Time for marketing is not the first thing we think about as farmers but maybe it should be. Think of it this way, the harvest isn't fully complete until the food is in the customer's hands.

There are many marketing tools available to us today that can make reaching out to your customers or shareholders much easier. The trick is selecting the tools that are right for you.

There are the obvious ones, logo, business cards, and invoices. These are very important. They give your business a "look" or "feel" and something that your customers will recognize immediately. Once you have those basics, how are you going to use them? How do your potential shareholders get their information? Do they search websites? Do they use Facebook? Do they have a newspaper subscription? Knowing the demographic you are trying to reach will help you select what marketing tools will work the best for you.

Nationally, the demographics of CSA shareholders are suburban or urban, they are educated, mostly female ages between 30 and 49 and are already consumers of organic foods. They want high-quality food and they want to support local farms.

If this is the demographic of your community, then such internet tools like websites and social media might be one of your options. Ah, but not all social media is created equal. There are demographics for different networks. For instance, if a majority of your shareholders are women, the social network site Pinterest may be one you will want to look into since a majority of its users are women. Social media can be a good tool for instant and brief communication with your shareholders.

Whatever you decide to use, all your tools should direct people to your website. Think of your website as the hub and your other tools such as Facebook, Pinterest, blogs, E-newsletter, etc., as spokes. The website is where all the important information should be.

A website should include three main things and they are what farmer Lisa Kerschner of North Star Orchards calls background info, basic info, and bumper issues.

Background information would include letting folks know why they should invest in you. Are you an experienced farmer or are you just starting out? Why should they become shareholders of your farm? Be sure to include any testimonials from existing customers if you have them.

Basic information would cover things like how much is a share? Where do I pick up my share? What does a share include? What are my responsibilities as a shareholder? Also let folks know if you are partnering with any other farms to provide products for the shareholders.

Bumper issues tackle questions like, 'what if I can't pick up my share this week?' or 'What happens if there is a crop loss?'



Shareholder bags ready to be picked up. Photo by Carla Snyder

**Keeping Shareholders**

Just as you need methods to communicate with your shareholders, you should provide ways for the shareholders to communicate with you. You need to know why they join, stay, and leave. How do they use the produce you provide? Is it enough? Is it the quality they expected?

- Some tools you can use:
- Create a 'core group' of shareholders for advice, feedback and planning.
  - Create opportunities for feedback (during season, end of season)
  - Talk to members at pick-up
  - Have a 'Comment Tree' (paper, web, email)
  - Have an Email listserv for the shareholders
  - Conduct surveys (email, web, paper) at the end of the season
  - Learn why members don't renew

The biggest reward for taking the time to use these tools effectively is having clear and better communication with your shareholders. This will result in better retention rates and spending less time in the winter trying to find new shareholders and more time doing other things.

For more information on marketing, visit <http://pinterest.com/psuextagent/> and <http://extension.psu.edu/farm-business>

*Brian F. Moyer is a Program Assistant with Penn State Extension in Lehigh County PA. He can be reached at 610-391-9840 or bfm3@psu.edu*



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## LOCAL FOODS AND MARKETING

# Grocery Stores are Key to Expanding Local Food Systems

*Local food is trending, but a regional food vision is what will relocalize our food system and agricultural economy—regional food that can be purchased at the grocery store*

by Rachel Carter

Farmers and food businesses operate at different scales and sell products to all types of markets. With more than 33 million potential customers in New England and New York, regional markets are increasingly important for statewide producers and processors. Broadening access to regional grocery stores, restaurants, and institutions is necessary to significantly expand markets for locally-grown products and increase farm profitability.

Pete's Greens, a certified organic, four season vegetable farm located in Craftsbury, VT, is a 50 percent wholesale operation to restaurants and retail markets, mostly in Vermont, and is committed to getting food into Vermont grocery stores at prices Vermonters can afford. "Retail requires more land dedicated to certain fields for specific crops. Retail outlets like supermarkets are interested in local, organic produce, but they need a specific slot of one type of veggie for warehouse storage," explains Amy Skelton, CSA Manager and a jack-of-all-trades at Pete's Greens. "Support is even stronger at the local level with small markets and independent grocery stores. Those store managers who get behind supporting local and take the risk are rewarded."

"Stores and restaurants are near saturated in our area as we have a lot of growers that sell directly into these markets," says Christa Alexander, farmer/owner of Jericho Settlers Farm. Located in Jericho Center, VT, Jericho Settlers Farm is a diversified, year round farm primarily providing CSA shares including vegetables, flowers, herbs, pork, grass-fed beef and lamb, chicken and eggs. They wholesale product to nearby restaurants and stores, and, to a lesser extent, a few schools and local hospital.

In order for markets to expand beyond the hyper-local to regional Christa suggests, "we need to increase produce pack/storage and distribution opportunities into the larger population hubs, possibly even processing hubs where multiple farms can bring raw product direct from the field to a wash/pack facility that cleans, grades, cools, packages, and distributes to larger population hubs."

Amy Skelton adds, "More and more consumers want to do less food prep and they want convenient sized packages. It's the value-added products and cleaned-up/prepped food that is going to sell. Additionally, technical assistance support for small producers is incredibly helpful for them to overcome systems issues so they can grow, hire specialists to help develop parts of their business, and pay good wages."

The cycle of increasing processing and distribution infrastructures, expanding from local to regional, and increasing farm viability and business profitability by supporting producers so they can pay good wages (which helps decrease food insecurity) are all a part of the work taking place in Vermont to reach the goals of the Farm to Plate Strategic Plan: to grow Vermont's farm and



Pete's Greens Farmstand in Craftsbury, VT, contributes to direct sales figures.

Photo by Rachel Carter

food economy and improve access to healthy local food for all Vermonters.

Vermont Farm to Plate program director, Erica Campbell states, "Grocery store owners and buyers are a part of a network of producers that farmers do not have relationships with as they did many years ago so there are multiple issues that need to be addressed to move more local food into grocery stores at a reasonable price. Farm to Plate is building a network of grocers and retailers, the grocers association, distributors and food hubs, producers, and regulators to build the relationships necessary to begin to make movement on this issue. Through our work thus far we have learned that technical assistance and support systems for retail stores are necessary for them to begin to make a shift in how and where they purchase food."

The recently released 2012 Census of Agriculture included direct sales numbers which, in Vermont, seemed to level out with a \$2 million increase from 2007, compared to a \$13 million increase between 2002 and 2007. With a robust and growing farm and food economy—2200 full-time food system jobs with benefits have been added in Vermont since the start of Vermont's Farm to Plate Initiative in 2009—the direct sales numbers show a solid 3.5 percent representation in Vermont food sales, giving farmers' markets and CSAs a small, but consistent piece of the local food sales pie.

Of increasing interest to those who track data connected to the farm and food economy—like those at Vermont Farm to Plate—direct sales (while often thought of as the indicator of local food sales) do not account for the recent growth of local food sales in retail, wholesale, and institutional markets. With no system to track this growing part of the farm and food economy, direct sales numbers can no longer be equated to the growth of the local — or regional — food system.

Sodexo, the largest institutional food service provider in Vermont, recently implemented a local food tracking system and determined they are purchasing 15 percent local food. City Market in Burlington, VT, tracks local food sales on their receipts and in 2013, 35 percent of total sales were of Vermont products. Unfortunately, accounting system costs prohibit most retailers from being able to track local food sales direct from the consumer, but many track through wholesale purchase. Hunger Mountain Coop in Montpelier, VT, currently purchases over 1,700 products from Vermont and the region which accounted for 30.4 percent of gross sales in 2013.

Direct sales are extremely important for producers and provide a certain level of stability, but there is a limit to how much can be sold through direct sale markets. Farmers' markets and CSAs provide producers with the opportunity to learn how to build up to a larger market and have been instrumental in providing a way to sustain growth in the local food movement.

As the local and regional food movement continues to grow, farmers and food entrepreneurs seek additional markets with a deepening interest in scaling up and finding they need customers beyond their state's borders. Farm to institution expansion, developing more robust wholesale markets and opportunities, and getting more local food into mainstream retail and grocery stores are on the horizon and will undoubtedly become a part of what indicates local food sales in the near future.

Throughout New England and New York, we can broaden the definition of "local" by including regional suppliers when certain items can't be locally sourced. Regionally, each of the New England states is participating in the "New England Food Vision" — an



Courtesy of City Market



Courtesy of Hunger Mountain Coop

Read more about Vermont retail and wholesale distribution in the Farm to Plate Strategic Plan: <http://www.vtfoodatlas.com/plan/> and learn more about how Vermont is doing reaching the goals of Farm to Plate: <http://www.vtfoodatlas.com/getting-to-2020>.

Pete's Greens, located in Craftsbury, Vermont sells organic produce both direct and wholesale and recently opened a new farm store in Waterbury, Vermont. <http://www.petesgreens.com/>

Jericho Settlers Farm sells organic vegetables, grass fed meats, and eggs through their CSA and at local stores and restaurants in Jericho Center, Vermont. <http://www.jerichosettlersfarm.com/>

City Market is a community-owned food cooperative in Burlington, Vermont dedicated to supporting the local economy and enhancing the sustainability of agriculture. <https://www.citymarket.coop/>

Hunger Mountain Coop is a member-owned, cooperative committed to building a dynamic community of healthy individuals, sustainable local food systems, and thriving cooperative commerce. <http://hungermountain.coop/>

**LOCAL FOODS AND MARKETING**

**Gastronomic Tourism: Are you Cashing In?**

*Local farmers are cashing in on Gastronomic Tourism in a big way, but with one-third of all tourism spending floating around waiting to be captured, the market hardly seems saturated.*

by Carla Snyder

Food-based tourism is more popular than ever. Exemplified by TV shows like Anthony Bourdain's No Reservations and Parts Unknown, celebrity chefs are taking to the tourism circuit around the globe. Great Britain's Alan Coxon, a multi-award winning chef and TV show host, named the ambassador of food this month, will be promoting Great Britain's food, beverage and tourism industry as a whole.

Known by many names, Gastronomic Tourism is a measured food trend across the globe. Once focused solely on the wine industry, food-based tourism, that is travel planning focused on educational, cultural or experiential activities surrounding the local food of each visited region, is now a significant trend in the local food sector. According to Quan and Wang, 2004, when data was just beginning to be gathered, over one-third of all travel dollars were devoted to food purchases. For many travelers culinary based tourism extends much further from the plate. It includes attendance at local food festivals, tours of local farms, a visit to the farmers' market and private dining experiences at many of these locations. According to 2012 data, eating-related activities are the second most favorite activity of all tourists visiting the U.S. This translates into a substantial opportunity for agritourism farms as well as those selling directly to the public or local foods based restaurants.



**Chef Sam Stroock prepares menu items over open fire at Rettland Farm.**

Local farmers are cashing in on this trend in a big way, but with one-third of all tourism spending floating around waiting to be captured, the market hardly seems saturated. If you happen to be located near an established tourism epicenter, like Gettysburg, PA, transitioning to this trend is easy. One small, diversified family farm offered their first on-farm supper in June. Rettland Farms paired up local Chef Josh Fidler, his 154 Supper Club and Chef Sam Stroock to offer a night under the stars. Seats were opened first to their Community Supported Agriculture members, those who are already local supporters of the farm, and then to visitors at large. Participants to this exclusive dinner were treated to a tasting menu of six local food dishes to fill their bellies and provide ample conversational topics for an educational and fun evening on the farm — the makings of a perfect tourism experience.

