SPRING 2008

SMALL FARM QUARTERLY

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

CORNELL Small Farms Program

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Supplement to Country Folks

SMALL FARM QUARTERLY - SPRING 2008

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Cover photo: Ewes at Northland Sheep Dairy, Freetown Corners, NY. Photo by Joanna Green.

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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EDITORIAL TEAM:

• Anu Rangarajan, Cornell Small Farms Program	Editor in Chief	607-255-1780
• Joanna Green, Cornell Small Farms Program	Managing Editor	607-255-9227
• Brian Aldrich, Cayuga County CCE	Field Crops	607-255-4799
• Fay Benson, Cortland County CCE	Dairy	607-753-5077
• Laura Biasillo, Broome County CCE	New Farmers	607-255-2247
• Celeste Carmichael, NYS 4-H Youth Development Program	Youth Pages; Home and Family	607-255-4799
• Gary Goff, Cornell Natural Resources Department	Forest and Woodlot	607-255-2824
• Martha Herbert Izzi, Vermont Farmer	Vermont	802-492-3346
• Sarah Johnston, NYS Department of Agriculture and Markets	Organic Agriculture	518-457-4531
• Betsy Lamb, CCE Integrated Pest Management Program	Horticulture	607-254-8800
• Bernadette Logozar, Franklin County CCE	Marketing	518-483-7403
• Gerard F. Monnat, Writer and Farmer	Community/World	315-265-0206
• Sue Neal, Farmer	Women in Agriculture	607-962-9459
• Rebecca Schuelke, NY Farm Viability Institute	Business Management	315-453-3823
• John Thurgood, Delaware County CCE-NYC Watershed Agriculture Program	Stewardship and Nature	607-865-7090

FOR SUBSCRIPTION INFORMATION CONTACT
Tracy Crouse, Lee Publications, Inc., PO Box 121, Palatine Bridge, NY 13428
888-596-5329 subscriptions@leepub.com

FOR ADVERTISING INFORMATION CONTACT:
Bruce Button, Lee Publications, Inc., 518-673-3237
bbutton@leepub.com

SEND YOUR LETTERS AND STORIES TO:
Joanna Green
Cornell Small Farms Program
135 Plant Science Building, Cornell University
Ithaca, NY, 14853
607-255-9227 jg16@cornell.edu

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Cornell Small Farms Program Update

NEW ONLINE BEGINNING FARMER COURSE
This winter our NY Beginning Farmer Project offered a 9 week pilot online course to 22 participants from 17 NY counties. Called Beginning Farming 101, the course was taught by two experienced Cornell Cooperative Extension educators, Rebecca Hargrave from Chenango County and Steve Hadcock from Columbia County.

Course content is drawn from a stand-alone, publicly accessible website at http://beginningfarmers.cce.cornell.edu, while the course and all its activities, forums, and homework assignments, is housed in a virtual "classroom" that can only be entered by registered participants. The lesson plan starts with an assessment of goals and resources, and moves through marketing, enterprise selection, and environmental stewardship, and ending with a hard look at profit potential and business planning.

Along the way, participants interact with each other through discussion forums, post questions for the instructors, collect resources relevant to each lesson, and complete activities. Jefferson County CCE Educator Molly Ames is now teaching the next run of the online course, which began in late March. The project was funded by the NY Farm Viability Institute and Cornell Cooperative Extension.

OTHER BEGINNING FARMER RESOURCES
Our Beginning Farmer Project team recently published a new Guide to Farming in NYS, which has been extremely well received by farmers, educators, lenders and others in New York and beyond. Organized as series of 1-3-page fact sheets, the Guide provides comprehensive information on legal, financial, marketing, regulatory, and other critical issues. It is available online at www.smallfarms.cornell.edu/pages/resources/beginning/index.cfm.

The team's new Beginning Farmer Website offers learning modules, decision aids, a personal profile for customized assistance, events calendar, links to helpful agencies, and an educator toolbox at http://beginningfarmers.cce.cornell.edu. In addition the team has also developed a new 9-week, online course titled Beginning Farmer 101. The class is facilitated by Extension educators using content from the new Beginning Farmer Website. It integrates several dynamic elements including discussion groups, quizzes, real-time Q&A, and active networking among peers. The online course will be offered publicly this Spring.

CORNELL STUDENTS EXPLORE SMALL FARM DREAM
Record enrollment in our Exploring the Small Farm Dream class indicates student interest in small-scale farming is growing. Now in its third year, a roster of 29 students distinguishes the course with the highest enrollment of any class offered through Cornell's Horticulture department.

Weekly guest speakers include some of New York's small farm superstars, like Karma Glos from Kingbird Farm in Berkshire, Jim Hayes of Sapbush Hollow Farm in Warnerville, John and Jen Bokaer-Smith of West Haven Farm in Ithaca, Fay Benson of the NY Organic Dairy Initiative, Monika Roth of Tompkins County Cooperative Extension and Mike Baker, NYS Extension Beef Specialist.

ORGANIC DAIRY INITIATIVE UPDATE
Our NYS Organic Dairy Initiative launched a new website this fall at www.organic.cornell.edu/organicdairy/Initiative.html. The site includes the latest in organic dairy news, resources, FAQ's, production and marketing. The Organic Dairy Initiative is also working on a new consumer education project to help consumers identify where their milk is processed so that they can support New York farms and processing companies. The project is getting the word out that the first two digits of a code stamped on each milk carton traces the milk to the state in which it was processed. The processing codes can be found at: www.organic.cornell.edu/organicdairy/ConsumerEd.html.

In December our NY Organic Dairy Initiative sponsored a live webcast on "What's New in Organic Dairy and Field Crops Research," featuring updates on multiple Cornell research projects currently underway. The video is still available online - to view it simply go to www.organic.cornell.edu and click on the link to the Organic Dairy Initiative.

This webcast was organized in conjunction with the New York Certified Organic (NYCO) gathering taking place in Geneva, NY, on December 13, 2007. NYCO is a group of organic farmers who have been holding organic crop meetings in Geneva once a month over the winter for the past 15 years. For the past 4 years they have opened up the topics to include organic dairy production.

The NY Organic Dairy Initiative also sponsored a number of meetings around the state this winter to help both existing organic farms and those thinking of transitioning to organic production. The Initiative is funded by NY Farm Viability and coordinated by the Cornell Small Farms Program.

NEW LIVESTOCK PROCESSING LISTSERV
Our new statewide Work Team on Livestock Processing Issues has created an email listserv, LivestockProcessing-L, for communication among interested farmers, small scale processors, extension staff, and agency representatives in New York and bordering states. To join this list contact Tatiana Stanton at TLS7@cornell.edu or Martha Goodsell at deerfarm6@frontiernet.net.

For more information about Cornell's Small Farms Program and lots of other small farm topics, visit our website at www.smallfarms.cornell.edu. You can also sign up to receive our monthly email newsletter, Small Farms Update, by sending an email to Laura Harthan at lbh25@cornell.edu. Please provide your name, farm name, postal address, and county.

Stewardship and Nature

Innovative Beef Farm is Vermont Sustainable Farm of the Year

By Debra Heleba

Shelburne's LaPlatte River Angus Farm is the recipient the 2007 Vermont Sustainable Farm of the Year Award. Each year one farm is selected by the Vermont Sustainable Agriculture Council to acknowledge their commitment to environmental stewardship, innovative farming and/or marketing practices, economic viability, and a commitment to contributing to education and community.

Jim Kleptz and his sons Mark and John own and operate LaPlatte River Angus Farm where they produce beef cattle using intensive daily rotational grazing. They use fall pastures of stockpiled feed that allow grazing into December, alternative forages, composting of slaughter-related waste and pasturing of cows and calves on sod year round. Although the Kleptz family owns only 10 acres, they farm 600. Most of this land is in Chittenden County, one of the state's most expensive areas of real estate. The Kleptz family sells their beef locally to 25 local customers, including several area small grocery stores.

There were 25 nominations for the 2007 award. Award finalists included Does Leap of Bakersfield, a farm that produces goats milk products, pork, chickens, lamb, beef, garlic, and eggs; Shelburne Vineyards of Shelburne, which uses integrated pest management and organic methods and has introduced new cold hardy grape varieties to the state; Diggers Mirth Collective Farm of Burlington, a certified organic farm in the Intervale that produces 25 kinds of vegetables and fruits on 15 acres; and Whalen Family Farm of Tunbridge, a diverse operation that produces Jersey milk, operates a market garden, makes maple sugar, and raises fowl and beef.

Mark (left) and Jim Klepz Photo by Roberta Nubile, courtesy of Shelburne News.

Past recipients of the award include Shelburne Orchards of Shelburne; Harlow Farm of Westminster; Intervale Community Farm of Burlington, Butterworks Farm of Westfield, Lilac Ridge Farm of West Brattleboro, Adams Farm of Wilmington, Golden Russet Farm of Shoreham, Blue Spruce Farm of Bridport, and Someday Farm of East Dorset.

For further information, contact Lini Wollenberg, director of the University of Vermont Extension Center for Sustainable Agriculture, at (802) 656-9891 or e-mail lini.wollenberg@uvm.edu.

Debra Heleba coordinates the Land Link Vermont program at the University of Vermont's Center for Sustainable Agriculture.

This article first appeared in the Winter 2007-2008 edition of the University of Vermont Center for Sustainable Agriculture's Cultivating Connections newsletter, and is reprinted with permission. For more information about the Center and for back issues of Cultivating Connections, visit www.uvm.edu/sustainableagriculture.

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Forest and Woodlot

Forest Management in Your Living Room

By Peter Smallidge

Interested in learning how to better manage your woodlands, in the comfort of your own living room?

The ForestConnect Internet Seminar Series is an interactive web conference and the first of its kind in the US. Since May 2007, these webcasts have connected forest owners, managers, and practitioners from throughout the United States and overseas.

Webcasts allow landowners and managers to connect to a web site where a presentation is given by a technical expert. The speaker talks to participants who can ask questions through a type-in chat box. All systems are secure and allow easy and convenient interaction from people in a variety of locations.

Participation is as easy as a high-speed internet connection via a web browser. Participants connect to a secure Cornell Cooperative Extension server to join the presentation.

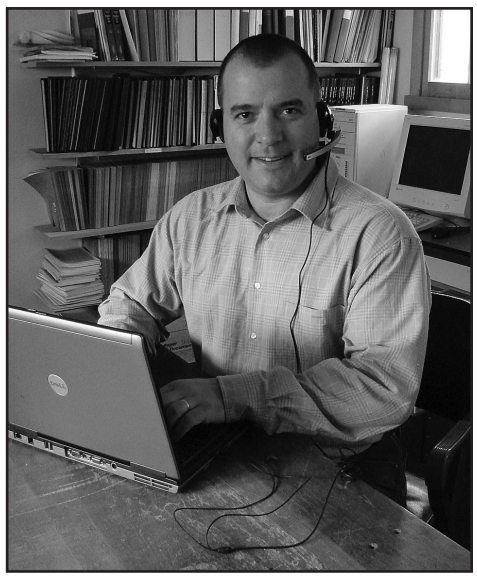
Previous topics of the ForestConnect Internet Seminar Series have included: Key Forestry Concepts and Principles; Old-growth Forest Management Techniques, Arranging a Timber Sale, Small-Scale Firewood Production, Working with Foresters, Creating Woodland Pools, and Natural Hardwood Regeneration. Each seminar uses the Internet to distribute, or webcast, a live and interactive presentation.