In New York, already a famed destination for wine-focused tourism, growers are taking advantage of the new hard cider trend. Cider Week, an event brand that has spread across the country celebrates what they deem "America's oldest libation." With events from New York to Washington in the months of October and November 2014, this tourist-marketed experience offers full day celebrations gathering apple

growers and hard cider makers from each region to celebrate this hip, ultra-local trend. Events offer demonstrations, tastings, local food pairings and socializing space for foodie tourists and locals a-like.

For agricultural producers, marketing to capture tourism dollars may be easier than you think. Simple changes such as telling your customers where you grow and how you sell your products may make all the difference. Producers have noticed an upswing in restaurant sales after talking to shoppers at their farmers' market stands about which restaurants buy their products. This enables the foodie driven shopper to not only visit your stand while they take in the scene at the farmers' market but to get pointed to a restaurant to visit while in town. When it comes to tourism, word of mouth says it all. Be sure to encourage customers that buy directly from you as well as businesses that purchase your product to promote their use of your local products on websites like tripadvisor.com and yelp.com. One local food comment can go a long way to entice the right food-focused tourist.

*Carla Snyder is the Agricultural Entrepreneurship and Marketing Educator with Penn State Extension in Gettysburg, PA. She can be reached at 717-334-6271 or by email at [snyder.carla@psu.edu](mailto:snyder.carla@psu.edu)*



**Chefs Sam Stroock, left and Josh Fidler prepare small plates to begin Rettland Farm Supper Club event. Photos by Rettland Farm**



**Dinner guests dining in the barn at Rettland Farm.**

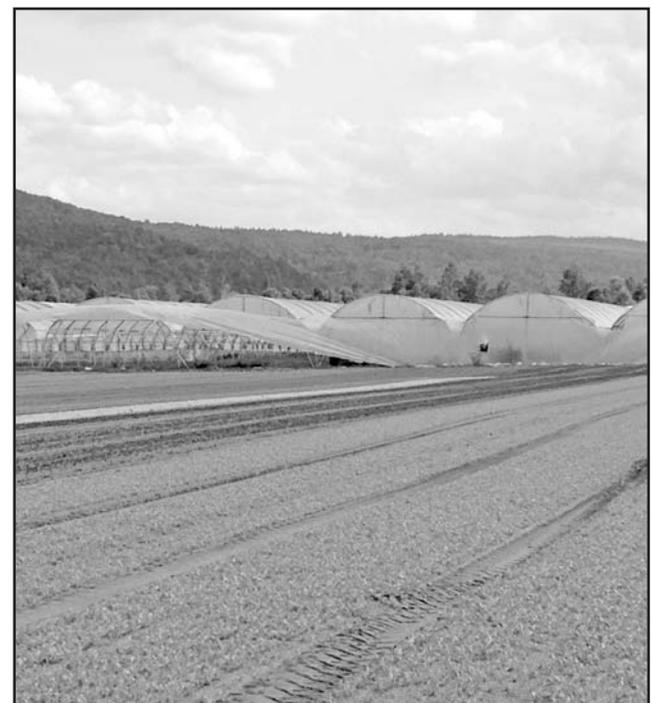
**Grocery from page 6**

aspiration to regionally produce at least 50 percent of the fresh, fair, and accessible food consumed by New Englanders by 2060.

Even with a strong local food movement in each of the New England states and New York, we are far too reliant on food grown and distributed outside of our region and on decisions made outside of our control. Supporting "regional" after "local" is increasingly important as we all work to define the regional food shed.

*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](mailto:rachel@vsjf.org).*

Farm to Plate is Vermont's statewide initiative to increase economic development and jobs in Vermont's farm and food sector and improve access to healthy local food for all Vermonters. Learn more at <http://www.VTFoodAtlas.com>



**Pete's Greens in Craftsbury, VT, purchased more farmland to dedicate farmland to growing crops for grocery stores.**

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## LOCAL FOODS AND MARKETING

# Aquidneck Island: A Food System in the Making

by Rory Hennessey

On December 10, 1980, six years after travelling across the country as a Regional Manager for steakhouse chain Victoria Station (the off-spring of a Cornell University Hotel School graduate project) Ralph Plumb (Cornell Class of 1974) and his wife Pat opened the doors of the Brick Alley Pub in Newport, RI. Having curated a list of favorite recipes from their cross-country travels, Brick Alley's menu offered a broad selection of American drink and cuisine to a corner of New England that did not know what it was missing. Heaping plates of Cheesey Nachos paired with Frozen Mudslides quickly led to the Brick becoming a local favorite.

Thirty-four years later and with "Newport Landmark" status, Ralph still crafts the offerings and recipes for Brick Alley Pub's menu, but he now does so with the help of his son and Brick Alley manager, Matt. Having grown up in the family business, Matt has spent his life first watching, now helping his parents do everything from washing the floors to negotiating prices with food vendors to creating new menu offerings (Pork Belly Tacos & Sriracha Fish Sauce Wings have been two recent hits).

While Ralph made his mark by bringing a collection of national recipes to the City by the Sea, Matt sees his opportunity in finding ways to offer these same dishes using local ingredients, creating a new community-based food system in the process.

Focusing on partnerships with local and regional producers, Matt began constructing his own local network. As Green Mountain College professor Philip Ackerman-Leist's describes, "...food systems...requires us to broker new relationships — relationships that help build local economies, conserve local landscapes, create entrepreneurial collaborations, enhance food security, enlighten and educate..." Using this as his framework, Matt set to work establishing a viable community-based food system model that continues to be tested and honed.

### Building Local Economies

Every region has its own mix of individuals, groups, and businesses that give character to the community, but far too often they operate independently of one another. Newport is no different. Located on Aquidneck Island, a 15 x 5 mile-long island in Narragansett Bay, Newport has a unique collection of food-based enterprises. Yet despite the small size of its community there exists an oft-too-fragmented network.

When looking at the menu, seafood was a natural starting point. Matt set to work creating relationships with the network of individual fishermen who normally sell their catches to the much larger national food suppliers. Working with groups like Trace and Trust introduced Matt to an entire network of fishermen catching fresh seafood right off the shores of Rhode Island. Items like the best-selling Rhode Island-style Calamari (lightly fried with banana peppers and a side of marinara or tartar) or summer swordfish could now be sustainably sourced from nearby Point Judith or Block Island. Then there are the seasonal catches of fluke and striped bass that are able to be run as specials. These connections work both ways, as the fishermen can go out at night assured that come morning, they will have a buyer, while Brick Alley gets the ability to offer fresh seasonal specials that the community loves.

In addition to seafood, Brick Alley Pub now incorporates seasonal cheese selections from local Simmons Farm. Grass-fed beef from Aquidneck Farms, located on 400 acres of prime agricultural land with 180 head of closed Angus herd, is regularly featured on Beer and Wine Dinner Menus. Matt sources local Aquidneck Honey from the network of over one thousand bee hives tended to by Aquidneck Island resident 'Jeff the Bee Man'. Jeff bottles the honey used at Brick Alley and also makes and sells a number of honey-based treats.

On the drink side of things, visitors looking for a taste of local flavor will find local wines from both Newport Vineyards (the largest grower of wine grapes in New England) and Greenvale

Vineyards. The tap features plenty of choices from Newport Storm Brewery, an 8,000 square-foot facility that brews a variety of beers right down the street from Brick Alley.

Closing the circle, there are partnerships that kick in for clean up and sustainability. After the french fries are enjoyed, Brick Alley calls its partner Newport Biodiesel, a neighborhood company who collects waste vegetable oil, converts to biodiesel, and then distributes to homes and business throughout the state. As for the food scraps, all of the plates are scraped into special bins while the kitchen consolidates all of the food waste. These bins are then picked up once a week, taken to local Garman Farms where it is composted and used as organic fertilizer for produce Brick Alley later purchases.

**On right - Brick Alley Pub's Portuguese Littlenecks, featuring the local littleneck clams and chourico**



**A course served at July's Dinner on Young Family Farm featuring our own ROMA Farms heirloom tomatoes and Young Family Farm peaches.**

### Conserving Local Landscapes

Ensuring Newport's natural landscape is preserved is carried out in part by the Aquidneck Land Trust (ALT). This non-profit organization is run by a dedicated group of local residents working to save the natural character, environmental health, and economic value of Aquidneck Island. As of today, ALT is responsible for over 2,000 conserved acres, a portion of which are reserved for small farms like Brick Alley's composting partner Garman Farms as well as Brick Alley-affiliated ROMA Neighborhood Farms.

### Creating Entrepreneurial Collaborations

As of late, entrepreneurs have proven to be the lifeblood of local communities with farmers proudly being counted in their ranks. "Community Food Enterprises" (CFE) are businesses that are locally owned, employ locals, and use mostly local goods and services. Recent evidence shows that CFEs generate more jobs — two to four times the amount per dollar of sales — and generate more income and wealth for (their) communities than non-locally owned businesses, even ones that source goods from the area.

With this in mind, Matt decided to begin his own farm as a way to connect with the community in a new way while also helping shorten the "food mileage" of a portion of Brick Alley's sourced produce. With the help of his friend Rory Hennessey, the two began to cultivate an acre of land, growing the essentials as ROMA Neighborhood Farms. Within two years, ROMA has secured an additional acre of land thanks to the Aquidneck Land Trust, hired a handful of part-time college students, implemented a CSA program, and set up shop at local farmer's markets. Additionally, the Brick

Alley Pub/ROMA Farms combination also recently collaborated with Young Family Farm in Little Compton, Rhode Island to host a unique Dinner on the Farm experience. Showcasing fruits and vegetables grown on the two farms with meat and fish from around Aquidneck Island, Matt and the team from Brick Alley moved the kitchen to the farm treating the community to a sold-out 10-course event.

However, to be a successful system, these collaborations have to extend beyond just local food. Recognizing the value of the "shop local"/CFE movements Matt also created the first annual Holiday Pop-Up at the Pub event which featured local entrepreneurs, craftsmen, and of course, farmers. Held in December, the Pop-Up allowed the community to purchase locally made art, jewelry, soaps, food and more to give as gifts during the holiday season. After a great inaugural reception, the Pop-Up will hopefully become an annual local event in Newport.

### Enlighten & Educate

Working to educate the community is a multi-faceted, ongoing undertaking. Ensuring the community is aware of local farms and businesses along with the benefits of supporting - from both an individual and communal health standpoint - is no small task. To help in this, Matt and Rory have been able to build sizeable followings on social media, leveraging these platforms' broad reach to share and promote local news and events.

Another essential educational element lies in sharing the behind-the-scenes workings of "local food," explaining the "why's" and "how's" to the hungry minds who will soon be responsible for implementing. For this reason, Matt also volunteers his time at a number of schools on Aquidneck Island, teaching classes on topics like meal preparation, how to eat healthy, "start-up farm" overviews, and general business lectures.

### The Path Ahead

Creating, connecting, and implementing the infrastructure for a completely integrated food system is an endeavor that will take time and dedication. At first blush, incorporating the above systems, processes, and ventures might seem to make intuitive sense for a restaurant owner. But it takes a considerable amount of effort. Each relationship not only has to be created but then must be actively maintained. It is far easier, and in most cases more efficient, to work with one or two suppliers when sourcing a business's inventory. The national companies have consistent inventory with automated re-ordering systems and forces of salesmen ready and willing to assist, all luxuries that working with individual farmers and local businesses do not afford you.