More than 500 owners and managers from 40 states and three countries are registered and receiving announcements for the monthly webcasts. Registrants own or manage more than 1,000,000 acres of forest land. "It is exciting to be able to use a relatively new technology to connect to people who are making a difference in private, state, and federal forests," says Dr. Peter Smallidge, NYS Extension Forester and the webcast coordinator.

Live interactive seminars use unbiased and research-based information to teach strategies that help participants better enjoy and utilize their property or the property of their clients. Dr. Smallidge noted that participants have documented the ability of this technology to function effectively as an educational tool.

"Based on questionnaires provided during the webcast, we find that more than 75% of participants have an improved understanding of simple and complex concepts and almost as many have the confidence to apply new skills in their woods," says Smallidge. "Web conferencing allows us to reach new people," says Smallidge, who noted that 20% to 40% of participants during monthly webcasts have not previously attended an in-person forestry workshop or seminar.

Seminars occur on the third Wednesday of each month. Each webcast is provided live, twice. The initial broadcast each month is from noon to 1:00 PM with a repeat live broadcast the same day from 7:00 to 8:00 PM, Eastern Time. The noon broadcast is recorded for subsequent viewing on the ForestConnect website at any time.



Peter Smallidge prepares to deliver an Internet based seminar, called a webcast, to forest owners, managers and practitioners.

Need Info?
Visit the Cornell Small Farms Program online at www.smallfarms.cornell.edu.

Participants must pre-register once, without charge, at www.ForestConnect.info. Email notification of internet URL details are then sent to everyone registered. A recent feature useful to some participants is the availability of continuing education credits from the Society of American Foresters for its Certified Foresters.

Funding for the ForestConnect Internet Seminars is provided through the Cornell University College of Agriculture and Life Sciences, Cornell University Cooperative Extension, and the USDA Renewable Resources Extension Program. For further information, visit the website: www.ForestConnect.info.

Peter Smallidge is a State Extension Forester in the Natural Resources Department of Cornell University. He can be reached at pjs23@cornell.edu or 607-592-3640.

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MARKETING

The Missing Link for Locally Raised Meats

While demand for local, small farm-produced meats is growing almost exponentially, USDA-inspected slaughterhouses serving local farmers are few and far between. Understanding the needs and concerns of small slaughter businesses is key to restoring this missing link in the farm-to-table value chain.

By Tracy Frisch

Mike Scannell and Joan Harris call themselves grass farmers. They raise old-fashioned red Devon cattle for grass-fed beef and breeding stock. They also raise pastured pigs.

Six to eight years ago, as they were first developing their pastured meat business at Harrier Field Farm, they were stymied by a serious problem: They couldn't find a slaughterhouse that would give them a consistent product from their naturally raised animals.

It's a stumbling block encountered by farmers across the region who say they want to help meet the growing consumer demand for local, naturally raised meats.

In order to legally sell meat by the cut, farmers must get their livestock killed and butchered at a government-inspected facility. In states like NY that don't have their own slaughterhouse inspection programs, inspection by the U.S. Department of Agriculture is required.

But in the last few decades, a few giant corporations, such as Tyson/IBP and Cargill/Excel, have acquired most of the nation's infrastructure for slaughtering livestock and processing meat. Many smaller, independent slaughterhouses have been driven out of business.

The same handful of big companies now dominates the market for cattle, pork and chicken -- and controls the destiny of most of the farmers raising these animals. Because of this consolidation, only a very small fraction of the meat sold in the United States is marketed by family farmers, and independent USDA-inspected processing facilities willing to work for small farmers are few and sometimes very far between.

In the region along the NY-New England border from Rutland County, Vt., south to the NY City suburbs, only a handful of slaughterhouses currently handle commercial work for small-scale farmers, and getting an appointment can be a challenge. And where small plants do exist, processing costs can gobble up a significant portion of the return to the farmer, on the order of $1 or even $2 per pound of meat.

The job of slaughtering a steer and processing its meat can cost $50 per animal at a large-scale industrial facility in the Midwest that handles hundreds of animals per hour from feedlot farms. But a small-scale farmer might pay $500 to have the same animal processed.

FEW GOOD OPTIONS

In the last decade, hundreds of farms like Harrier Field have begun working to satisfy the burgeoning demand for an alternative to commodity grade meats produced on factory farms and butchered in industrial packing plants. The demand has been spurred by in part by "buy local" movements, and also by disturbing revelations in books such as "Fast Food Nation."

But when Scannell first went looking for a slaughterhouse, there weren't many choices. He'd heard bad things about a processing plant on the other side of the Hudson River that has since lost its USDA license. A plant in northern Dutchess County came with a good recommendation, but it wasn't an option: Its operator didn't want any new customers.

So Scannell tried out a Connecticut slaughterhouse that had been purchased by a charitable foundation for the express purpose of processing natural meats from farms in the Northeast.

The experience, Scannell said, was an unmitigated disaster. The plant, which was several hours away and is now closed, mixed up scheduling, lost his farm's meat and made bizarre mistakes in cutting and packaging.

Scannell and Harris finally found a solution about four years ago, when an experienced-meat cutter named Ted Johnson began taking customers at Columbia County's only slaughterhouse, Hilltown Pork in Canaan.
Although the plant handles work for area farmers, Hilltown Pork's core business involves taking animals from outside the region and processing them for ethnic markets in the Northeast, mainly in southern New England.

Like many small-scale livestock producers, Mike Scannell and Joan Harris had a hard time finding a slaughterhouse that could meet their needs - and vice-versa.

Scannell had happily used Johnson's services in the past. But at that time, Johnson's butcher business was freestanding, not in a USDA-inspected facility, so the meat he handled could only be used for personal consumption, not sold commercially.

RESERVATIONS REQUIRED

Like the handful of other small slaughterhouses in the region, Hilltown Pork is busy, especially in the fall, when Harrier Field Farm and many other farmers traditionally prefer to finish their animals. To secure processing services, Scannell routinely makes his appointments 10 months in advance.

Hilltown Pork owner Richard Beckwith said the business he draws from area farmers has been "increasing almost geometrically." Last year, he said, Hilltown invested nearly $100,000 in capital improvements -- primarily to expand the plant's capacity, but also to protect it with a sprinkler system after fires devastated two other plants in the region.

The explosion of farmer meat sales in the last eight to 10 years has also gotten the attention of Bill Tripp, the owner-operator of Locust Grove Smoke House in Argyle, NY, about halfway between Saratoga Springs and the Vermont border.

Before he built his USDA-inspected facility in 1972, Tripp worked as a meat cutter for 16 years after high school at the local IGA supermarket. He said he learned the trade through the Independent Grocery Association's training program and "with a book in one hand and a knife in the other."

In his early years, Tripp recalled, local farmers used to bring in just a steer or two for freezer beef, or maybe a couple of pigs. Now, he said, farmers are selling and bringing in animals year round.

Pulling open several drawers of a heavy metal cabinet, he revealed many rolls of labels printed with the identifying information of his dozens of different farm customers, for use on packages of their meat.

"We're booked for a year," Tripp said, adding that he reserves a little room in the schedule for squeezing in a few animals, especially from his regular customers. Locust Grove recently added space and employees to help meet demand. The small plant takes in about 20 cattle and pigs in an average week.

As at Hilltown Pork, work for local farmers is only one component of Locust Grove's business. Everything else the company processes arrives in Argyle as shipments of boxed beef, boneless hams, pork loins and other meats. Locust Grove turns these into all kinds of sausages and smoked products, supplying its own attached retail outlet as well as stores and distributors around the Northeast.

Similarly, most of the animals destined for Hilltown's ethnic trade are shipped in from afar. Hogs might come from the Carolinas or Pennsylvania, lamb and sheep from the Dakotas, and goats from Tennessee and Alabama. Many are sold whole.

TOUGH BUSINESS

Finding niches has enabled these family-owned slaughterhouses to thrive in a sector dominated by large packers. Beckwith said the seasonal demands of processing for local farms complements the calendar of ethnic feast days.

But the limited number of such facilities has been a barrier to local farmers -- and to their potential customers. The lack of slaughterhouse capacity has been the subject of task forces and plenty of discussion among farmers and food activists, but for the most part the only expansions of capacity have come from private investments at existing businesses. To the west of Albany, for example, entrepreneurs have purchased and reopened a couple of unused facilities in recent years.

The operators of the region's slaughterhouses say they have little in common with the assembly-line packing plants of the Midwest and South but must still comply with USDA regulations crafted for these much larger facilities. The operator of one local facility said keeping up with USDA paperwork requires a full-time employee and a computer with a satellite link.

Finding workers is another challenge for small-scale slaughterhouses. Meat cutting is not the type of job anyone will do, and trained butchers tend to gravitate to jobs with benefits and regular hours at supermarkets that cut their own meat.
Today, one can count on one hand the number of USDA-inspected slaughterhouses in the region that serve local farmers.

In eastern NY north of NY City, there are four, including Hilltown and Locust Grove. Massachusetts was left with a single USDA-inspected slaughterhouse, in the eastern part of the state, after a fire late last year destroyed another one in Athol, on the far side of the Pioneer Valley.

Vermont, which has its own inspection process separate from USDA regulation, has eight slaughterhouse operations, the nearest of which is in Benson, in northwestern Rutland County. Most of the rest are farther north and east. But two of them do little or no processing for farmers who sell meat by the cut, and meat from the two plants that don't have USDA licenses can't be sold out of state.

Ed Jackson, an agricultural development specialist at Vermont's Agency of Agriculture, said that unlike most of New England, Vermont has sufficient slaughterhouse capacity for its farmers. Recently, he said, a group of northern Vermont farmers obtained a grant to look into buying a slaughterhouse but found there weren't enough animals to make it feasible. But Jackson acknowledged that "the seasonal effect" - the fact that farmers want to have a larger number of animals processed in the fall - can create a bottleneck. He said it's generally smaller producers who lack an ongoing relationship with a plant who have the greatest difficulty getting a slaughterhouse to fit them in.

STARTING FROM SCRATCH

Few small slaughterhouses are being built from scratch these days, so John Wing's nearly 5-year-old facility in Benson, VT, is an anomaly.

After moving to the area from his native New Hampshire a few years earlier, Wing made plans to build a state-inspected processing plant with a retail store, primarily for his own pigs and cattle at Over the Hill Farm, because they "didn't have a place for slaughter."

One morning after he started construction, Wing put in a call to the Vermont Agency of Agriculture. He said agency officials showed up at his farm a mere three hours later and soon convinced him to upgrade to federal specifications to help alleviate the bottleneck in farmers getting slaughter appointments.

Wing said his facility, called The Meat Shop, cost roughly $1.75 million. It has gone through a Chapter 13 bankruptcy proceeding, a process Wing described as a financial reorganization. With about five full-time employees, the plant can handle about a hundred animals a week, drawing customers from seven states - all of New England plus New York.

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GRAZING

Grazing More Naturally-And Saving Money

By Bill Henning

The end of World War II marked the beginning of a new era in farming with a multitude of revelations in mechanization and the use of chemicals. Not the least of these man made marvels was the availability of commercial fertilizers. Their use over the last 60 plus years has probably consistently contributed, more than any thing else, to the phenomenal crop yields so often taken for granted today. Grass is one of those crops and commercial fertilizers have been an important component on many grazing farms.

NITROGEN, HYDROGEN AND SOIL ACIDITY
Nitrogen is probably the one element of fertility that drives yield more than any other. The most widely used commercial nitrogen sources for grazing include ammonium nitrate, ammonium sulfate and urea. All of these sources provide surplus hydrogen in conjunction with supplying nitrogen. That surplus hydrogen contributes to soil acidity.

While soil pH is of lesser concern to folks farming high lime soils, it is very important to those of us on acid soils. As soil pH nears the window of 6.6 to 7.4 soil microbial activity increases. As we go in either direction away from that window soil microbial activity decreases. As soil life increases so does the tendency for soil productivity. Also, the availability of nitrogen, phosphorus, potassium, sulfur, calcium, and magnesium tend to be greatest within this window. Therefore, we often pursue an economically viable soil pH close to neutral, between 6.0 and 7.0 for many crops.

THE FERTILIZER-LIMESTONE HABIT
As we apply limestone, the most common soil amendment to neutralize soil acidity, we are adding calcium and magnesium to the soil. Along with these two elements we are also adding carbonate (carbon and oxygen). It is the carbonate portion of the molecule that ties up the hydrogen in the soil to neutralize it. Herein is the potential quandary for graziers using commercial nitrogen sources.

We use commercial forms of nitrogen to increase crop yields. The commercial fertilizer lowers our soil pH which retards crop yields so we add limestone to correct the soil pH.

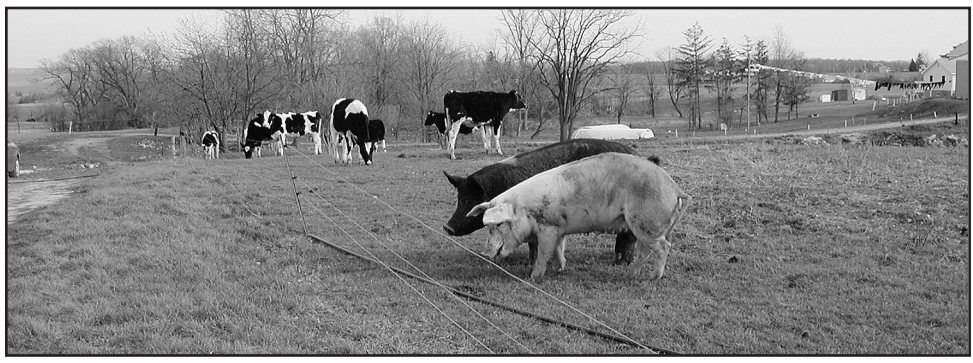
Just how much limestone does it take? For every 100 pounds of nitrogen applied from ammonium nitrate or urea it will take 225 pounds of limestone with an 80% relative neutralizing value (RNV) to correct the acidity caused by the commercial fertilizer. If ammonium sulfate is used for a nitrogen source it will take 669 pounds of limestone (80% RNV) to correct the situation. As long as we rely on commercial nitrogen sources we also have to rely on the use of another material to neutralize the effect of the fertilizer.

PH NEUTRALIZING ALTERNATIVES
Sewage sludge, from municipal waste and often blended with limestone, is a possibility; however there is a potential, possibly significant, risk from industrial contaminants. While some sludge might meet the U.S. standards for safety, it should be noted that the U.S. standards are among the most lax of the industrialized nations.

Wood ash provides another possibility but the impracticality (where to find sufficient quantities) makes it highly improbable. Limestone remains the most prevalent practical material for balancing soil acidity.

MORE NATURAL APPROACHES
Using non-commercial forms of nitrogen reduces or eliminates the negative impact of commercial fertilizers on soil pH, and thus the need to repeatedly add limestone to raise pH. Amending the soil with poultry manures - composted is best - not only ads all the major elements but can actually increase organic matter, soil life, and soil pH. When poultry manure is used care needs to be taken in dealing with soil nutrient management.

Legumes can conservatively contribute 20 to 80 pounds of nitrogen per acre following the year of establishment. When all the attributes of clovers were also considered, the Noble Foundation credited an over-seeding of clover into grass with the equivalent of 150 pounds of nitrogen per acre on a cow-calf pasture.



Multispecies grazing on a natural pasture.

Another possibility might be nutritious and palatable plants that do well on more acid soils - this one will require research. Who will do that research and who will fund it?

PARTING THOUGHTS
How many times have we bought the farm? Sounds ridiculous doesn't it? Has anyone ever added up the cost of all the lime applied over the years of farm ownership that were required to correct low soil pH that resulted from the use of commercial nitrogen sources?

Lime also has many other uses. Concrete is just one of them and it consumes a significant amount of limestone. Use of concrete is escalating dramatically around the world as more and more countries develop. Lime remains one of our best investments on the farm. It should be used where needed.

However, much like oil, now trending downward in supply, there is a limit to the supply of limestone. Should we really be squandering something today, which appears abundant now, when future generations might also need lime for food production?

Bill Henning operates a small diversified farm in the Finger Lakes of New York with his wife Kathy. He has recently joined the Animal Welfare Institute as a field representative for AWI's Animal Welfare Approved program.

Taking a really good look at a natural pasture. Photos by Bill Henning

We Want To Hear From You

We welcome letters to the editor - Please write to us! Or send a question and we'll do our best to answer it. We're also looking for beautiful, interesting and/or funny small farm photos to print.

Write or email Joannna Green,
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Cows and Crops

Sweet on Sorghum

Maple Producer Finds Success with a Specialty Crop Native to the South

By JJ Schell

One of the exciting things about working as an agriculture extension educator here in Schoharie County, NY, is the innovative farmers I get the opportunity to interact with. In the fall of 2006, Tony VanGlad, a maple producer and vegetable farmer from Gilboa, in the southern part of the county, had contacted me requesting information on the production of sorghum and manufacture of sorghum syrup. I did some research and provided Tony with a series of introductory, research based fact sheets on this crop.

Tony took the materials I gave him in conjunction with some research he did on his own, and attended a sorghum conference in Tennessee during February of last year, making many contacts of experts in the field. After visiting one of those farms, in early May of 2007, and seeing the sorghum operation first hand, Tony decided to bring this native southern treat back home and give it a try in the sometimes challenging growing conditions of southern Schoharie County.

WHAT IS SORGHUM?
Well, there are actually two types of sorghum known in the agriculture realm. "Sweet sorghum" is the term referred to the varieties of sorghum grown specifically for syrup production due to the level of sugar and juice content of the stalk. Sweet sorghum was also developed as a silage crop due to the potential for higher yields but the trade off can be lower feed quality because of the lack of grain.

The other type of sorghum is "grain sorghum" which tends to be shorter than sweet sorghum in physiological appearance, ranging in height from 2-4 feet. Sorghum is a grass similar to corn in physiological appearance, but sorghum has more tillers and more finely branched roots than corn. Growth and development of sorghum is similar to corn, and other cereals. Sorghum seedlings are smaller than corn due to smaller seed size.

PROCESSING EQUIPMENT -- A MISSING LINK
Last fall I got to observe Tony's sorghum syrup operation up close, from the harvest of the sweet sorghum plants, extraction of the juice, to the syrup making. Many sorghum syrup producers in the south harvest the sweet sorghum stalks, which are similar in appearance to corn, then bring them back to a main processing area where the stalks are crushed and the juices collected where they are boiled down into syrup.

Tony wanted a machine that did both operations in one process. One of the challenges he faced is that there is no manufacturer of harvesting and extraction equipment for sorghum syrup production. Although Tony could use his maple syrup evaporator to boil the sweet sorghum juice into syrup and his existing corn planter to plant the crop he had no way of extracting the juice from the plant.

DIY TECHNOLOGY
So after the crop was in the ground, Tony, a proficient welder and fabricator, went to work building a machine that would harvest the sorghum stalk and crush the plant to extract the juice. After much trial and error, Tony constructed a machine that could be pulled behind the tractor and harvest one row of sorghum at a time.

Tony's unique machine, which he refers to as the "juice recovery system," is made up of a three point hitch one row corn chopper, a roller mill from and old mill, a fire truck transmission, a piston pump, and a collection tank all mounted on a homemade trailer with a built in collection pan for the juice. The stalks are cut down by the three point hitch mounted chopper where they proceed through the roller mill.

The roller mill crushes the stalks and squeezes the juice onto to the floor of the trailer which forms the collection basin for the sweet liquid. The juice is then pumped from the collection basin with a gas operated piston pump, into a storage tank on the machine. The juice is then pumped into a tank on the back of a pickup truck and taken back to Tony's sap house for boiling down into syrup. It takes about 8 gallons of juice to make 1 gallon of syrup. In contrast, it takes 40 gallons of maple sap to make one gallon of syrup.

As with any new farming operation, there are bound to be challenges. Tony is learning what works and what doesn't. For example, he found that by removing the top third of the sorghum plant, prior to the harvest process, that it fed through his machine better and more juice was extracted. He has persevered and at the time of my visit, had produced 130 gallons of sorghum syrup.

VARIETIES AND MARKETS
Tony planted five varieties of sweet sorghum for his trial year which included Dale, Della, Sugar Drip, Simon, and M81E. Of these five, he found that Sugar Drip and Simon yielded the best. Tony is already planning how to improve on his machine to expand it to harvest two rows of sorghum stalks. He and his wife Mary hope that the many lessons they learned last year working with the specialty crop will ensure an even more successful growing and harvesting experience this year.

Tony VanGlad harvesting sweet sorghum with his "Juice Recovery Machine," which gathers the stalks and extracts the juice all in one process. Photo by JJ Schell

Tony is currently marketing his sorghum syrup alongside his maple syrup at a Greenmarkets farmers market in New York City. Tony has been actively marketing his sorghum syrup to health and natural food stores due to the high concentrations of many hard to find nutrients, like iron, in the syrup.

VIRTUES OF DIVERSIFICATION
Sweet sorghum is ideally suited to the small, diversified farm, as the various parts of the plant can be used for livestock or poultry feed, and waste can be composted, in addition to the sorghum syrup produced. Tony also has the distinction of being the first farmer in the state to successfully harvest and process sorghum for syrup.

There are many innovative agricultural practices being developed, and specialty products being produced in our county. Diversification is the key to success for many of our small family farms. Tony and Mary VanGlad stumbled across sorghum as they were looking for another enterprise that would compliment their current maple business. They needed something that would require less labor than vegetables, as their sons had left to pursue college and other interests.