However, making such a commitment is non-negotiable as 'local food' production is one of the top environmental and social issues facing us today. Places like Newport and businesses like Brick Alley Pub are far from perfect, but as a culture we have to understand the overarching implications of our actions. We must be willing to make those seemingly tiny adjustments with the foresight of their adding up to a sizeable sum. Echoing Cornell's Tom Lyson we must recognize agriculture and food endeavors as engines of local economic development, integrally related to the social and cultural fabric of the community. The sooner, the better.

*Rory Hennessey co-manages ROMA Neighborhood Farms located on Aquidneck Island.*



**SMALL FARM SPOTLIGHT**

**Growing Food With Love at Green Mountain Girls Farm**

by Briana Palma

It's a small operation with a big heart.

On a hillside in Northfield, VT, Mari Omland and Laura Olsen of Green Mountain Girls Farm use sustainable and organic practices to produce a range of foods, while also welcoming visitors with open arms. The two work hard to "give people the opportunity to be deeply involved" in what they do in, whether through regular detailed blog posts, appearances at public markets and events, or exciting hands-on activities at the farm.

Day in and day out, Mari and Laura share the tricks of the trade with visitors, who are invited to take a tour of the farm or participate in one of the workshops offered, such



The three-bedroom vacation space is a wonderful retreat for small or larger and includes a starter basket of farm fresh food.

as cheese making, butchering and canning. Guests can also learn how to milk the goats and enjoy a warm, foamy latte made as fresh as it comes. For those who wish to soak up the rural, farm-to-table lifestyle for more than a day, Mari and Laura even offer an on-site guesthouse with accommodation for up to six people.

These experiences, Mari says, help make the farm economically viable while attracting visitors young and old from all walks of life.

"Some of our [farm share program] members are talented musicians who used to perform at Carnegie Hall. These are sophisticated people who travel around the world and are written up in The New York Times, and they're doubled over, laughing, giddy and just enjoying having a 'Latte on the Hoof,' Mari says, explaining that, as one of the farm's signature experiences, people can try warm beverages made with milk direct from the goats. "Then the next night I have an old, cranky dairy farmer over and he's giddy and laughing in the milking barn and having a 'Latte on the Hoof.'"

The care with which Mari and Laura welcome their diverse guests extends to the animals as well. As former vegetarians, the two believe in treating all their farm animals with respect, not only by allowing them to graze freely under the sunshine, but also by giving them names and even the occasional belly rub. The tradition of naming animals also allows visitors to stay up-to-date on all the four-legged friends they make while at the farm.

"There's a family in Maryland that was here when Myst and Mahjong were born," she says. "They helped us name them and later they sent up collars for them. Essentially they adopted these goats, so whenever there's a blog post about goats, they'll look for Myst and Mahjong."

From their humanely treated animals Mari and Laura produce fresh goat's milk, eggs and pasture-raised meats along with vegetables and canned pantry items. They sell at their on-site farm store throughout the year and at the Northfield, VT Farmers Market in the summer months. This year they also decided to bring the fruits of their labor of love to the one-day Boston Local Food Festival on the Rose Kennedy Greenway in Boston. They hope to gain new customers, network with peers, and inspire more Boston-area residents to visit the farm.

"To share it with other people helps us see anew the beauty of the farm," Mari explains. "Like anything, it can become a bit of a daily grind, but visitors keep it fresh for us. They come from different places and they notice different things; they refresh our observation of the beauty present on a small hill farm in Vermont."

"You can see the highway from here and we're less than 2 miles from the exit," Mari emphasizes. "People are tired and busy and it's hard to find time to do these things, but do it for yourself; plug into the countryside and



Mari Omland and Laura Olsen own the farm and manage many aspects of the local food production and tourism elements.

Photos courtesy of Green Mountain Girls

get that deep refilling of your well. It's not easy to jump out of our busy lives and do something different, but it is easy to get here."

Briana Palma is a Boston-based writer who covers food, travel and the outdoors. For more information on her work, visit [www.briana-palma.com](http://www.briana-palma.com)

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**NEW AND BEGINNING FARMERS**

**Full Diet Farming at Old Ford Farm**

by Daniel Rivera

I found some much needed inspiration and practical ideas to apply to our small organic farm recently while attending a workshop and field day at Old Ford Farm in New Paltz, NY. Becky and Joe Fuller run several operations together with the goal of maximizing their land and efforts into offering something unique for their customers.

The sell raw milk, eggs, chicken, pork and have an all-you-can-eat vegetable CSA. In just a few years they have managed to brush hog their leased 15 acres of land into a beautiful, productive farm. It hasn't all come easy for them but their willingness to make it work is plain for all to see.

Unlike a lot of other young farmers that you hear about nowadays, they started with minimal training. This led to more than a few mistakes at the beginning but also proved to be valuable learning experiences.



Two semi-trailers with a greenhouse canopy make up the barn and dairy.

I would say that they could afford to be "green" at the outset, because they had two things going for them. They had the time to invest and they had willing land owners able to assist them in this joint venture.

**A Joint Venture**

The land is leased by a conservation easement and the owners are able to get the valuable agricultural tax exemptions on the land because Joe and Becky farm it. The land owners also get a share of the farm fresh bounty.

Joe and Becky get up and running with a farm business and get to make a living on land they could not otherwise immediately afford. This is a great model for other aspiring farmers to look into!

**A Real Bootstrapper's Delight**

It's amazing to see what they've been able to accomplish with minimal funds. Even though it might not have the best roof for Hudson Valley snow, their barn is a great example of frugality and ingenuity. You wouldn't know it by looking at it, but there is a licensed raw milk dairy inside one of those trailers!

**Jealous of their Jerseys**

Milking about 6 cows twice daily gives them about 200 gallons per week. They sell about 130 gallons at their farm store and the rest they sell to a local artisan cheese maker who makes a rare Caciocavallo cheese.

Their sweet cows are mostly grass-fed with some additional non-GMO grains. They mow the pasture after the cows graze it which I

had initially thought to be counter-intuitive. But on a limited pasture acreage, this makes sense for them.

Mowing allows the choicest grass, the stuff the Jerseys really love, to rebound quickly. Forcing the cows to eat everything in the paddock might alter the flavor of the milk. Their raw milk after all is their #1 product and it is in high demand. It is super tasty and very creamy.

It was like drinking ice cream. Oh so good & good for you!

**Resources, Labor and Profits**

The main topic of the field day was to get a sense of the farm's inputs & outputs. As Becky & Joe described each operation of their farm, they included a spreadsheet on the labor, expenses and profits derived from each enterprise.

As I said, the demand for the raw milk is high in their area. It is often this demand that helps drive the rest of their profits. As folks come by to pick up their raw milk, they also buy eggs, meat and other items.

Legally in New York State you can only pick up raw milk from the farm — so their farm store becomes a popular destination. Joe said that for a short time they ran out of raw milk. When this happened sales of their other items plummeted.

Eggs do well for them as does poultry, which they harvest at the farm. On poultry slaughter day, they can process upwards of 150 chickens in about 5 hours working in a group



On poultry slaughter day, upwards of 150 chickens are processed in about 5 hours by a group of six people.

of six people. Pigs, although still a small operation for them, tend to not be as profitable. They are high labor, high input and their profits are not as high as they'd like after expenses.

A lot of this has to do with the cost of slaughter, butchering and smoking. They also feed a large amount of grain. They say factory pork is sold so cheaply per pound in the grocery stores that this is a hurdle for some customers to overcome when educating about the benefits of pastured pork.

**A Veggie CSA "Outside the Box"**

Becky and Joe find that the vegetable CSA they operate on about 3 acres is also a high labor enterprise. Recently with some out of the box thinking, they've been able to tilt the scales more in their favor. Now they do an all-you-can-eat vegetable CSA which means

**See Full Diet page 11**

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# Farm Credit East Congratulates Thriving CSA From the Ground Up



Ryan and Sarah Voiland of Red Fire Farm with their son, Wally

Ryan Voiland, owner of Red Fire Farm, got started farming while still in high school. Shortly after college graduation, he purchased his first farm and his business has been growing, from the ground up, ever since.

Originally focused on supplying organic produce for local retail markets, Ryan Voiland and his wife, Sarah, recognized early on that a growing public interest in CSAs could spell greater profitability for their farm.

To accomplish their expansion goals and provide adequate shares to a growing client base, the Voilands turned to Farm Credit East to help purchase land of their own and expand the business. "I talked with other banks, but Farm Credit East has a much deeper understanding of agriculture," said Ryan.

In addition to financing assistance for several expansions, the Voilands discovered that Farm Credit East could also be a key resource in preparing their payroll. "When we first started our business, we hired someone to do our payroll who wasn't familiar with agriculture and made a number of mistakes," said Ryan. "That person just didn't understand the rules and regulations specific to agriculture, so we turned to Farm Credit East."

With key financing opportunities and the added protection of payroll support, Red Fire Farm has grown to be one of the largest CSAs in Western Massachusetts. Serving more than 1,500 CSA summer shares, plus 2,000 fruit, egg, flower and winter shares, they're once again preparing their thriving business for growth.



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## RESOURCE SPOTLIGHT

### Legal Services Food Hub

by Elena Mihaly



Conservation Law Foundation (CLF) would like to announce the launch of a new project under our Farm & Food Initiative called the Legal Services Food Hub. The Legal Services Food Hub is a free legal services clearinghouse for farmers, food entrepreneurs, and related organizations. CLF is piloting the Legal Services Food Hub in Massachusetts with an initial focus on cases involving transactional issues, such as land acquisition/transfer, estate issues, taxes, contracts, and corporate formation, among others. For example, if you're a farmer considering transitioning your farm to the next generation, we could match you with an estate planning attorney. Likewise, if you're a farmer interested in entering into a purchase agreement for new land, we could find you a real estate attorney to represent you during the land transaction. Involving an attorney can help farmers avoid unforeseen liabilities, draft enforceable contracts, negotiate sound lease agreements, and effectively navigate other legal transactions.

The Legal Services Food Hub serves farm-

ers, food entrepreneurs, and nonprofit or community organizations formed for the purpose of supporting farmers and food entrepreneurs. To ensure that these free services are going to those most in need, participating farmers and food entrepreneurs are subject to an income cap: the gross sales of the business must not exceed \$75,000, and the applicant's household income must not exceed 400 percent of the Federal Poverty Limit. A chart with the 2014 Federal Poverty Limits can be found at <http://aspe.hhs.gov/poverty/14poverty.cfm>.

CLF plans to expand this project to additional New England states after the Massachusetts pilot. Please call the Legal Services Food Hub Coordinator with any questions at 617-850-1744, or visit our website to learn more at [www.legalservicesfoodhub.org](http://www.legalservicesfoodhub.org).

### Full Diet from page 10

their members once a week can take as much as they want of what has been harvested.

They have about 60 members right now. Becky says many of their members are home cooks and foodies who love having a large quantity of vegetables to chef up and preserve. Doing the veggie CSA as a free choice option for folks saves Becky & Joe time in packaging and weighing all the produce every week.

### Full Diet Farming Thoughts

Having a diversified operation has helped Joe and Becky weather the storms over the years. By not having all their eggs in one basket they've been able to grow steadily year on year and explore new ways to serve their members better.

maker. If so they could then feed that to the pigs to help defray some of the costs of grain.