Schoharie County farms are the foundation of its rural character, whether they are worked by the third or fourth generation family farmer or the new farmer who has come from an urban area to take on a new and unpredictable venture. Long-time farmers and new farmers will succeed, bringing new vitality to our region's farming industry, contributing to local economies, and keeping our agricultural resource base productive.

FOR MORE INFO...
If you are considering a specialty crop or looking to diversify into another agriculture commodity contact your local Cooperative Extension office

Tony constructed the Juice Recovery Machine himself through much trial and error. Photo by JJ Schell

so they can discuss the requirements and marketing opportunities with you before you take the next step.

You can find out more about sorghum and sorghum syrup at: http://attra.ncat.org/attra-pub/sorghumsyrup.html, www.hort.purdue.edu/newcrop/afcm/syrup.html, and www.ca.uky.edu/agc/pubs/agr/agr122/agr122.htm. If you don't have access to the internet, call your local Cooperative Extension office and ask if they will print these documents for you.

JJ Schell is Agriculture Program Leader with Cornell Cooperative Extension in Schoharie County, NY. He can be reached at 518-234-4303, or jjs69@cornell.edu.

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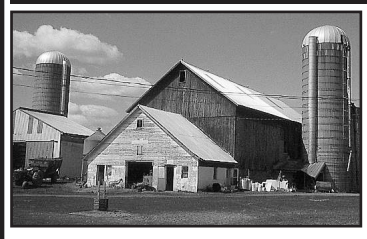

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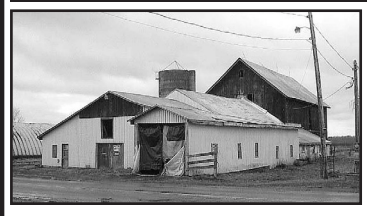

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NEW FARMERS

Getting Started in Livestock Farming as a Second Career

Author Carol McGee and her husband Pete offer some words of wisdom for those thinking about getting started in livestock farming

By Carol McGee

Perhaps you have dreamed of getting into farming, but you have no experience and you are not really sure how to get started. That described us just five short years ago. We are Carol McGee and Pete Reynolds, our farm is called McRey Farm. Neither one of us had come from a farming background. We had both grown up in the city and suburbs, Pete was from Oklahoma City and I grew up in Binghamton, NY.

So how did the two of us wind up on nearly 200 acres in Broome County, NY with livestock that now includes beef cattle, hogs, and sheep? Our deep desire for self-sufficiency and to make a difference in how food gets to America's table was a driving force.

GO DEBT-FREE... IF YOU CAN DO IT

Our first careers were 25 years in computer field service. It was a great job and gave us problem solving skills that would later come in handy on the farm. We both made fairly good money, but we agreed that we didn't need to live the lifestyle that our peers were enjoying. Being debt free was a priority for us, and saving money was ingrained in our psyche.

The fact is, we had a common vision and we both worked together toward a common goal. Before we bought our land we were completely debt-free and had considerable savings. I would recommend this to anyone thinking of getting into farming, pay your debt down and save all you can, because getting into farming, as with many other businesses, is capital intensive.

Before we spent our first dime on land or farm equipment, we started our research phase. We bought books and magazines, lots of them. We both read them cover to cover and discussed how we could take what we read and apply it to our future operation.

Carol's sister's family had already made the leap into farming, growing vegetables for the famers' market and selling homegrown chickens and eggs. They also raise small livestock - sheep and goats, and there are even a few pet horses. We watched their operation evolve and we helped out when we could. In return we took away lessons we could not have gotten anywhere else.

HANDS ON EXPERIENCE

If you have the opportunity to help out on a farm, make the time to do it as often as you can. While you should visit as many farms as you can, if you can spend a day or more and really get your hands dirty, you will soon see if your dream can or should become a reality. The closer the farm matches your ideal, the more valuable the experience. You will learn that almost nothing ever goes like the book says it should and that the ability to compromise and adapt will be your salvation.

If you can manage the time and have access to an agricultural college, take a variety of courses. Even if all you want to raise is beef, you will get invaluable lessons from Botany 101. After all, cows eat grass, and knowing what happens to the plant when the cow takes a bite will help you manage your pasture through the grazing and haying season.

KNOW YOUR MARKETS

One of the most important research items will be your marketing research. Lets face it, we want to make money by farming, so do your homework before it comes time to sell your product. You do not want to have a barnyard full of animals and no good plan of how or where to sell them profitably. Live animal sale prices can be very volatile. Prices rise and fall in cycles from year to year. And auction prices can vary from week to week. So do your research very carefully in this area.

Our marketing plan involves direct selling of the meat from our own animals. This gives us control of the prices we charge and the profit we make. Be very careful when setting your prices. It is easy to overlook many of the costs that go into getting your product from hoof to market. Equipment maintenance, depreciation, replacement, and fuel costs all should be factored in.

Pete & Carol McGee used their savings from 25 years in computer services to launch their farm in Broome County, New York. Photo by Patty Albaugh

Will the customer base you are planning to market to be able or willing to support the prices you need to charge? For us, it means that we develop our market by educating our customers, and spend money to advertise our products.

GETTING STARTED

In this piece we are not going to cover how, where, or when to buy land. It would take a book to cover all the variables and in the end it is often a matter of being in the right place at the right time. For this article we will assume that you have found your dream farm and are ready to begin.

One thing I can promise you is that it will cost more than you think. You will need shelter for the animals, feed, and a way to get feed to them, and water all year round. You have to think ahead to winter snow and cold weather, summer heat and drought.

Which brings me to my next point; I suggest that you start with smaller, less expensive animals. Use them to test your infrastructure - your fences, feed and water delivery. I can assure you that you will make mistakes. Start small and they will be smaller mistakes.

Our goal was to raise heritage breed grass-fed beef. We had never raised farm animals larger than a few chickens. And if you have no farm experience at all, then chickens are not a bad way to get started. You will find out if 365 day a year animal husbandry is something you want to take on. You can try your hand at marketing chicken and eggs.

LEARN AS YOU GO

When we marketed our eggs we found that more and more people are thinking about the choices of buying local and agreeing with the humane treatment of animals. There is more media attention on healthy food choices and that how animals are raised and what they are fed makes a difference in the quality of the food we eat.

When we bought our present acreage we started with raising a few pigs while we planned and prepared for beef cattle. Pigs are escape artists. We learned a great deal about fencing. When we could build a fence that would keep pigs in, we were confident that we could keep cows and calves and sheep contained. Good fences are key to animal safety and your peace of mind.

Chances are you will not be able to afford to start out with all the equipment you want or need to accomplish your ultimate dream, and this is another reason to start small. But there is the exception to the small theory: When you buy equipment, buy the right size for the end plan. In this instance, smaller is not better.

A 50 or 100 horsepower tractor may be overkill if all you have is a few sheep, but if you need a tractor, for example, and plan to make your own hay later on, get the right size equipment now. I know there are exceptions, but we have never made a profit selling or trading in equipment.

USE AVAILABLE RESOURCES

Remember to count among your resources the people around you. Most farmers don't mind doing a little 'horse trading' like swapping the use of a trailer for help during haying season.

So take time to get to know the folks living around you. They will be more willing to call you if one of your animals gets out, and they may be able help out when you need an extra hand.

Don't try to do this all alone. There are government offices such as the Farm Service Agency and the Cooperative Extension in your state and county that offer loans, equipment rentals, and education. Don't pass up the opportunity for a pasture walk or a class in a subject that applies to your venture. An added bonus is that you get to meet and exchange information with other local farmers.

OK, so now you have started producing your chosen product and you want to expand. It's time to do your research again. Don't underestimate the additional time and money it will cost you. Don't overestimate the capacity of your market to absorb the additional product and the capability of your farm to support the additional load. Consider what will happen if someone sees your success and copies you, even entering the same markets that you have counted on for your livelihood.

UNDERSTAND THE RISKS

It's a free country, you can't stop competition. So, expand slowly and carefully, and have a plan B up your sleeve. By now you have gotten to know a few of the folks at the FSA office. Talk to them and see if you are eligible for financing or other help to get the expansion plan rolling.

One final thought. If you are retiring and looking for a safe investment where your money will grow and support you in the coming years, don't look at farming. If you have the money to invest in your dreams and you look forward to a physical as well as a mental challenge, if you love the outdoors and working with stubborn creatures, then go ahead and take the plunge. It may be the hardest job you'll ever love.

Carol McGee and Pete Reynolds raise grassfed pork, lamb and beef at McRey Farm in Glen Aubrey, NY. They can be reached at (607) 862-3911 or mcrey@earthlink.net.

Resource Spotlight

Developing a new agricultural enterprise

Your local Cooperative Extension office. Always a great place to start. Introduce yourself and find out which educators work with beginning farmers in your area. Ask about workshops, newsletters and ways to connect with other beginning and established farmers.

NY Beginning Farmer Project - Support for new and diversifying farmers, **http://beginningfarmers.cce.cornell.edu**, (607) 255-9911.

New England Small Farm Institute - Offers a range of resources and services to support sustainable small-scale agriculture and beginning farmers throughout the Northeast. 413-323-4531, **www.smallfarm.org**

Growing New Farmers website offers a collection of tools and resources for and about new farmers, and a state-by-state directory of support providers and programs. **www.growingnewfarmers.org**

Northeast Organic Farming Association has chapters in New York, Connecticut, Massachusetts, New Hampshire, New Jersey, Rhode Island and Vermont and publishes the quarterly Natural Farmer. NOFA conferences and local chapters are great ways to connect with beginning and established organic farmers. **www.nofa.org.**

Agricultural Alternatives @ Penn State Cooperative Extension - information and budgets for all types of agricultural enterprises (fruit, vegetable & livestock) **http://agalternatives.aers.psu.edu/WhyAgAlt.htm.**

National Sustainable Agricultural Service offers an incredible array of free online and print resources on a wide range of enterprises, marketing strategies and topical issues for the beginning and established farmers. **http://attra.ncat.org**

Farming Alternatives: A Guide to Evaluating the Feasibility of New Farm-Based Enterprises - available from NRAES, **www.nraes.org** or (607) 255-7654

Starting an Ag Business? A Pre-Planning Guide from the New York Ag Innovations Center, available online in PDF format at: **www.nyfarmviability.org/aic/pre-planning_guide.htm**

BUSINESS MANAGEMENT

Road Map to Success

Business planning help from NY FarmNet has helped Meg and Bruce Schader achieve their dreams at Wake Robin Farm

By Rebecca Schuelke

One part dream, one part hard work and a generous helping of planning is the recipe for an Upstate New York couple that is making a small farm dream a reality with a dairy herd and on-farm yogurt processing.

"People kept telling us we were crazy," say Meg and Bruce Schader, who've turned their dairy-farming dreams to reality.

Meg and Bruce Schader operate Wake Robin Farm, 35 acres in the Cayuga County town of Jordan, approximately 30 miles west of Syracuse. All of the milk from their grass-based Jersey herd - 10 cows - is processed on farm.

"Ten cows is laughable," Meg said, jokingly comparing Wake Robin Farm to dairies across the US with milking herds of thousands of cows. "We have 10 cows, but we are two people. We are not someone trying to support a multi-family farm. This works for us."