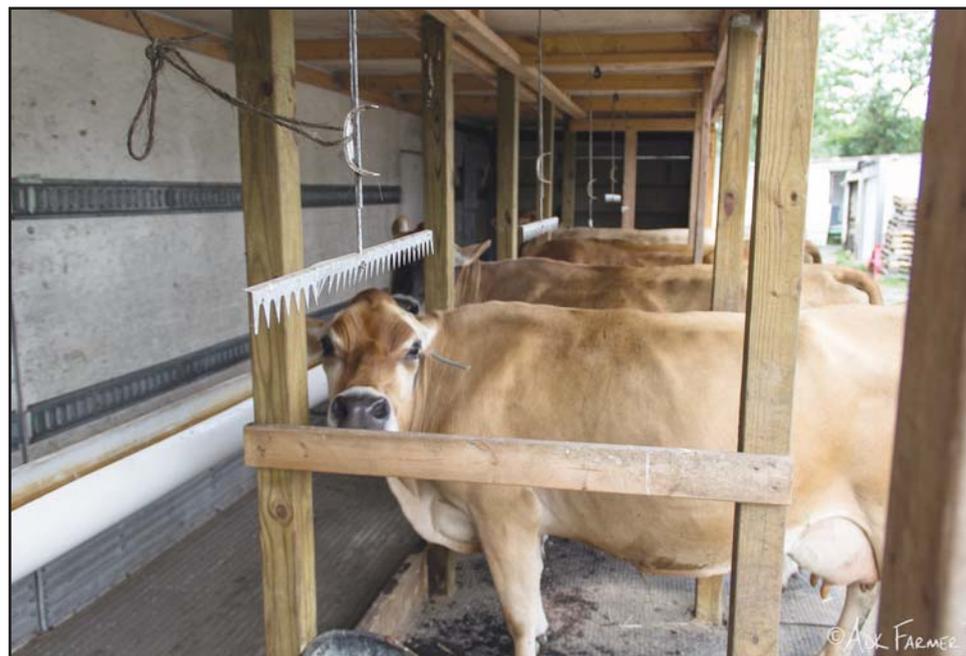
I have thought about this type of farming diversification for a while for my future customers and also for my families' own full diet needs. I think it's the right way to farm. I think it scales well and provides opportunities to hire others to work on the farm as they have been able to.

The Fullan's honesty and transparency in providing the net profits and expenses they have tracked over the years is immensely valuable and appreciated. Seeing them do it first-hand makes it seem very possible to do on our own small farm.

One step closer... in the journey.

To build on their model, I would look for ways to integrate the operations beyond just rotational grazing for creating efficiency. One example that comes to mind is to find out if excess whey is available from their cheese

Daniel Rivera chronicles the journey of bringing a small farm back to life in Willsboro, NY on his blog, [ADKFarmerDan.com](http://ADKFarmerDan.com). He can be reached at [adkfarmerdan@gmail.com](mailto:adkfarmerdan@gmail.com) and 518-302-1828.



Six Jersey cows produce about 200 gallons of milk per week.

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**Beef Cooperative Makes Dollars and Sense**

*By pooling product, the 25 farmer members of Adirondack Grazers have more than doubled their return on grass-fed beef.*

by Sarah Nechamen

New York State loses a farm every three days. For many of these farmers, the economics just didn't work out: they were spending too much time and money producing, marketing and distributing their products to justify the return. The Adirondack Grazers is a grass-fed beef cooperative that is trying-and succeeding-in solving this problem. I talked to cooperative founder Sarah Teale to find out just how the 30 member cooperative managed to decrease the farmers' workload while increasing their profits.

Sarah Teale is not only the beef cooperative founder, but is also a filmmaker — an Emmy-nominated filmmaker at that, who lives in Manhattan and produces groundbreaking documentaries for HBO. So first I had to ask: how did she end up running a grass fed beef cooperative in upstate New York?

"My husband had a farm up in Washington County for 30 years," she explains. "A local farmer used to work the property for us and he had a dairy herd." But like so many farms in the area, the farmer ended up selling the herd, and the fields became brushy once no one was actively cultivating them. One day, the farmer suggested to Sarah that she and her husband, Gordon start a grass-fed beef operation. The problem was, Sarah and Gordon actually couldn't produce grass-fed beef — not by themselves, and not in a way that was financially sustainable. Sarah recognized this after meeting with Cooperative Extension agent Sandy Buxton and subtracting the costs from the potential earnings to find

out how much the farm could actually make with a beef herd. According to Sarah, "It turned out that we couldn't make anything, and in fact we'd be losing money!"

So Sarah came up with the idea of putting a cooperative together, as a way of collaborating with other beef producers to increase the amount of money the farmers could get for each pound of their beef. She set up a meeting in November of 2011 to gauge interest and a surprising total of 40 farmers filled the room that day.

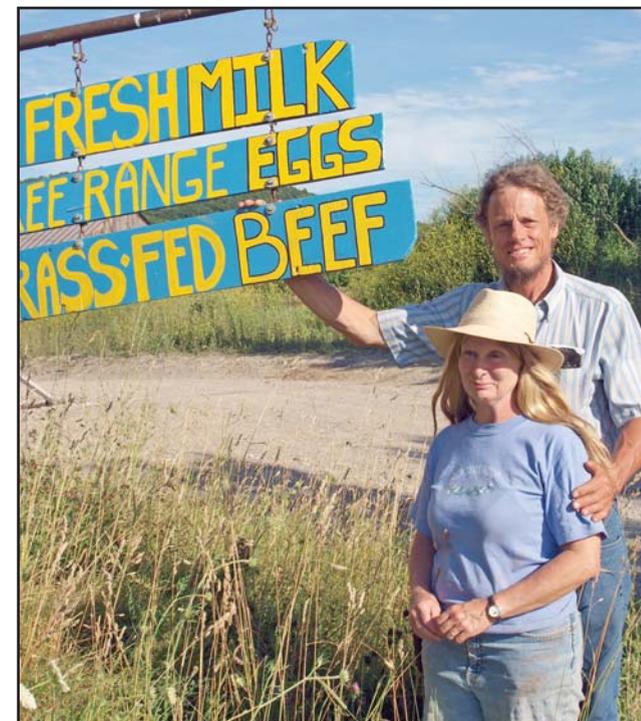
With the initial meeting and plenty of help from Cornell Cooperative Extension, Sarah had little difficulty finding farmers from upstate New York and Vermont who were willing to become members. but the next hurdle was finding a way to fund the project.

Sarah applied for and received a SARE grant after the November meeting and that money ended up being crucial to getting the project off the ground, paying for both the insurance and for a lawyer to incorporate the cooperative in June 2012. Later, it even funded farmer profiles which were posted on the Adirondack Grazers website to increase transparency to the customers.

**Making Decisions Cooperatively**

Once the Adirondack Grazers officially formed, they needed to devise a marketing plan targeting how and where to sell their beef: wholesale or direct, fresh or frozen, and the big question of pricing, were just some of the issues that the Grazers struggled with.

So the group set up a board made up of farmers who are members of the cooperative, plus Sarah, who "doesn't quite count as a farmer." The board started with 5 members who met weekly to discuss these questions and vote on a decision. The full membership meets every few months to vote on large decisions such as pricing. Sometimes, an early decision had to be changed down the line because things didn't work out as well as expected: for example the attempt



Adirondack Grazers Richard and Cynthia Larson operate a grass-fed beef operation located in Wells, VT.

to sell frozen beef rather than fresh. It didn't help that the Grazers' freezer spontaneously broke down over the winter, but the real problem was with the demand.

"Down here in New York City the chefs don't want frozen and the retail customers don't want frozen either. Everybody wants fresh meat. Which is silly actually, but they don't know that," laughs Sarah.

On the other hand, the decision to sell wholesale instead of direct marketing was one that worked out quite well.



Tuesday Miller plays with a cow at Rosie's Beef.

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"We found that our sweet spot is wholesale," Sarah says. "We tried to sell retail and direct. You can't do it fresh because it's too scary; you have to get rid of every piece. And we found you can't do it frozen either on the volume because you get rid of some hamburger and the steaks but then you're left with a lot of the other things. You're left with the eye rounds and the shanks and bits that people don't know what to do with."

So instead of wrestling with farmers markets, Sarah sells the beef to stores like Honest Weight in Albany and Healthy Living in Saratoga, to online markets like Fresh Direct, and to a number of butchers, distributors, and the odd restaurant that knows what to do with a whole cow.

Another decision which worked out surprisingly well was setting the price very high compared to commercial beef prices. In the beginning, the marketers (Sarah herself and Lisa Randles of White Clover Farm) had trouble selling the expensive meat, even in New York City where they focused most of their marketing. But commercial beef prices fluctuate up and down and are currently leaning heavily towards the "up" end of the spectrum, so the Adirondack Grazers' beef, which is kept at a steady rate of \$3.50 a pound, has become much easier to sell.

In general, the cooperative has worked out a good system for marketing and distributing their beef. The farmers drop their animals off at Eagle Bridge slaughterhouse. From there, the beef is transported to various restaurants and retail stores, and to New York City butchers and restaurants via food trans-



Cows grazing at Rosie's Beef.

porter "Fresh Connections." (These connections were virtually all made by Sarah during a summer whirlwind spent running around New York with meat samples.) The cooperative then takes 15% to pay for the marketing and distribution, and the rest goes in a check straight back to the farmer.

**The Bottom Line**

Cooperative members are now taking in more than twice the money for their steers than they received before joining Adirondack Grazers. How does the cooperative model increase profits so much?

There are a few different ways, according to Sarah: first, the members work together to affect the markets. If one farmer contacts a

butcher or distributor and says "I'll sell you my beef for \$3.50 a pound," they are much less likely to get a sale from that than if all 25 farmers in the area demanded that same price.

The cooperative also takes care of marketing and distribution, so that each farmer doesn't need to spend time and money driving four hours down to New York City in order to get a good price for their product. And finally, cooperatives open up markets such as restaurants that require a steady supply of beef every week, an idea which a small farm by itself just doesn't have the volume to entertain.

All in all the cooperative members get a steady \$2.98 per pound paid directly to them, regardless of the price of feed or commercial beef or fuel. This high price combined with the farmers' increased herd sizes (a 55 percent increase since the cooperative was formed) has put the Adirondack Grazers on track to return a whopping \$1 million to farmers this year.

**Environmentally Friendly Beef**

Though economics are the main driver for many farmers who choose to join a cooperative, the benefits aren't only financial. The cooperative model is also environmentally friendly—at least where beef is concerned.

"What we've shown to everybody is that there's a huge market for 100 percent grass-fed beef," explains Sarah.

And the co-op members are taking notice. A few of the Adirondack Grazers farms still finish their animals on grain, but more and more are switching over to 100 percent grass-fed because there is such a big market for it. That switch brings down costs from fuel, equipment, and grain, which again increases profit for the farmer but also makes the farm a lot more sustainable: every decrease in fuel, and especially every eliminated manure lagoon, decreases greenhouse gas emissions from the farm.

Even more than the per-farm emissions, cooperatives have the potential to increase the viability of the local foods movement itself. As Sarah puts it, "People like to think that local is happening and sustainable is happening, but it's not happening on a scale yet that is sustainable. It's being built on the backs of people driving four hours to a farmers market."

So perhaps the solution to creating a food system that is truly locally and regionally based, which can sustain itself both environmentally and economically, is for farmers to cooperate- to create the economies of scale needed to be financially viable without sacrificing that small farm dream.

It's certainly working for the Adirondack Grazers.

*Sarah Nechamen is an undergraduate Plant Science major at Cornell and the Small Farms Program summer intern for 2014.*

Learn more about SARE project number FNE12-738 at <http://mysare.sare.org/mySARE/ProjectReport.aspx?do=viewProj&pn>



Sara Bigelow of the Meat Hook performs a meat cutting demonstration.