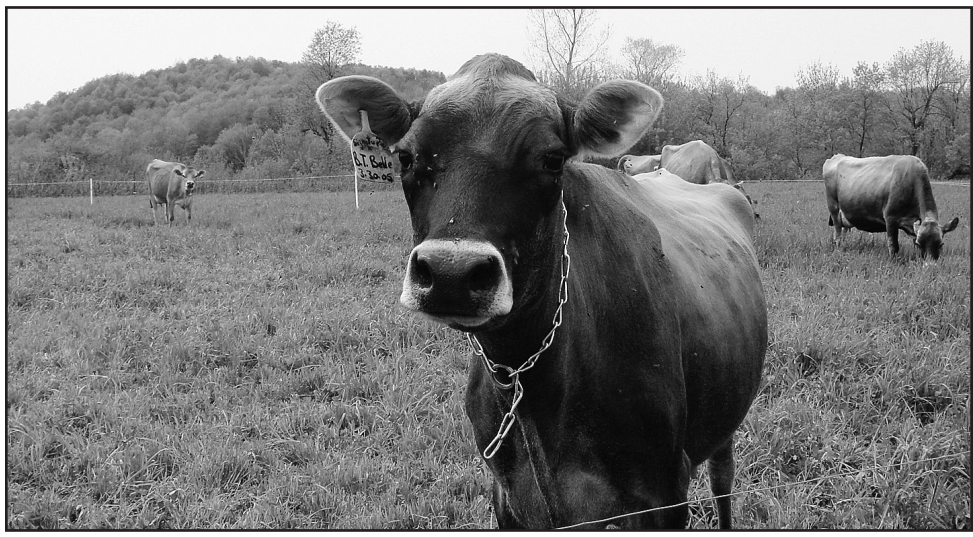
The Schaders are among a growing number of farmers exploring alternatives to conventional farm marketing, such as direct sales and on-farm processing. Making a small farm work, the Schaders said, required long-range planning. Help along the way came from NY FarmNet, a program in Cornell University's Department of Applied Economics and Management, which provides free and confidential business planning assistance to New York farmers.

The Schaders worked with NY FarmNet to explore the feasibility of a dairy value-added venture and to develop a business plan for implementation.

Wake Robin Farm is among more than 219 farms that have worked with FarmNet through grant funding from the New York Farm Viability Institute, a farmer-led non-profit group that funds on-farm projects to help farmers increase profits.

Grants to FarmNet totaling $465,000 for project work from January 2006-December 2009 have already allowed the program to work with farms to develop business plans that led to the creation of 56 farm jobs and $8.18 million in increased sales. Farms are planning $12 million in capital investments to expand or update their businesses.

"A business plan is a roadmap for the business. It includes measurable goals and a timeline for achieving them," said Ed Staehr, communications director for NY FarmNet.



All of the milk from Wake Robin Farm's ten Jersey cows is processed on the farm.

The Schaders started farming in 1999, operating a vegetable CSA and cut flower delivery on the grounds of the dairy farm where Bruce grew up. The vegetable farm required less capital investment than a dairy start-up, Meg said, but the soil was not ideal and the vegetables required planting and harvesting in short, labor-intensive spurts. The couple grew produce while they investigated opportunities that would spread the workload throughout the year.

"This farm is supposed to be dairy farm," Meg said. "We had a dream in the back of our minds that we wanted to do this. People kept telling us we were crazy."

In April 2006, the couple began milking cows. They dumped milk until October, waiting for licensing to process and sell their yogurt. They located a vat pasteurizer in Quebec City, which they picked up themselves.

They started by bottling milk and yogurt, but found better sales results with yogurt. These days, the Schaders process vanilla and plain yogurt in 50-gallon batches four-five times week. They package 800-1,000 quarts per week.

Yogurt, with a nearly one-to-one conversion rate from raw milk to finished product, was attractive to Wake Robin Farm, although, Meg said, they may explore making cheese in the future. Customers have also requested low fat and half-pint packages of yogurt.

Wake Robin Farm received federal grant funds to develop a professional product label that contains a bar code, two features that are attractive to retail stores considering carrying the product. They have done little advertising for the product and found good results working with small, independently owned stores.

"These stores are able to embrace someone like us," Meg said.

In addition to farmers markets, Wake Robin yogurt sells at 25 retail outlets, including Big M stores in Jordan, Elbridge and Weedsport, Skaneateles P&C, Green Hills Farm Stand in Syracuse, and Wegmans stores in Central New York.

The Schaders said they enjoy that they are able to run their farm themselves and find markets for their products within the community where they live.

"This is something we can do ourselves. There is a future in it for us," Meg said.

Value-added does not make farming easier, but can offer opportunities for the same income on a smaller scale than selling milk to a processor, the Scahders said.

"You have to really want to do this," Meg said.

"People sometimes approach value-added as a means to save the farm, but value-added brings a lot more work. You have to be a jack-of-all-trades."

In addition to milking cows and making yogurt, the Schaders make their own sales calls and deliver their products to retail outlets.

"Go into it with your eyes wide open," Meg advised. "Take a really good look at the numbers, which FarmNet really helped us do."

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Author info:
Rebecca Schuelke is a Communications Specialist with the New York Farm Viability Institute. She can be reached at 315-453-3823 or at rschuelke@nyfvi.org.

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NON-DAIRY LIVESTOCK

Outdoor Pig Production - An Introduction

By Keith Thornton

Outdoor pig production has seen a revival in recent years, both as a backyard hobby and as a commercial proposition. Outdoor pigs are often part of a diversified livestock program which may also include sheep, goats and poultry.

In any case pig production should be viewed as an integral part of sustainable agriculture, with the pig living in the landscape, being fed with local produce -- mainly cereals, but perhaps also some vegetable or root crops, and with its manure being returned to the land for further crop production. The end product is then a whole range of nutritious cuts of quality meat, free of additives and antibiotics, with great taste and flavor.

CHOOSING YOUR SITE

Whether it be an orchard, open grassland, or a building with access to the outdoors, your choice of site for outdoor pig production is very important. Free-draining soil is desirable, preferably a light sandy loam as heavier clay soils are unsuitable.

Local rainfall and winter temperatures must be taken into consideration and where possible, some form of shelter belt should be provided. This could be a well established wood or forest which shelters from the prevailing winds, or it could be a physical feature such as a local hill or ridge which has the same effect.

Land used by pigs should be rested and rotated whenever possible to prevent poaching and erosion and to provide an opportunity for regrowth of forages and reduction of parasite build up. Access to roads and buildings is essential of course, along with a suitable water supply.

CHOOSING YOUR BREED(S)

Pig performance is a combination of genetics and the environment, which includes factors such as feed, housing and health. Pig breeds can be divided into two main groups. The first group is based on White maternal lines such as the York, Landrace and Large White, which have been developed by seedstock companies for commercial production mainly in confinement systems.

The second group includes mainly US breeds such as the Duroc, Hampshire and Spot as well as the Chester White. To this must be added imported breeds such as the Tamworth and the Gloucester Old Spot -- the original orchard pig from the West Country of England.

The outdoor producer should select from this second group. These breeds are regarded as more hardy and robust than the White maternal lines and are generally better in meat quality traits. The Chester White, Tamworth and Gloucester Old Spot are reasonably efficient in reproductive performance and should be considered as part of any cross breeding program

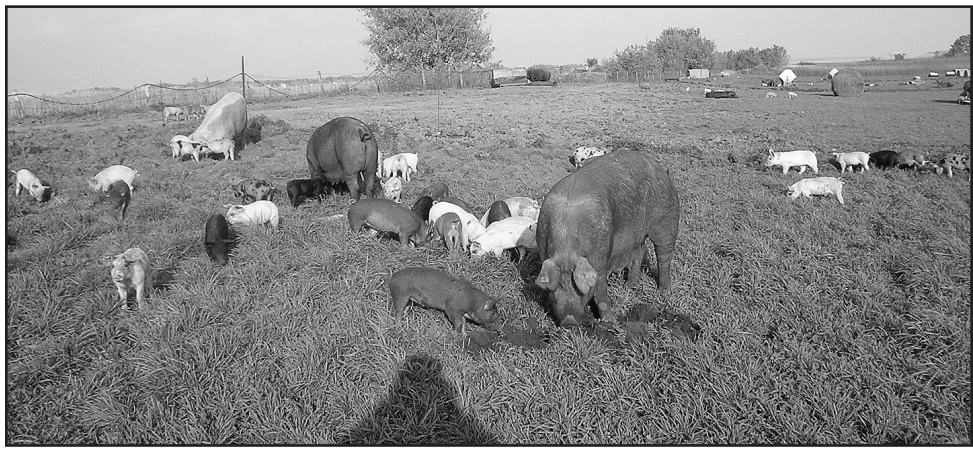
HYBRID VIGOR

There are considerable differences between breeds but also within breeds. In most outdoor situations producers should capitalize on the "hybrid vigor" that results from a planned cross breeding program. Hybrid vigor, or heterosis, is the improved performance of the cross-bred offspring when compared with the performance of the purebred parents.

Hybrid vigor is mainly expressed in improved reproductive performance such as heavier weights and larger litters at birth and increased survival rates to weaning. Crossbred sows have better conception rates than purebred sows.

Of course, some breeders will prefer to work with the pure breeds from an interest and preservation point of view, and it is essential to preserve these heritage breeds to maintain genetic diversity.

Keith Thornton is an International Consultant in pig production in Des Moines, Iowa, a frequent speaker on outdoor pig production, and the author of Outdoor Pig Production. He will be one of the featured speakers at the Swine School, April 18-19, 2008 at the Stone Barns Center for Food and Agriculture in Pocantico Hills, NY. For more information on the Swine School call 914-366-6200 or visit www.stonebarnscenter.org.



Outdoor pig production has seen a revival in recent years, both as a backyard hobby and as a commercial proposition. Photo by Keith Thornton

Resource Spotlight

OUTDOORPIG Email Listserv

OUTDOORPIG (cce-outdoorpig-l@cornell.edu) is a very active email listserv that offers beginning and established producers the chance to learn, ask questions, share information, sell pigs, look for assistance, and anything else related to outdoor, natural, pastured, and/or organic pig production. The list is managed by Bernadette Logozar, Agriculture Development Specialist with Cornell Cooperative Extension of Franklin County, NY.

To join the Outdoorpig listserv, send an email to bel7@cornell.edu. Please put "Add me to the Outdoorpig list" in the subject line.

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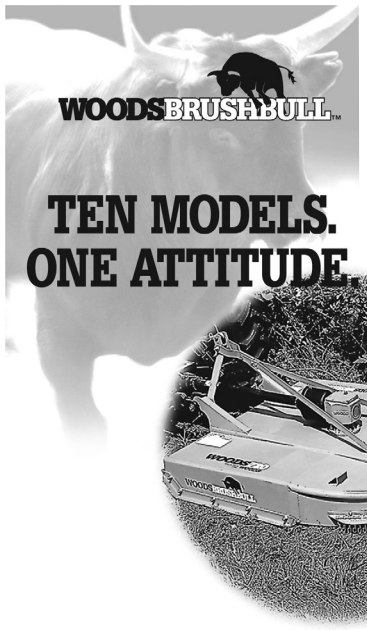

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HORTICULTURE

Raspberries Under Cover

Extend your berry harvest May to December with row covers or high tunnels

By Cathy Heidenreich and Marvin Pritts

There's nothing like fresh raspberries - summer isn't the same without them. Wouldn't it be great to have that farm-fresh taste from May to December? Whether growing for on-farm use or commercial sales, an extended season of fresh raspberries is within your reach using "protected production".