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**Sharing the Dream**

Sarah wanted to share the Adirondack Grazers' success with other farmers, and even serve as a model for other groups looking to form cooperatives of their own. How convenient, then, that she is an Emmy-nominated filmmaker!

Sarah teamed up with Lisa Jackson (another Emmy-nominated filmmaker) to create a documentary on the Adirondack Grazers and its member farmers. The feature-length film is nearly finished and in fall of 2014 will be released to not only the cooperative members but also to farmers across the country. It could even end up on TV.

"I will be showing it to HBO, but I have no idea how interested people will be in a film about beef farmers," Sarah laughs.

The Adirondack Grazers also intend to write a how-to pamphlet on the ins and outs of forming a cooperative.

"Maybe we can put the film inside the how-to pamphlets and get it out to everybody," considers Sarah. "Maybe I'll go write a grant for that too!"

Until the documentary and pamphlet are finished, the cooperative is using their website and facebook page to provide outreach to farmers looking to start a cooperative or join the Adirondack Grazers who, it turns out, are currently looking for new members.

Anyone interested in joining the Adirondack Grazers' Cooperative should call their office at 518-409-5599 or contact Sarah Teale at 917-941-0481.

# My Grazing Cycle

by Ulf Kintzel

Fall is here and once again we have to decide how long our pastures should be grazed without negatively affecting next year's growth. In this article I will talk about my experience of when to stop grazing and when to resume in the spring.

Before I begin, I need to mention that I raise "only" about 2.5 ewes and their lambs per acre. While my carrying capacity is indeed higher, I choose to be at the lower end of what I can raise on my farm in order to be able to stockpile pasture in August and September for early winter grazing, to grow my own hay, and to not run out of grass during the growing season, even if growing conditions are less favorable.

As we approach fall, conventional wisdom is to let pasture rest so that it can store reserves in its roots and to leave residual, to not graze it too short. The residual, which becomes residue over the winter, will be needed to help it green up earlier in the spring. The former premise to allow grass enough rest time that it can store energy in its roots is undoubtedly true. Leaving enough residual is equally important for that reason. Stockpiled grass has lots of time to store energy anyway. In fact, I move my sheep for a few weeks in the fall to graze hay fields at a couple of neighboring farms. However, I come back to each part of the pasture when it has gone truly dormant in November and December and into January. This time of year, grazing closer and leaving residue is not a concern. Once truly dormant, closer grazing does not affect my pasture's green up in the spring negatively. However, since the dominant grass species in my pasture is orchard grass, the sheep never graze anything really close to the ground and will always leave some residue while I continue to graze rotationally until the last cell is grazed in late December or early January. So my pasture never does look short like a lawn or golf course. If you do rob your pasture of all residue during the winter months you may indeed have a later green up in the spring.

Since I do most winter feeding outside, I start offering free choice first-cutting hay when my experience tells me they might start needing some. Usually, I offer it earlier than needed. In the onset of hay feeding my flock will only nibble a little on the hay as long as the grass is tastier. That changes during the month of January when snow cover gets too high to make it worth their while to dig through.

At the onset of the growing season my flock has access to the entire farm. I use my electric nettings as a perimeter fence where I don't have permanent fencing. That means about 113 acres of pasture are available to them and indeed during these first few days of spring my flock of approximately 500 sheep during that time of year is spread out at any one point in time over 30 or more acres throughout the day. There is still a hay feeder with a clean first-cutting grass-hay of good quality sitting out there. However, when a round bale lasts about three to four days for such a flock it can be easily stated that the sheep find enough grass to graze. While such little hay eaten is almost irrelevant when it comes to my annual hay feeding costs, it is still essential in a nutritional sense.



**Fall pasture should have plenty of rest time to store energy in its roots.**

Grass starts growing around here during the last week of March in a good year and during the first week of April when spring is late. When I can detect a green sheen when looking over the pasture and when I see the orchard grass pushing its blades out an inch or so I have all the grass it takes to feed a flock of sheep. The first grass that grows is high in protein and energy in the form of sugars but too low in fiber. The hay helps to provide the fiber that is needed. In addition, the remaining residue from the previous year that the sheep eat with the new grass has the same effect as the hay. While sheep are capable of eating very selectively with their pointy mouths, it is impossible to avoid all residue when grazing the new grass. The free choice hay is the indicator for me when I can stop feeding hay entirely. The sheep will stop eating hay in any meaningful manner when they find enough grass. That is the point when I stop feeding hay. Another indicator is that the flock stops moving around throughout the day and stays far longer in one spot. While they are still immensely spread out, the standstill for several hours tells me there is enough grass for them that it is worth their while. Lastly, the growth of the grass becomes at some point very obvious to the observing eye, especially after a warm rain. I expect that to be by mid-April.

By about late April I will have plentiful grass. That is when I start a rotational schedule and continue a strict schedule until about late December or into early January. Once the pasture rotation has started, each cell has between three (spring) to five (summer and fall) weeks resting time.

Occasionally, I hear that early grazing means that ewes encounter a "hungry gap", meaning they get even thinner on that early grass. Some say that this is due to the imbalance between protein and energy in favor of protein. It is then suggested that the remedy for this situation is feeding hay or even grain. I have had a contrary experience. My sheep and

their lambs respond very well to this early grass and gain weight. Early grass is not only high in protein, it is also high in energy in the form of sugar. The only thing missing in early grass is fiber.

The second argument I have encountered on numerous occasions is that early grazing stunts the growth of the grass, from which it will not recover all season long. The recommendations vary from at least six (for rye grass) and up to eight inches (for orchard grass) of growth before starting grazing. This may be true if one still practices set-stock grazing. It would be a mistake to wait this long if you rotationally graze. Here is why: In this area it would be early May before the grass is this high. Given a rotational schedule of at least three weeks, it will be late May or even early June before the last piece of pasture is being grazed for the first time of the season. By then you have lost a good amount of palatability. When grazing starts that late you just can't keep up. The grass is so far ahead in growth and developing seed stems that it will go at the expense of quality. Orchard grass will have headed out and large amounts of grass will be rejected by your sheep. Grazing early, on the other hand, will reduce the amount of seed stems, thereby reducing the amount of more competitive weeds, which are mostly readily eaten early in the season. Grasses will be stimulated to develop more tillers under early grazing pressure. I have found absolutely no negative effect of early grazing. The fact that the pasture gets later on more than its share of rest time (about five weeks in the summer) due to a rigid rotational program is in my view the essential reason why early grazing has no negative effect on the growth and yield of my pasture. A field trial in Wisconsin some years ago, conducted by Geoff Brink at the U.S. Dairy Forage Research Center with grazing heifers showed no significant reduction in total yield when grazing pastures early just as long as the pasture received enough rest time later and was allowed to grow high enough. This is what I do. This confirms my experience with early grazing of sheep.

*Ulf owns and operates White Clover Sheep Farm and breeds and raises grass-fed White Dorper Sheep 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 the upstate New York. His website address is [www.whitecloversheepfarm.com](http://www.whitecloversheepfarm.com). He can be reached by e-mail at [ulf@whitecloversheepfarm.com](mailto:ulf@whitecloversheepfarm.com) or by phone at 585-554-3313.*

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**FARM SAFETY**

**Help is Near for Farm Safety Fears**

by Marybeth Vargha

I married a vegetable farmer 20 years ago and through that time have seen the trials and tribulations of the farming life. There were mishaps, breakdowns and natural disasters but we only suffered minor health problems and injuries. Then I started a new job at the New York Center for Agricultural Medicine and Health (NYCAMH). My work experiences so far have opened my eyes to how to take safety more seriously on the farm.

Every day we hear about deaths and serious injuries that happen on every type of farm in the Northeast. We hear about chronic occupational illnesses that incapacitate people who have worked hard for years keeping their farm going. I understood that farmers sacrifice a lot to see their dreams realized but then I learned how quickly those dreams disappear when there is an accident or illness.

At NYCAMH we work with all sizes of farms from the 2,000 cow dairies to the market growers. Larger farm businesses, defined as 11 or more non-family employees, are governed by OSHA safety regulations and can be inspected. I feel that it is the smaller farms, outside of the regulations, where a greater awareness of hazards in the workplace is needed.

This message came home to us when a neighbor died in a farm accident last winter. Whenever someone spoke about what happened, it was always followed with 'it could have been me'. A retired farmer we know listed 30 times he probably should have been

badly hurt or killed during his career. People shared unimaginable stories of close calls with running PTO's, tractor rollovers, being overcome by manure gases, almost caught in augers, angry bulls and so much more.

Our farm is probably more typical of small farms in the northeast — our tractors and equipment are older and smaller (antique even), we keep some animals (including a young bull sometimes). We only hire part-time help in the summer, and there is a lot of diversity in the work (from field cover crops to hand weeding to pruning fruit trees to cutting wood).

Tractors are the leading cause of death on farms and the leading cause of tractor deaths are side and rear overturns. Another neighbor of ours died in a tractor rollover just when he was about to retire. He had cut hay on the same field for so many years no one could imagine his tractor would flip.

There is a straightforward engineered solution to this problem which effectively prevents 99 percent of deaths or serious injuries on tractors — Rollover Protective Structure (ROPS). Since 1983, rollover bars with seatbelts were made mandatory on all newly manufactured tractors. The current issue is how to retrofit older tractors with a ROPS.

On our farm, we've always found great older tractors with a lot of years left in them. We haven't needed to upgrade, but we do need to add a ROPS to one of them. Even though it's only used on the flat field, my husband does see that in soft ground by the stream it could

tip over. Through the NY State funded rebate program, we're hoping to get a ROPS soon.

From the NYCMAH surveillance of non-fatal farming incidents, most of the injuries come from tractor/machinery accidents and animal interactions. In a New York 10-county study of non-fatal injuries between 2007 and 2009, hospital records showed that of the 4,004 farm related incidents, 22 percent were related to agricultural machinery, 18 percent animals, and 15 percent falls.

But when you look through the details of all these injuries, there are no clear patterns. The injuries cannot necessarily be prevented through engineering. The incidents were unique to a situation and the pattern seems to be about farmer behavior and risk taking. There is a safety pyramid illustrating the ratio of serious accidents and near misses. For each death on the job, there are 30 lost work cases, 300 injuries, 3,000 near misses and 300,000 at-risk behaviors. Imagine the number of chances you take on your farm everyday and you can imagine how close you are to becoming the death statistic.

As farmers shared their close call stories in our community, they usually included the comments "I was in a hurry", "I had to finish before the rain", "I was being stupid", "I didn't have time to fix it right", or "I always just did it that way". When there is a serious accident, everyone reflects back and tries to change their bad habits. Never be in such a hurry that you start the tractor while standing next to it (so tempting but your foot or life is worth more than the extra time). Don't go jumping over the PTO while it's running (that stray shoe lace could pull your leg right in). Put the machine guard back on after working on it (even if you don't seem to have the extra 1/2 an hour).

For farmers who want to improve the safety on their farm, NYCAMH offers a wide variety of services from clinical health screening to worker safety trainings to social service support. There are specific programs for Dairy farms, migrant workers, ROPS rebate funding, logging safety, personal protective equipment and youth education.

NYCAMH receives funding through many different government sources. The New York



**Jim Carrabba and Todd Fiske, NYCAMH Safety Trainers, conducting an on-farm safety survey.**

State Department of Labor supports our outreach and worker training program. NYCAMH is a NYS Occupational Health Clinic specializing in agriculture, offering a Farm Health Clinic and on-farm screening services. And the US CDC National Institute of Occupational Safety and Health (NIOSH) fund our Northeast Center for Agriculture, Forestry and Fishing Safety and Health Research efforts.

Now that we have a better eye for finding the hazards, we've replaced the PTO shield on our mower, looked into how to fix the rollover bar on the Kubota, fixed up some of the barn wiring and changed where we store the fuel containers. I may still worry about my husband when he's out working under so many adverse conditions, but I'm worrying a little less as we are both more conscious about being safer on our farm.

*Marybeth Vargha works at the New York Center for Agricultural Medicine and Health in Cooperstown, NY and works together with her husband on their family farm, Big Sky Farm. She can be reached at 607-547-6023 and marybeth.vargha@bassett.org*

For more information about services offered by NYCAMH in New York and the Northeast go to [nycamh.org](http://nycamh.org), to contact us call 1-800-343-7527 or 607-547-6023 or [info@nycamh.com](mailto:info@nycamh.com).

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The New York Center for Agricultural Medicine and Health serves all farms in New York offering safety training to farm managers, employees, youth and agricultural organizations. NYCAMH is supported by New York State Department of Labor and New York State Department of Health with a variety of other grants which support specific projects, like the New York Farm Viability Institute support for the Dairy Safety Program. NYCAMH provides occupational health screenings which includes skin cancer, vision, hearing, cholesterol, blood pressure, pulmonary function, and respirator fit testing. The Farmers' Clinic provides provider services through Bassett Clinic in Cooperstown. Farm Partners is available to assist farmers with access to social services.

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**FARM TECH****Your New Farming Partner: Fish**

by Ed Duquette

In the July issue of Small Farm Quarterly (SFQ) we discussed the worldwide phenomenon known as Aquaponics. Getting started isn't as complicated as you might think. It's simple; you start with a fish tank, some fish and starter plants. Your new farming partner swims, eats, generates a lot of waste and does all the work for you. The only thing you'll need to do is feed your new farming partner and watch your plants grow.

I tried an experiment to see if it's really that easy. I filled the fish tank with tap water, let it cycle for one day and then added fish and plants and waited to see what would happen. The plan was to pump the water from the fish tank into the plants' soilless grow bed. The grow bed can be horizontal or ver-



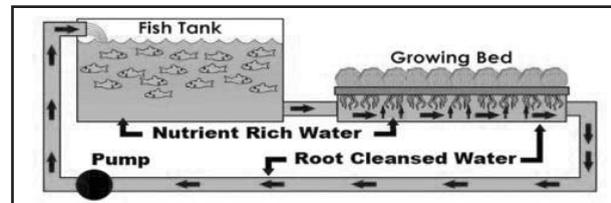
This is a 2-month old avocado tree grown in an Aquaponic System from an avocado nut. Just look at its healthy roots system. Avocados seem to love the Aquaponics environment.

tical in design. I chose the horizontal design for the experiment. I filtered the water through the plants, plant bed medium and it returned cleaned to the fish tank. The nutrients rich water (fish waste) is in constant contact with the plants throughout the cycling of the water.

From every article and book I've read, I pretty much did everything wrong. I created an experiment destined to fail. Thirty days later I was surprised to find plants growing and fish swimming; my Aquaponic garden was thriving! Why didn't it fail? That's the big question. You see an Aquaponic growing system is a closed ecosystem, and if left to its own design, it will do everything in its power to succeed to its limits. As the months passed the system did start to fail. The pumps got clogged, hoses had algae build-up that reduced flow by 50 percent, fish were stressed and some died, plants started to wilt and the system was shutting-down.

**Easy Come, Easy Go**

Aquaponic systems are easy to start, and just as easy to fail if you do nothing. These systems do require maintenance, repairs, adjustment, and a learning curve. If you have a small system working it doesn't necessarily mean that scaling up to a larger system will be successful. You will, however, have a better chance of success from the knowledge gained by operating that smaller system. As an example: pump failure on my small aquaponic system cost about \$30 to repair, whereas the pump on my larger commercial system cost about \$300. Also, I only



On left - This is a simplified drawing of an Aquaponic system. This is only one of the many design options available.

have about a 3-hour window to replace that pump before I start losing fish stock and vegetables.

**The Basic Components**

**Fish.** You'll have to decide on what type of fish you want to farm. The four most common fish used in Aquaponics systems are; trout, cat fish, carp, and tilapia. These farming fish stock would be for food or reselling. You could also farm Koi or pool size goldfish. These are mostly for resale as non-food. On average in a healthy fish tank it takes about 7-12 months to grow fish to harvest (food) size. Each one of these fish species does have its own required growing environment, so choice could be limited depending upon where you live. Fish are usually purchased as fingerlings about 2-3 inches in length from hatcheries. Fish can also be purchased online. In a starting system, figure about 1 fish per 2-3 gallon of water to be safe.

**Holding Tank.** The fish tank can be an aquarium, plastic container, kiddie swimming pool, or an IBC container or anything that can hold water. Be sure containers are food grade safe for both fish tank and grow beds.

**Grow Beds.** I prefer vertical growing techniques because of their space saving design. But you can also grow horizontal as well as vertical in round PVC pipe, square plastic fence post, or a flat tray grow bed. There are plenty of options. They are usually dictated by what you are growing and where.



This is the extremely healthy root systems that were established in my experimental aquaponic system in just 30 days from a 4inch starter basil plant.

**Pumps.** Pumps are determined by how much water volume you have and need to move. If your fish tank is 100 gallons you will want a pump that can recycle the water once (even better, twice) every hour. Pumps are rated in GPH (gallons per hour).

**Air Bubbler.** The air bubbler is simply a continuous running air pump that supplies much needed oxygen to your fish and plants through a bubbler stone placed in the fish tank.

**Tank Heater.** Depending on the fish species and season of year, you may also need a

See Fish page 18

**DAIRY AND FIELD CROPS****Flushing and Pheromones: Managing Breeding in the Dairy Goat Herd**

*It's fall, and while human children pick out their new notebooks, folders, and backpacks, I pick out my top does and bucks.*

by Stephanie Fisher

The days grow shorter, and the temperature cools each day. Milk production has dipped and will continue to dip until the goats produce next to nothing come their dry-off in mid-December. But for now it's breeding season, a time of infinite possibility. I start thinking about breeding in the spring. The goats are first fresh, every one of them producing close to their peak. I watch their kids, and take note of which breeding pairs I liked best, which kids are the most thrifty, the perfect birth weight, and of course, the most interesting colors. I continue to file these mental notes away as the kids get older and does progress through their lactation throughout the summer. I look for patterns - all of the doelings with precocious udders were sired by Pierre; Annika has a tendency toward hoof rot and a runny nose, and her daughter seems to be on the poorer side of thrifty.

Then comes the fall, or specifically pre-fall, in August, when we begin our pre-breeding preparation. While human children pick out their new notebooks, folders, and backpacks, I pick out my top does and bucks. I look

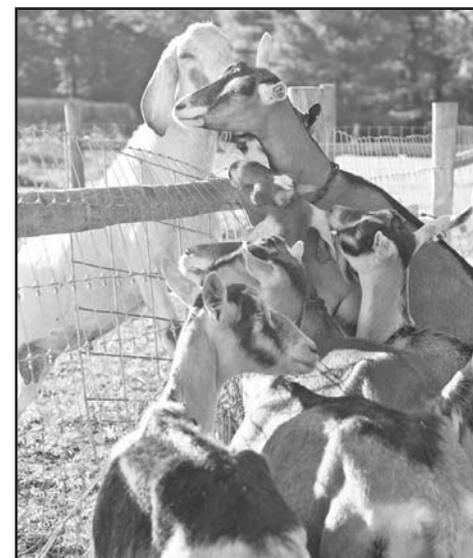
through our Dairy Herd Improvement Registry (DHIR) records from the year's tests. DHIR records are invaluable, and we base most of our breeding decisions on the test results. We test our herd monthly: we get immediate production results per doe, but also receive a more detailed breakdown of each doe's butterfat, protein, somatic cell count (SCC), milk urea nitrogen (MUN), and days in milk (DIM). The information is provided for the most recent test, the previous test, and a projection for their 305-lactation. Not all of the information is relevant to us, and depending on your herd's situation, may not be relevant to you either. But it's nice to have it all in the event any future buyer is interested.

I highlight our top fifteen percent and bottom ten percent in production, then I look at their butterfat, protein, and SCC. I consider SCC in our breeding because SCC is an inheritable trait. I tend to look at it positively, meaning I utilize a low SCC as a pro in breeding decisions. I also look at a doe's thriftiness, confirmation, and overall condition. How was her freshening? Was her coat shiny and smooth throughout the summer? Does she carry a healthy weight? Were her FAMACHA scores consistently low? How are her

hooves? Has she had any serious sicknesses this season? How is her udder? Answering these questions provides a holistic picture of an individual doe.

What about those pesky bottom ten percent? In short, we cull. We work to sell the does and then utilize that money to purchase kids in the spring. We give buyers the option of having the does bred before they leave the farm, or they can choose to bring the does back free of charge when they are in heat.

We start the pre-breeding process by "flushing" about a month before our first scheduled breeding. Flushing is the act of increasing nutrition for a short period of time. You can flush by bumping up the herd's grain consumption (slowly) or feeding out exceptionally high quality hay or putting them onto a rich pasture. We flush the herd primarily to increase their body condition before heading into the stressful breeding period. Flushing also encourages estrus and higher rates of ovulation in does with a lower body condition, which are typically our heaviest producers. We also flush our bucks to ensure they are especially bulky.



The does vie for the buck's attention at the height of breeding season.

Photo by Stephanie Fisher

Then come the vaccinations. Our pre-breeding immunizations are CD & T, Rabies, and BoSe. This gives us a chance to bring each

See Flushing page 19

**STEWARDSHIP AND NATURE****Recipes to Regenerate Your Small Farm**

by Mike Fedison and Doug DeCandia

Small, well-cared for pieces of land have the potential to feed and heal the world. One of the hurdles to realizing this potential is the inadvertent stress we as growers impose upon the plants in our gardens and on our farms. There's much we can learn from the wild spaces surrounding and within our fields. There are plants and organisms that have the capacity, when collected and spread throughout, to regenerate the inherent vitality of the soil, of the plants and of us as human beings.

Most farmers struggle with depleted soils. Often, new farmers have even fewer resources at their disposal to improve soil and plant health. There are numerous simple solutions to some of these problems, and we thought we'd share how we're working to address our own soil deficiencies and improve our farms, using locally available materials wherever possible. In an ideal world, soil tests are done regularly, and mineral deficiencies are addressed each fall, to give soil biology time to mineralize these nutrients over the winter into plant available forms. There are other in-season practices that we use on our farms to keep plants growing as healthily as possible, build carbon reserves, and produce nutrient dense food.

A farm operates quite differently from nature, and many of the hardships we face on the farm are due to the clearing of land from its natural tending ecosystem. Cover cropping and mulching reduce the stress on the soil and the plants by re-introducing the groundcover that naturally exists in a forest or grassland. In a healthy forest, the soil is always covered by either plants or leaves. Exposed soil dries out, leaches nutrients and shortly becomes lifeless. Shredded leaves, hay or straw are available in most places to use as mulch, but a more effective and often easier and cheaper form of "mimicking" the native ecosystem is sowing many seeds of many different plants. Mixing soil from the forest with the seeds of clovers, grasses, vegetables and other species inoculates the seeds with a diversity of native microorganisms and works well to mimic the functioning of a healthy natural ecosystem. This allows seeds to germinate surrounded by the symbiotic microbes they need to begin growing well.