Raspberries can be coaxed (or hoaxed) into fruiting over long periods of time. Protected production techniques such as using row covers or tunnels, together with cultural practices such as pinching or tipping, can lengthen raspberry season, even in cold climates. This article briefly describes techniques to use in order to keep those mouthwatering berries coming!

RASPBERRY TYPES

The first step in producing season long berries is to know which types of raspberries respond best to which protected production practices. Let's start with a quick review of raspberry types.

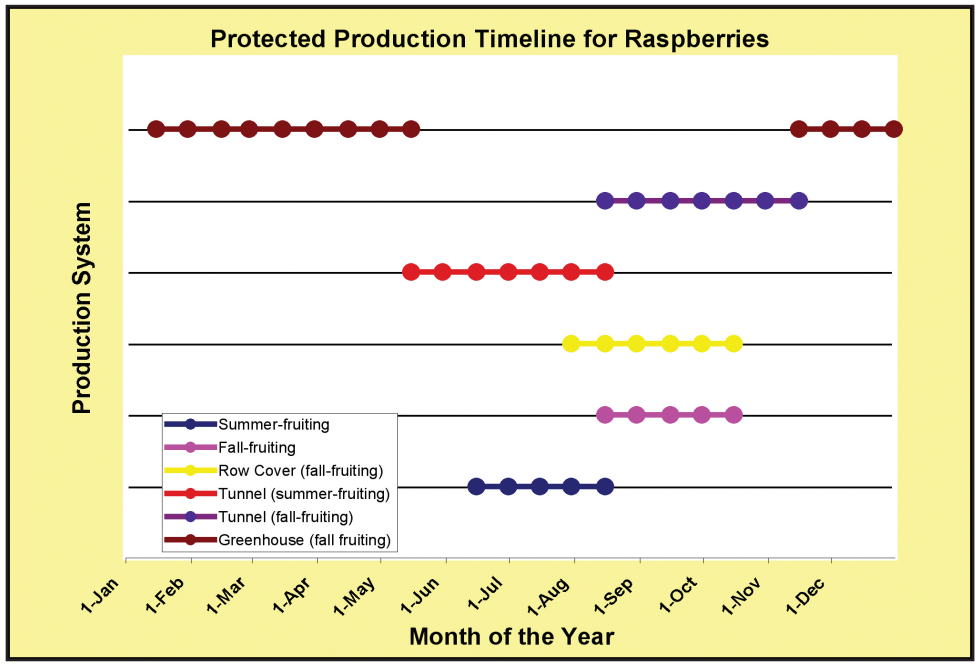
Raspberries provide two seasons of berries if you plant both summer fruiting (floricane-fruiting) and fall fruiting (primocane-fruiting) varieties. The difference between the two? Summer-fruiting raspberries flower and fruit only on second year canes. Fall-fruiting raspberries flower and fruit on the tips of first year canes. You can buy early, mid, or late-season varieties of both types to further extend your growing season.

FLOATING ROW COVERS

Floating row covers (FRC) applied in early spring can help get a jump on the fall raspberry season by accelerating flower production and fruiting. Fruit production may begin 14-21 days earlier with March applied row covers. April applied row covers produce fruit 10-14 days earlier. FRC plants begin to fruit earlier, reach peak harvest sooner, and have higher yields that non-covered plants.

For raspberries, 0.6 oz per square yard is the recommended row cover weight. Apply row covers in early spring after snow melts but before new canes emerge from the ground. Keep some slack in the covers to allow for cane growth underneath. Anchor it well (bricks, wood strips, irrigation pipes, sand bags, pins) as spring can be very windy!

Remove FRC once canes reach 18" in height or in mid-May, whichever comes first. Remember raspberries are heat-sensitive; delays in removing covers at this point could negate any early fruiting gains.



Production Timeline for Raspberry Production Systems

tect them from occasional frosts. Remove covers the next morning to continue gaining the benefit of late fall sunshine.

Suggested fall-fruiting red raspberry varieties for protected production under floating row covers include 'Heritage', 'Caroline', 'Autumn Britten', 'Autumn Bliss', and 'Polana'. 'Anne' is a good choice for a yellow-fruiting fall-raspberry.

What's the cost of FRC? Approximately $500 to $600 dollars per acre, and it can be used for 2 seasons. Yields for the 2-3 week harvest extension period should more than offset the cost of covers.

HIGH TUNNELS

High tunnels are large plastic hoop houses. Generally less expensive to build and maintain than their greenhouse cousins, hoop houses provide shelter from the elements, a protected environment for more tender varieties, and season extension for both summer and fall-fruiting raspberries.

Tunnels don't usually have heaters, lights, or power sources. Temperatures inside are regulated by rolling plastic sides up and down and opening and closing end walls. Plants are primarily grown in the ground under tunnel covers, which are applied or removed at various points during the growing season, depending on the desired fruiting period and raspberry type. Drip irrigation is a must as no rain falls within the confines of the tunnel.

Floating row covers can be used to extend the raspberry harvest both early and late. Photo by Marvin Pritts

Kick your FRC production up a notch by applying cover only to portions of the planting at various times during the season. Divide the planting into 3 sections, covering one in March, another in April, and leaving the final section uncovered to get the longest harvest period.

Want to extend fall raspberry harvest on the other end? Apply FRC on cooler fall nights while primocane raspberries are fruiting to pro-

Choose a tunnel that will give you enough room to plant, monitor, and harvest your berry crop from inside the structure. Better results are obtained with larger tunnels that are 30 ft wide and 15 ft tall (better ventilation and heat regulation). Multiple bays can be linked together to cover even larger areas

Tunnel frames usually consist of steel pipe or tubing driven into the ground (2 ft) at approximately 4 ft intervals for the length of the tunnel. The tunnel covering consists of a single layer of 6 ml polyethylene plastic; various types of plastics are available. Vertical side walls are constructed to roll up and down to protect plants from rain and wind, and to ventilate the tunnel.

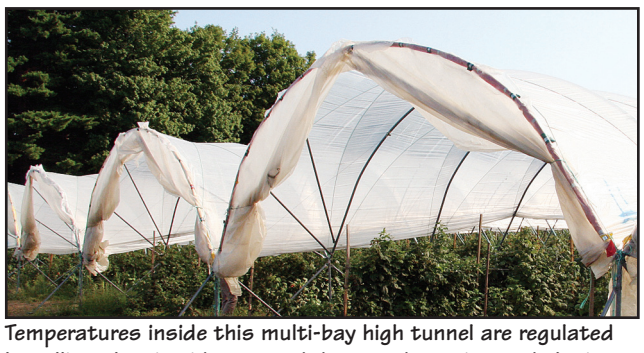
End walls should open and close as well. Peak style tunnels will shed snow better during the winter than the more rounded Quonset style tunnels. Tunnels may be single bay or multi-bay.

Summer-fruiting raspberries may begin fruiting as early as May when overwintered under a tunnel. At the other extreme, fall-fruiting varieties may continue to fruit into November. To delay harvest of fall fruiting types, pinch the tips of primocanes when canes reach approximately 3 feet in height, then wait to cover the tunnel until late summer just as bloom begins.

Heritage is one of several fall-fruiting red raspberry varieties recommended for protected production under floating row covers. Photo by Craig Cramer

Floating row covers may be added over plants under tunnels for occasional nights when predicted temperatures are expected to dip below 220F to protect maturing fruit from damage. FRC also can be applied in early spring under the tunnel to accelerate emergence of primocanes.

Benefits of tunnel raspberry production include protection from rain, wind, and hail, reduced disease and pest pressure, larger fruit size, increased yields due to a longer harvest period, and better shelf life in refrigerated storage.



Temperatures inside this multi-bay high tunnel are regulated by rolling plastic sides up and down and opening and closing end walls. Photo by Cathy Heidenreich

Suggested varieties for tunnel production include 'Autumn Britten', 'Caroline', 'Heritage', and 'Josephine' (my personal favorite!).

Tunnels vary in price depending on style, materials and size. A 30 x 96 ft tunnel with 4 rows of fall-bearing raspberries constructed in Ithaca, NY cost approximately $11,000 to purchase and install, including tunnel, land prep, and plants. Planting life is estimated to be 10 years. Initial investment for this tunnel is calculated to be recouped in year 3, along with a $4,300 profit. Gross revenue in subsequent years is estimated to be $8,100 excluding $2,500 in production and harvesting costs; projected yields are expected to be 2,700 half pints per season each year.

Cathy Heidenreich is Berry Extension Support Specialist for Western NY. She can be reached at 315-787-2367 or mcm4@cornell.edu. Marvin Pritts is professor and chair of the department of Horticulture at Cornell University College of Agriculture and Life Sciences. He may be reached at 607-255-1778 or mpp3@cornell.edu.

Resource Spotlight

Raspberry Resources

Cornell Fruit Resources Website - Berries
Includes research-based information and publications on production, marketing, pest management, and growers organizations for raspberries and other berry crops. www.fruit.cornell.edu/berry.html

High Tunnel Raspberries and Blackberries
By Cathy Heidenreich, Marvin Pritts, Mary Jo Kelly, and Kathy Demchak
On line at: www.fruit.cornell.edu/berry.html. To order a print copy send check payable to Cornell University for $10 to: Max Welcome, Cornell University, Dept. of Horticulture, 134A Plant Science Bldg. Ithaca NY 14853-5904.

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Marketing

A Winter Farmers' Market Grows in Rutland

Farmers and customers are turning winter blues into greens at this new - and surprisingly successful - community-owned market

By Martha Herbert Izzi

Picture an old dark, empty theatre, an 'indoor dumpster' as it was known, once a vaudeville music hall, then a movie theatre and finally a tire warehouse. Most people in the area had no idea the space even existed. There it sat, vacant for the last fourteen years behind the Rutland Natural Foods Co-op, a small struggling market with a small cadre of loyal customers.

Greg Cox of Boardman Hill Farm has worked hard to make the Rutland Winter Farmers Market a resounding success. For him "it's about community" Photos by Martha Herbert Izzi

Then imagine a group of people propelled by an activist farmer who represented the Rutland Area Farm and Food Link, a group dedicated to bridging the ever-widening gap between Rutland County communities and local agriculture.

A RADICAL VISION

Greg Cox of Boardman Hill Farm, a thriving CSA in West Rutland, brought the RAFFL "vision" to the Creative Economy committees, which had been born of a state grant to engage community people in finding innovative ways to revitalize the sagging fortunes of downtown Rutland. Few people in the Creative Economy effort had agriculture in mind. But there was an air of urgency in those early meetings. They spoke of building a railroad museum, possibly closing off downtown for summer Friday night soirees, of installing art galleries, good cafes and other business possibilities.