In his book, *The Farm as Ecosystem*, Jerry Brunetti cites a recipe for a home-made, fermented plant and soil food using the leaves of Comfrey, Stinging Nettle and Japanese



**Doug in the Three Sisters at Woodfield Cottage, one of five production sites part of the Food Bank for Westchester County.**

Knotweed. It is recommended to make each batch with one of these three herbs, then use them either separately or mix them after fermentation. The smell of the final tea is sweet and, from what we can see at the Food Bank farms, after applying it as a foliar spray, the plants and soil are enjoying it.

**Fermented Plant & Soil Food Recipe**

- 20 # - fresh leaves (comfrey, nettles or japanese knotweed)
- 10 # - compost or worm castings
- 4 oz - Epsom Salts
- 10 # - molasses
- 1 oz - sea salt
- 5 - gallons milk
- Add to 55 gallons of water.
- Let ferment in a vented container, and stir daily for 3 weeks.
- Use at 2-3 percent dilution.

These three plants grow vigorously in gardens and in the wild, and their deep, venturing roots carry a diversity of nutrients into their leaves, which we then use to make this tea to feed the soil and plants.

Compost tea is an important weekly amendment that we apply to the crops at Farmer and the Fish. By inoculating the soil and leaf surfaces with beneficial microbes, we are both boosting disease resistance through diversifying the microecology, and improving availability of nutrients by increasing populations of the creatures that transform minerals into plant-available forms. There are lots of ways to make compost tea.

**Simple Compost Tea Recipe**

Materials:

- 5 gallon bucket, filled with water
- fish tank aerator (Mine cost about \$20 from a pet store.)
- scrap of old row cover material to use as the tea bag
- bit of string to tie the teabag
- 1 cup homemade fish hydrolysate
- 1 cup homemade kelp extract

Tea ingredients:

- a large handful of compost (diversity of species)
- a handful of garden soil (preexisting species)
- a handful of forest soil (fungal species)
- straw (food for amoebas, which earthworms love to eat)
- fresh healthy plant leaves (full of enzymes and plant growth hormones)

Brew the tea for about 36 hours, and then dilute it to a 3 to 1 ratio before spraying. It's important to spray either early or late in the day, in order to avoid burning leaves in the midday sun. Fish hydrolysate and kelp extracts are great additions to this tea.

Fish hydrolysate is expensive to buy but can be easily made at home for an easy and plant-available source of nitrogen for your crops. At Farmer and the Fish, we have access to all the fish heads and skeletons we could want, so there is always a batch going. You can typically get fish parts for free with a bit of asking at a supermarket. Use whatever carbon source is readily at hand to balance out the recipe.

To make the fish hydrolysate, use one part roughly chopped fish parts, one part wood chips, and one part leaves. Mix them together in a barrel and add water. A bit of molasses works well to give the bacteria something to eat right away. In a few weeks the fish have pretty much disappeared, and the liquid is strained through another piece of old row cover so it doesn't clog the sprayer. Commercial products will include phosphoric acid to lower pH and extend shelf life. If you start to see aphids, however, cut out all applications of nitrogen. The aphids are a signal that the plant is not converting nitrogen into complex proteins, and the aphids are feasting on all that available nitrogen in the plant.

Seaweed and kelp products are great sources of trace minerals. Just about every element on the periodic table is present in a teaspoon of seawater. Plants growing in the ocean have access to all those trace minerals and store them in their tissues. A simple kelp tea can be made first by washing excess salts off of the kelp and then submersing it in a bucket of water for a few weeks. Again, strain the liquid before putting into your sprayer. Seaweed is often used to pack seafood and can often be found at fish markets and other places dealing with seafood. Or just buy some of the edible varieties from the store and use those.

We hope more farmers start using these types of locally available inputs to improve plant and human health on their farms.

**About the Authors**

For the past 4 years Doug has been growing vegetables for the Food Bank for Westchester, which distributes the produce to people experiencing hunger in Westchester County. The "Farm" is a collection of 5 gardens, about 3 acres total, in urban and rural areas throughout the area. The work is done by hand, and relies very much on what nature provides to fertilize the gardens and maintaining their integrity. Before starting these gardens, Doug managed a small organic vegetable farm in Putnam County, NY and before that attended school at Warren Wilson College where he studied sustainable agriculture and worked on the college's vegetable farm.

Mike Fedison has been growing food for over 10 years in New York, Pennsylvania, and the Republic of Palau. He is currently the farm manager at the Farmer and the Fish, a truly farm-to-table restaurant in Westchester County. Though the farm is only about 2 acres, by focusing on soil health and companion plantings they are able to intensively grow food to supply a busy restaurant, small CSA, and new retail market on the property. Mike also teaches sustainable agriculture classes at Westchester Community College.



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**LOCAL FOODS AND MARKETING**

**Wholesale Marketing Enables ‘Roots’ of Change**

by Abigail Woughter

Darren Maum, vegetable and storage crop grower and self-professed “soil nerd”, is owner of Salvere Farm, located 25 minutes southwest of Syracuse, NY, in Marietta. Positioned on the eastern edge of Otisco Lake, Salvere Farm enjoys the climate moderation that comes with proximity to a large body of water. Maum began with two acres of land, a half-acre of which was in production his first year, and expanded in 2009 to rent four more acres of an adjacent field.

At the business' start in 2005, Salvere Farm sold a diverse medley of vegetables and herbs, growing up to 80 different crops by 2009, including leafy greens, root vegetables, and garlic. Maum's local CSA and Farmer's Market customers demanded a wide variety of products, which started to become labor and land intensive. So in 2010, Maum began to seek out wholesale markets to allow him to sell larger quantities of fewer crops. He narrowed his focus to growing garlic, onions, potatoes, and winter squash, which allowed him to put 4 of his 6 rented acres of land into cover crops. In his efforts to establish a wholesale market for his storage crops on his own, Maum solicited business from Syracuse restaurants and co-op groceries, and offered organically certified garlic seed through his farm website, [salverefarm.com](http://salverefarm.com). His nearest neighbors are conventional dairy farms and residential properties, the closest small farm being a 15 minute drive from Salvere Farm. Thus, Maum spent a frustrating amount of time on the phone and in the car, rather than in his fields.

In 2013, Maum began working with Neil Miller, founder and CEO of Farmshed, a Central NY based company dedicated to connecting farmers and consumers under the “buy local” movement. Miller works specifically with small-scale farmers, and Maum describes Farmshed as a “low pressure” entry point to wholesale marketing, since no contract or production quotas are required. Maum gives Miller an estimate of production at the start of the season, and works hard to achieve that number, but his business relationship with Farmshed is not dictated by it. Maum provides Miller with a list of product offerings and Miller contacts buyers, arranging distribution through Regional Access channels. Thus, Farmshed absorbs the fuel costs and communication efforts that Maum found to be the biggest barriers to entering wholesale marketing. Farmshed currently picks up produce from Salvere Farm weekly, transporting Maum's organic storage crops across



Darren Maum sorts his harvested produce.

New York state, from Saranac Lake to as far south as New York City, providing Maum with a wider customer base than he ever could have achieved on his own.

The switch to wholesaling has allowed Maum to move away from intensive vegetable production and focus more on land management. His silt loam soils are on the sandy side, so low soil organic matter is one of his production challenges. Since making the transition to solely growing storage crops, he has been rotating 2 acres of land in production, and 4 acres of land in cover crops of rye, vetch, buckwheat, oats, or clover, which aid in replenishing valuable organic matter to the soil. For maximum soil health, Maum regularly tests the nutrient composition of his soils and applies calcium, lime, and other certified organic soil amendments as needed. Financially, the wholesaling model has allowed Maum to invest in a potato digger and to consider additional infrastructure for the future, such as storage equipment.

Moving away from a CSA-dependent business model significantly reduced Maum's labor costs as well. During his CSA



Wholesaling can help farmers invest in on-farm infrastructure and equipment, such as a tractor.



Salvere Farm started wholesaling in 2010.

**Fish** from page 16

tank heater. They're very straight forward; heater selection is based on the gallons of water you're trying to heat.

**Daily Operation**

The Aquaponic system is a closed loop system. Water is recycled using 70 percent less water than traditional soil based systems. Because plants are fed constantly through a recycled system they become 4-6 times more productive and grow to maturity 2-3 times faster than conventional soil systems. Aquaponic fish and plants require a neutral PH for optimum health. System PH, dissolved oxygen levels and water hardness also need to be measured daily or weekly. These measurements are indicators of water and tank health, with PH and dissolved oxygen being the most important considerations. Measurements can be done with electronic metering or inexpensive disposable test strips. Quality organic fish food should also be used, if fish are healthy plants stay healthy. Prepared commercial fish food should be purchased as certified organic. If you use an Aquaponic system for growing, all produce and fish stock in your system would have an organic classification.

Just about anything can be grown aquaponically. You are not

limited to vegetables and herbs. I have grown avocados, pineapples, potatoes, carrots and house plants. I'm always experimenting. You can even grow from seed; it's a little tricky but can be done.

**Lessons Learned**

I have spent a great amount of time testing, operating, reading and watching tons of videos on the subject of Aquaponics. Here's what I have found. Keep it simple, start small (less than 100 gallons). Try your system for one complete growing season. Eat everything you grow, take plenty of notes and learn from your mistakes.

*Edward DuQuette has an engineering background and is currently teaching at several colleges offering aquaponics classes in their extension programs. He also offers consulting services for the aquaponic systems enthusiast and can be contacted by e-mail at [eduquetteut@gmail.com](mailto:eduquetteut@gmail.com).*

For more information, I recommend the following sites to get you started. Visit [aquaponics.net.au](http://aquaponics.net.au) or [aquaponic.com](http://aquaponic.com) or [aquaponicsfish4you.com](http://aquaponicsfish4you.com)

days, he had to hire help throughout the season for planting, weeding, and harvesting, and each task required a different level of training to make sure things were done right. Now, Maum only hires seasonal labor for harvesting and cleaning, tasks for which minimal training is needed.

While overall labor costs have been reduced by the switch to wholesaling, Maum does spend more time carefully weighing and packaging his products for distribution. He sees wholesaling as a “more professional market” because of the labelling, grading, and transparency it requires, which is why wholesaling is a better primary market strategy than a secondary one. “You can't sell your seconds,” Maum said, describing how he might be able to set aside and still sell his lower quality produce at the Farmer's Market, something he is not able to do with wholesaling because grading and labelling of products is very important. However, Maum's ability to sell significantly more bulk volume of product each week made adjusting to the element of quality control a no brainer.

Wholesaling through his farm's website, [salverefarm.com](http://salverefarm.com), allows Maum full control over the sale and distribution of his garlic seed, table stock garlic, garlic powder, shallots, potatoes, and winter squash, among other certified organic products. Taking orders online allows him to keep his main focus on farm production. A website is also a great marketing tool for controlling the farm's image, projecting to potential customers Maum's personal values, and explaining his farming philosophies and practices.

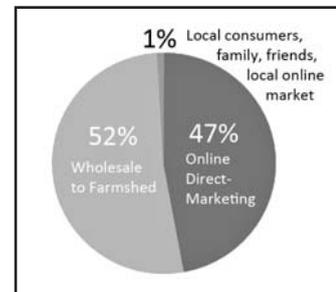


German White Hardneck Garlic

For example, the Salvere Farm website elucidates the meaning behind the business' name: “Salvere means to be in good health, to cure and to save. It is the root of Salvia which is the genus that sage belongs to. Sage has been a medicinal and culinary herb throughout history and is the namesake herb of the farm. As one Chinese saying goes ‘How can a man grow old who has sage in his garden?’”

For more information on Salvere Farm, please visit the website [www.salverefarm.com](http://www.salverefarm.com). For more information on Farmshed, visit [www.farmshedcny.com](http://www.farmshedcny.com).

*Abigail Woughter serves as Cornell Small Farms Program student intern. She is an undergraduate Agricultural Sciences major concentrating in Business Management and can be reached at [arw225@cornell.edu](mailto:arw225@cornell.edu).*



The current marketing channels of Salvere Farm

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**FARM TECH****Selecting a Tractor for the Small Farm**

by Rich Taber

OK, you bought the farm, and you have moved onto the property, with excitement, and anticipating new activities in your farming ventures. There are a tremendous number of activities that need to be done on a small farm, regardless of the size. For the new or beginning farmer, one inevitable hurdle to overcome is how you will power your farm activities? You can farm with a number of power sources, such as walk behind small scale 2 wheel type machines, or with tractors, or you can custom hire work that needs to be done. If you decide that having a tractor fits into your operation, read on. This article will be the first in a series of how to select, acquire, operate and maintain small-



**This is a three point hitch implement that is a very important tool on most farms for mowing brush and pastures.**

**Flushing** from page 16

doe onto the stand to trim her hooves and record her FAMACHA and body condition scores. We like FAMACHA scores in the 1-3 range and body condition scores in the 3-3.5 range, which is a little higher than our usual 2.5-3. We expect each doe to lose weight during the breeding period and drop back down to a healthy 2.5-3 as she goes into her gestation. This is also a good time to do annual blood testing for CAE, CL, and Johnes. This way you'll know if any of your does is a carrier, and you can adjust your culls and breeding plan accordingly.

We make all of our breeding decisions before we introduce our bucks to the herd. We typically keep 3-4 bucks for our herd of 50 does. We keep a buck for each breed that we prefer, in our case two Alpines (one pure French, one American), a Saanen, and a Kiko. Our breeding strategy has three distinct components: 1) replacements for our herd, 2) sale stock, and 3) meat kids. All does producing over the herd average are bred to our dairy bucks, with a preference for purebred stock. We try to breed these does first so that their doelings will have plenty of time to grow to the ideal 70 lb weight range for first year breeding. From that pool of kids, we try to sell and keep as many doelings as possible, vetting each one for the strong dairy qualities I mentioned above. Bucklings are tricky. Ideally you would only keep a buckling from a proven sire and dam, meaning both the dam and sire have high producing daughters in the milking line with good udder confirmation, condition, and thriftiness. Any does that we choose not to keep are then delineated for sale stock. We like to sell as many kids as we can, and we utilize a sliding pay scale based on the kids' age at the time of the sale. The rest of the herd is bred to our Kiko buck, and all of his kids are raised for meat.

We aim to begin breeding in the first week of October so that our first freshening will occur at the beginning of March. We bring our bucks to their fall home about one to two weeks ahead of our targeted first breeding date - the bucks live in a barn that shares a fence line with our milking lane so the does are forced to walk past them twice a day. As the does walk by for milking, we know right away who is in heat. Aside from the usual tail wagging, unwarranted yelling, and fresh behavior, the doe will also linger at the fence line. Then we pull out the doe and put her in with the designated buck. You'll know she is in the necessary standing heat if she "stands" for the buck, otherwise you will be watching an endless game of cat and mouse as the doe runs the buck in circles around the breeding pen. We then calculate when the doe's next heat will be (18 to 21 days later) so we can rebreed her in the event she didn't take the first time. It's possible for a doe to have a "false" second heat if she's already been bred, or to have an irregular cycle, so we rebreed at any sign of estrus.

There are a thousand ways to go about breeding a dairy goat herd, and some of the things mentioned above may not apply to a smaller scale herd. In general, a breeding strategy should always aim to improve the genetics of the herd as a whole, whether your focus is showing or production, or better yet, both. Don't be disappointed if you find yourself with a doe or buck who doesn't quite live up to their breeding pedigree. Breeding is a gamble, and despite all of your carefully laid plans and best intentions, sometimes the genes just don't fit. For further reading on genetics, try Tatiana Stanton's paper "Who's Your Daddy — Selective Breeding in Goats" which you can download for free on the Cornell Extension Goat site at <http://ansci.cornell.edu/goats/genetics.html>.

*Stephanie Fisher is a dairy goat farmer in Au Sable Forks, NY. She writes about her life as a young farmer at [www.goatsandhopes.com](http://www.goatsandhopes.com) and may be contacted at [stephaniefishes@gmail.com](mailto:stephaniefishes@gmail.com).*

er scale farm machinery. Often people ask me "What tractor should I buy?", and "How much does a tractor cost?" As with all things agricultural, the answer is "it depends". One of the first things that I ask a new farmer is "What do you want and need to do with a tractor, and, how much can you afford to spend?" Each activity mentioned in this article will require certain machines in addition to a tractor and will be addressed in later articles.

The following is a list of activities which might be occurring on a farm or homestead at any given time of the year and requiring specific tractors and machines:

Brushhogging meadows and pastures for grazing management and to prevent the fields from growing back into forest. This is one of the most critical jobs on a small farm, as nature can be relentless in working to restore forests. If fields are let to grow for more than about three years, small trees and brush will begin to take over, and then can be extremely difficult and expensive to correct.

Haymaking, which might be either small square bales, or large round bales of dry hay or baleage. The process can require mowing,



**This is an older 65 horsepower tractor that would be a good choice for a new and small farm.**

tedding, raking, baling, wrapping high moisture bales, and hauling and unloading hay.

Tillage activities, such as plowing, disking, harrowing, planting, and of course, picking stones.

Planting crops such as forages, row crops such as corn and cereal grains, fruits and vegetables, and possibly food plots for wildlife.

Pulling a variety of 2 and 4 wheel wagons around on the farm for diverse activities, such as hauling crops and hay, firewood, and giving hayrides to people.

Harvesting crops other than dry hay, such as chopping high moisture hay for haylage or greenchop, and vegetables.

Front end loader work for snow removal, manure handling, feeding animals, moving materials around the farm, and loading and hauling hay and other crops.

Working in the woods skidding logs, hauling firewood, and hauling maple sap to the sugar house.

I am going to make some assumptions before I begin to suggest which tractor might be a good choice for you. Assumption one: right now, you are going to try to do as many operations as possible on your farm with one tractor, while you're getting started. As you build equity and experience, you may someday need another tractor or two, because as you will find out, not all tractors are suited to all purposes, but for now, we will focus on getting you this first tractor to do as many things as possible.

Assumption two: you only have a given amount of money to spend, and that you might be looking for a good used tractor. New tractors can be prohibitively expensive; if you can afford one, good for you.

Assumption three: you may be looking for a smaller to medium size tractor to get every-



**This shows a tractor's three point hitch, which is a critical "must have" for most tractors nowadays.**

thing done; leaving the big tractors for those who truly need them.

So just what should we be looking for in a good used tractor? There are a myriad of features that we need to consider. To accomplish what we need to do, will our tractor have the features listed in Table 1?

Live hydraulics and pto (power take off) are important; older tractors made in the forties and fifties frequently did not have "live" features, which meant if you pushed in the tractor's clutch, the pto or hydraulics stopped working. This can be quite annoying when you are in thick crops and have to use the clutch, and have to start up again from a dead stop.

Now that we have all of these features to think about, I will describe my version of a tractor that if I could only have one tractor, this is the type that I would look for, for my first tractor on a smaller farm.

1. I would want a tractor made in the latter part of the twentieth century, at least from about 1970 onward. Older tractors made after World War II still abound, but lack many of the needed operational and safety features expected today. Narrow front ends from that era were very dangerous and lacked many of the safety features that we expect nowadays. These type of tractors can be very dangerous!



**This is a medium sized tractor with four wheel drive allowing it to get through snow and mud quite readily.**

2. I would prefer having a diesel engine; not many farm tractors come with gasoline engines anymore. Older tractors from the sixties and early seventies with gasoline engines can be quite aggravating to keep running smoothly on a year round basis, especially the ones made before the era of electronic ignition.

3. It is mandatory to have a three point hitch. So much farm equipment exists which requires this feature making it an absolute requirement. Often you can purchase aftermarket three point hitch assemblies for older tractors but they tend to be expensive, awkward to use, and not very efficient.

4. I would prefer two sets of live hydraulic outlets (this is required to run many farm machines today). If your tractor has only one set of hydraulic hoses, a second set can be added if and when your machinery needs dictate.

5. A front end loader (often the front end loader ties up one set of hydraulic outlets leaving you only one other set to operate equipment).

**See Selecting** page 20

**Selecting** from page 19

6. Not too many hours on the hour meter, preferably under 5,000 hours. Repairs and overhauls can be extremely expensive!

7. If not a fully enclosed cab, at least a Roll Over Protective Structure (ROPS) should be mandatory, with a seat belt. A canopy is a nice addition on top of the ROPS. The ROPS is for roll over protection and can save lives, and the canopy can prevent you from baking in the sun during those hot summer days, and will keep some rain off of you.

8. It would be nice to have four wheel drive; our long snowy winters and muddy rainy summer months, especially if the tractor has a front end loader, make you able to get into a lot of places you normally would not, and you can easily get stuck. There are two basic types of tractor operators, those who have been stuck, and those who are going to get stuck. Getting stuck and having to have the neighbors come pull you out frequently can strain neighborly relations.

9. Live power take off. Some older obsolete tractors have "non-live" pto which makes controlling the actions of your equipment awkward and difficult.

10. How much horse power? There are different ways to describe h.p. but for right now we can simply say that a tractor with between about 45 to 75 horsepower should fit our needs.

11. How much will this tractor cost? Depending on the age, condition, and features present, you can expect to pay at least \$5,000 up to \$20,000 for a good used tractor such as I have described in this article. In general, the more features, the more costly the machine will be.

In future articles, I will discuss where we can find good used tractors as well as looking at some of the numerous machines we need on a farm.

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*Chenango, and lives on a 165 acre farm in Madison County with his motley collection of tractors and machinery; all are used in haying, livestock, grazing, and woodlot operations. He can be reached at 607-334-5841 ext. 21, or email [rbt44@cornell.edu](mailto:rbt44@cornell.edu).*

Two very useful websites for those looking for tractors and farm machinery are [www.tractorhouse.com](http://www.tractorhouse.com) and [www.fastline.com](http://www.fastline.com). These two sites list machines for sale all over the country; looking through them will give the reader a good idea on what typical prices for machine will be.

Possible Tractor Features	
Three point hitch OR Live three point hitch?	Single OR dual sets of hydraulic hose attachments?
Hydraulics? Live hydraulics?	Power take off OR Live power take off?
2 wheel or 4 wheel drive?	Front end loader?
Front end and rear wheel weights?	Gasoline or diesel engine?
Will it be an open tractor, or have a roll over protective structure (ROPS), or a ROPS and canopy, a four post canopy, or a full cab?	A flat platform in front of the seat, (referred to as "flat decks") OR will the transmission be sitting between your legs? (this becomes important when you spend several hours on your tractor).
Approved OSHA safety features?	Available dealers, mechanics, and parts and repair services?



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This 52 horsepower tractor has a front end loader attached to it making it useful for handling many kinds of materials.

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