Cox was the driver but, as he says, "we began to get support from a number of people to make it happen." A local real estate developer with a huge stake in downtown office spaces and store fronts owned the theatre and got on board. So did the Downtown Partnership, an economic development agency, the Vermont Farmers' Market, and the food Co-op , through which one must access the theatre. In the process they raised $20,000 in loans and grants to carry out the plans. "Things just got better," according to Cox.

Whitney Lamy of Castleton Crackers sold out on her first day at the market.

Volunteers from the Chaffee Art Center and the Carving Studio and Sculpture Center contributed time and talents, as did local building and home centers who provided time and materials to renovate the theatre. Even the corrections system got involved and sent people who had to do community service to satisfy court sentences. They were to whitewash and clean the theatre of years of debris and, undoubtedly, a host of unsavory occupants.

A WIN-WIN FOR THE WHOLE COMMUNITY

With that, the Rutland Winter Farmers' Market opened its doors last November 3rd. It was welcomed with a long and proud editorial in the Rutland Herald, entitled, "Thanks for this Blessing." The editors noted that it was a win-win for the farmers, for the Co-op, for local food producers, for crafters and for the surrounding businesses who were suddenly seeing foot traffic and full parking lots around them on usually quiet Saturdays.

Indeed it is a win-win. Cox estimates that receipts will "gross about a quarter million dollars by the time the winter market closes in May." Many people who were unfamiliar with the Co-op had to gingerly make their way through the store down a narrow hallway into a huge space bursting with vendors, nearly forty at the opening. At the peak, according to Greg Cox, there were fifty vendors on the waiting list. Plus, the Co-op's business has doubled. And it has made new and profitable connections with local farmers.

The biggest challenge now is that the market has outgrown the space. "We have created a monster," Cox says. And this is the first year. Many producers and farmers held back at first to see how it was going to fare. Now they are looking forward to next year. "We keep waiting for things to slow down," says Cox and other vendors when they are asked how they are doing.

WHOEVER SAID YOU CAN'T EAT LOCAL YEAR-ROUND?

Along with vegetable growers and an apple orchardist, the market is selling locally produced beef, lamb, pork, rabbit, guinea hens, and chicken. Farm-processed chicken can be marketed directly, but all other meats must be USDA approved. In addition, the shopper can fine wine, yes wine, from Slyboro Cider House in Granville, New York, and cheesemakers such as Julie Danyew of Vermont AYR Farm in Whiting, and Angela Miller of Consider Bardwell Farm, in Pawlet.

Members of the Kilpatrick Family Farm sell storage vegetables as well as the fresh winter greens from the greenhouse - even in February!

A boutique mushroomer, Nancy Wisner, of Tweed Valley Farm in Pittsfield turned an empty dairy barn into a mushroom garden which produces shitake, oyster and seasonal gourmet varieties. She is also having a great success with her peanut brittle sales. And now she is starting a jumbo brown quail project and will have quail ready for sale in June.

Whitney Lamy, who left her arts administration job to follow her baking passion, has developed Castleton Crackers and sells three varieties of crackers, rye, wheat and maple with more varieties to come. Ray Powers of Bear Mountain Bakers in East Wallingford, who is a legend in the summer Farmers' Market, bakes French, sourdough, wheat, raisin and other varieties which sell out almost immediately after the market opens.

A smiling Ray Powers of Bear Mountain Bakers shares samples with a young family.

Nancy Wisner sells shitake, oyster and seasonal gourmet mushrooms which she grows in an old Pittsfield dairy barn.

FRESH GREENS IN FEBRUARY

People are often surprised to find fresh greens in February. The Kilpatrick Family Farm of Middle Granville, NY is a special attraction. Founded by two brothers, there are six children also involved in the farm production. Their winter market produce comes from three sources: Last year's crop which is refrigerated, last year's crop housed in cold cellars, and new greens which are grown in green houses. Their logo is if we don't grow it, we don't sell it.

Greg Cox sells root vegetables, pork, beef, and other meat products from his 100 acre farm. There are also a number of crafters many of whom demonstrate, teach and sell their creations every Saturday. These are but a sampling of the range and types of goods and produce one can find at the market.

The air is filled with the music of a number of musicians and as Cox says, "the energy in the room is palpable." People are smiling and talking, and there are "new customers who come in every Saturday, stand there and just smile." For Cox it's about farming, food and building community. There is indeed a high social component. People cluster, talk and shop.

COMMUNITY OWNERSHIP

The winter market, for Cox, means "community ownership." For Rutland it is a hopeful sign of new innovations particularly around locally grown food and ways the city is seeing a resurgence of its noble agricultural traditions. Shoppers at the Winter Farmers' Market are saying goodbye to the winter blues and hello to the greens - of the delicious and lucrative varieties.

The Rutland Winter Farmers' Market is located on 77 Wales Street in Rutland, Vermont. It is open Saturdays from 10 a.m. to 2 p.m. December 1 through May 15. For more information on the market contact Jesse Labow or Charles Jason, 802-773-0889 or laynbow@gmail.com.

Martha Herbert Izzi raises Tunis Sheep and Alpine Goats on Bel Lana Farm in Shrewsbury, Vermont. She can be reached at 802-492-3346 or mhizzi@yahoo.com.

COWS AND CROPS

Buckwheat for Summer Cover Crops

Summertime may be just the right time to improve your soil and combat weeds with this quick growing cover crop

By Thomas Björkman

Summer may seem an odd time to use cover crops, because that is the time when the real crops are growing. But summer may be just the right opportunity to improve fields with a cover crop. If the soil is wearing out, summer is when a soil-building crop can do a lot more work. Also, if the rotation leaves an opening in the summer, a short cycle cover crop will be much better than leaving the field open, to suffer erosion from rain and have weeds go to seed.

For the vegetable grower, buckwheat sown in late May or early June can be used before vegetables such as pumpkins, broccoli, and late cucumbers. There is another opportunity for summer cover crops in July or early August after lettuce, peas, early beans, spinach or small grains.

The management goals that buckwheat is best known for are weed suppression and mellowing the soil. It is also known for establishing very quickly, being fun to watch grow (seriously!) and a profuse bloomer.

IMPROVE SOIL CONDITION

For a small farm, keeping the soil as productive as possible is essential to success. At the same time, the soil on a small farm is often tilled intensively. Tillage breaks down the soil aggregates that make the soil workable and burns up the organic matter that is needed to keep soil microbes working with the crop all season.

Buckwheat can play a specific role in counteracting the undesirable effects of tillage. It improves soil aggregation through secretions from its extensive network of fine roots. These secretions contain glues that stick soil particles together, and food for the microbes that make more of those glues. That gluing leaves the soil mellow. The effect is fairly short-lived because the sticky secretions can be eaten by other microbes.

It is worth taking advantage of buckwheat's soil mellowing right away. For example, make the next crop one that needs a mellower soil than

Buckwheat in full bloom, ready to be turned under before the seeds fill.

Photos by Thomas Björkman

you have elsewhere on the farm. The aggregation that buckwheat produces can also be made to last by following with an aggregate-stabilizing crop, such as ryegrass, that has a large mycorrhizal root system.

WEED SUPPRESSION

Buckwheat reduces weed pressure mainly by smothering out weeds that would otherwise have grown. Over the long term, that reduces the seed bank, and the amount of cultivation that is needed. On large farms, growers sometimes need to deal with a large weed seedbank. However, on small farms there is potential to achieve the great benefits of reducing weed pressure by being vigilant about having practically no weeds go to seed.

When a buckwheat cover crop is growing, seeds of summer annual weeds germinate but are suppressed. A strong stand of buckwheat suppresses all summer annuals. Weeds should be very rare and only an inch or two tall. Buckwheat is a particularly strong suppressor of ragweed and purslane.

If the buckwheat starts growing slowly, or there are gaps, the weeds that most often escape are redroot pigweed, lambsquarters, and barnyardgrass. Most farmers are familiar enough with those three weeds, that the risk if buckwheat fails isn't that big. And if buckwheat is slow to start, the smart thing to do is to cultivate it out and replant or plant something else before the weeds come close to making seed.

Weeds are almost completely suppressed under a good stand of buckwheat.

Perennial weeds can be challenging on a small farm. There are some patches that just don't seem to give up and that spread a little each year. Or a lot, if the weed is quackgrass. Quackgrass is impossible to hoe, impossible to pull up, and tillage mostly spreads it. When it is growing quickly in your new crops, it even shakes off herbicides.

Buckwheat has a solid reputation for beating quackgrass. Part of the effect is that the weed's rhizomes are weakened by mid-summer tillage, and they recover poorly in a stand of buckwheat. This one-two punch, and maybe some more unknown effects, may let you reclaim some lost territory for vegetables.

THE SUDANGRASS ALTERNATIVE

The main alternative to buckwheat for summer cover cropping is sudangrass, or sorghum-sudangrass. Sudangrass needs to be in the ground longer, about 70 days, and it needs to be mowed twice with a rather heavy mower. In that time it produces lots of biomass, particularly as roots. To produce all that biomass, it will need fertilizer, typically about 40 pounds of nitrogen per acre.

Sudangrass is a good weed suppressor, although it can let some weeds establish in the first two weeks after it is seeded. Sudangrass is valuable for suppressing nematodes if it is flail mowed and immediately incorporated.

Buckwheat fits a shorter window, suppresses weeds faster, and is easier to follow with another crop. Buckwheat is generally cheaper to manage, requires no specialized equipment, and even if the field is low in nitrogen and phosphorous, buckwheat will do well without additional fertilizer.

PRODUCTION RISKS

The main production risks with a buckwheat cover crop are (1) a failed stand, and (2) letting it go to seed. The failed stand usually follows a heavy rain around emergence. It will be obvious two weeks after planting. If the seedlings are not doing well then, till them in and plant again. To avoid volunteer buckwheat seed, kill the crop before there are filled green seeds on the plant. That takes about 40 days from a July planting or 50 days from a June planting.

ESTABLISHING BUCKWHEAT

Planting buckwheat needs to be done right for a successful cover crop, but the right way is not difficult. The cover crop stand needs to have a fast start and not have any gaps.

Buckwheat mellows soil, but it needs reasonable soil condition to grow in the first place. If the soil is hard, or the field is prone to standing water,

Growth after 5 days--out of the ground, 20 days--full cover and 40 days --ready to incorporate.

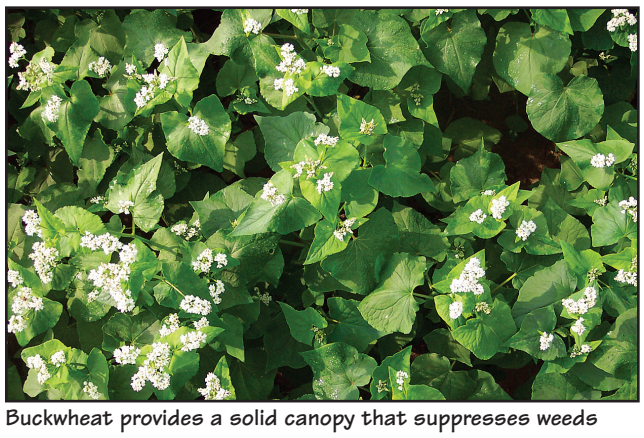
buckwheat will do poorly. The fine buckwheat roots need some friable soil volume and percolation below the seed. Incorporating the residue from the previous crop may be enough tillage to prepare the ground. Preserve as much existing soil condition as possible by tilling no more aggressively than necessary.

Wait for organic matter to decompose. Sowing immediately after incorporating fresh organic matter cuts the stand a lot. The decomposing residue promotes seed rot and attracts seed corn maggots. Fortunately, a week is a long enough wait in the middle of summer after incorporating a succulent high-nitrogen pea or bean residue. Buckwheat doesn't need much nitrogen, so nitrogen tie-up is less of a concern than with other crops.

It is also worth waiting if a heavy rainfall (an inch or more) is predicted. Buckwheat seeds rot badly if the soil is water-saturated even for a few hours. The reduced stand and slower growth will let the weeds grow. Drilling and broadcasting both work well to establish buckwheat.

The goal is a stand with no gaps and fast early growth. To do that, the seeds need to be evenly distributed and in moist soil, covered but close to the surface. Seven-inch drilled rows are close enough that weeds don't grow between them at a seeding rate of 50 lb per acre. For broadcasting, an increased rate (70 lb/ac) is recommended to get the minimal coverage in the thinner spots.

If the soil surface lets the seeds drop without bouncing around, and you have a technique for spreading very evenly, the 50-lb. rate will work fine. It may be even better than drilling. However,



Buckwheat provides a solid canopy that suppresses weeds and protects the soil.

if the field is lumpy, or you are making one pass with an old spreader, the rate may need to be even higher. Broadcasting is faster, so the savings in time and fuel may offset the higher seed cost.

The seeds need to come out of the ground quickly, so getting them close to the surface helps. The shallowest setting that reliably covers the seed is a good target -- the exact distance depends on your soil and on your equipment. With a drill, 3/4 inch deep is reasonable if there are few clods. For broadcasting, some growers have found the back side of a drag harrow works well to cover the seed to the right depth. A disk is usually too deep and works the soil more than necessary.

Buckwheat is available from some local farm seed retailers. The variety does not matter, and many suppliers don't identify the variety. Prices went up sharply in 2006, with prices ranging from $15 to $25 per 50-lb. bag (vs. historically they were priced around $10). With prices of all commodities soaring now, it is hard to predict whether the cost will go back down.

TOO MUCH OF A GOOD THING?

There are some potential problems with buckwheat that are worth avoiding. One is volunteer seedlings in your next crop. The other is suppression of your next crop by the buckwheat residue.

There are two schools of thought on volunteer buckwheat seedlings. One group sees some come up, but after they have planted and done their initial weed management, there are no buckwheat seedlings to worry about. They can't imagine spending any time worrying about the subject.

The other group sees truth in the saying "plant once, harvest for a lifetime." I have yet to figure out exactly what these two groups do differently! However, to help you be in the first group, some knowledge of where the seedlings come from is useful.

Seedlings don't come from deeply buried seed, or seed planted a couple years earlier. Buckwheat seeds rot or germinate quite reliably. They have little dormancy, and no hard seeds. Most of the volunteers come from the plants you see making seeds you don't see. To get a troublesome number of seedlings, only about one plant in 10 of your cover crop needs to produce a successful seedling. It happens easily.

AVOIDING TROUBLE

There are three steps to avoiding problems. First, minimize seed production. Second, minimize winter survival. Third, kill seedlings in spring.

To avoid producing any seeds at all, the cover crop needs to be killed at a precise time-just as it goes into full bloom. If it is mowed earlier, the lower nodes will regrow. If it is mowed later, some of the developing seeds that are attached to bits of branch will mature.

If the crop is killed by incorporating, it can be let go about a week after full bloom begins. This method allows time for the good soil aggregation that is strongest during bloom, produces a lot of organic matter, and suppresses weeds well.

If mature seeds have formed, it is best to leave them close to the soil surface, where they get eaten, or die from exposure.

Seedlings that come up in the spring are usually easily killed. Preparing the ground in mid to late May stimulates the seeds to grow. A week or so later, they can be cultivated with considerable success.

To avoid hurting the crop that follows buckwheat, allow it to decompose some. The fresh residue suppresses many weeds and a few crops. There is some allelopathic effect from buckwheat in the first week or two, and some nitrogen tie-up. As with other cover crops, the fresh residue attracts the maggots that eat large-seeded crops like peas and corn.

Buckwheat is usually so succulent when it's incorporated that it decomposes quicker than most cover crops. Thus the wait between incorporation and planting can be a little less, but a week or two is safe practice.

TRY IT - YOU'LL LIKE IT!

Buckwheat has been suppressing weeds for Northeast farmers for nearly 400 years. It can improve the weed and soil quality situation on many small farms. Once you get to know it as a management tool, it is a real pleasure to use. Buckwheat and other cover crops suitable for small farms are described on my cover crop web site: www.nysaes.cornell.edu/hort/faculty/bjorkman/covercrops/why.html.

New Farmers

Farming On The Web

Beginning farmers reap rewards from new online course

By Erica Frenay

Blogging, virtual marketing seminars, and small group online "discussions" weren't part of Kilmarnock Farm's initial start-up plans. But new farmer Mark Babilonia jumped at the opportunity to test run an online course developed by the NY Beginning Farmer Project. "Anyone who wants to get into a new industry has to explore all avenues," Mark said. "This is the first time I've explored the option of online learning for farming."

The pilot offering of the course, called "Beginning Farming 101", was taught by two experienced Cornell Cooperative Extension educators, Rebecca Hargrave from Chenango County and Steve Hadcock from Columbia County. The course ran for 9 weeks last fall and included 22 participants from 17 NY counties. These participants represented a broad diversity of backgrounds and fell all along the spectrum of new farmers, from those just exploring the idea to those seeking to diversify or expand existing farm operations.

RAMPING UP

Mark is well into his farm start-up. He owns a small parcel that was once part of a 350-acre farm, and even though he already has a business plan in place, he said, "I can't express how much, frankly, this online course has helped me."

He and his wife sell eggs to a local retailer but are primarily working toward their own self-sufficiency for the first few years. As they ramp up production, they expect to sell meat and eggs to friends and family and eventually sell milk and meat at farmers' markets and restaurants. Mark found the planning resources and fact sheets presented in the course to be very valuable.

Cornell Cooperative Extension offices in several counties have long offered high-quality courses for beginning farmers, designed to help participants build a foundation for their business plan. But many aspiring farmers live in urban areas or counties where demand isn't high enough for such courses to be offered.

Educators have observed that most new farmers tend to be relatively internet-savvy, yet while they can easily google their way to mountains of farming information, few online sources exist to guide decision-making and new farm planning. The NY Beginning Farmer Project seized this opening to create a new learning opportunity for aspiring, new and diversifying farmers.

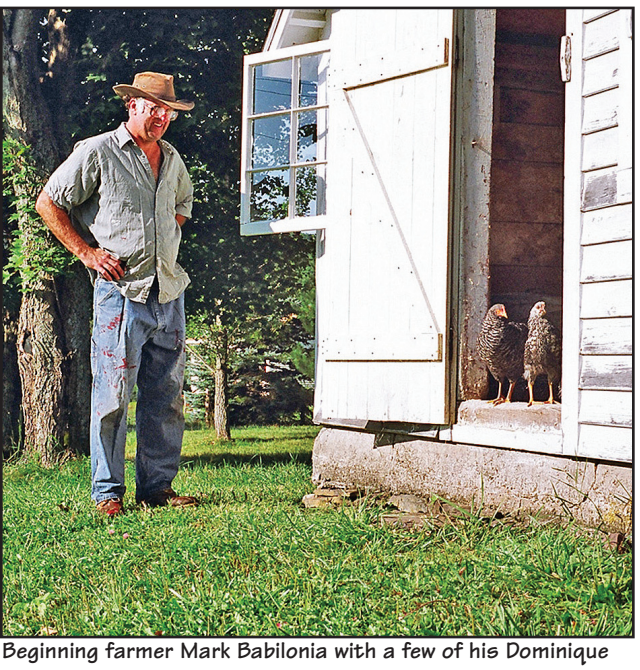
A GROWING TREND

Online courses are gaining popularity among busy professionals. Cornell University's Dept. of Horticulture offers several online courses in Organic Gardening, Plant Propagation, and Botanical Illustration.

The BF 101 training is modeled after a "How, When and Why of Forest Farming" course, where a stand-alone website contains publicly accessible material and forms the foundation of a fee-based online course. In this case, the stand-alone website is at http://beginningfarmers.cce.cornell.edu, while the course is housed in a virtual "classroom" that can only be entered by participants registered for the course.

The lesson plan for the online course is similar to other new farmer trainings and curricula, starting with an assessment of goals and resources, moving through marketing, enterprise selection, and environmental stewardship practices, and ending with taking a hard look at profit potential and business planning.

Along the way, participants interact with each other through discussion forums, post questions for the instructors, collect resources relevant to each lesson, and complete activities like helping a fictional new farmer make decisions about his business.



Beginning farmer Mark Babilonia with a few of his Dominique layers, a heritage breed, on the chicken house steps. Photo (c) 2008 Kilmarnock Farm.

MAKING A PLAN

Course participant Amy Sommers is starting a fruit and vegetable operation in Madison County. She doesn't yet own land and may get started on rented land. She reported, "The best thing was that it got me going through the process of creating a business plan and thinking about things intensively. Otherwise I might have spent the winter skimming through seed catalogs and fantasizing about what I want to grow rather than actually planning."

Amy used her course blog to document the extensive research she did throughout the 9-week course. At the end, she had most of the necessary elements of a business plan in place, which will help her move forward with her operation more confidently.

Thea and Gary Glaser have owned their 14 acres in Dutchess County for 20 years. Recently Thea retired from her full-time job to launch a fiber operation. Coming into the course, they already had a plan in mind. "The most valuable aspect of the course-aside from the resources--was that it helped us to look at some of the issues before us in a completely different way," Thea said.

EVALUATING OPTIONS

She specifically referred to the land evaluation exercises as helping them to think more strategically about their property and what it can sustainably support. This, combined with the market research they conducted as part of the course, led Gary and Thea to make some important changes to their business plan.

"The course resources helped us to realize the importance of diversifying the grazing animals to take advantage of our pasture resource." Gary added, "We're also much more reflective now. We've realized that we can put a pile of money into drainage, or we can work with the land as it is."

In the first run of the course, the instructors took advantage of another innovative distance learning tool to hold a real-time online seminar. Cornell Cooperative Extension Educator Molly Ames from Jefferson County led participants on a tour of the MarketMaker website, a new tool that uses GIS and census data to connect farmers with potential markets and vice versa.

Unlike the rest of the course, participants tuned in at a scheduled time. Simply by clicking a link, they listened and watched as Molly led them on a tour of MarketMaker's features and answered their questions. According to Mark Babilonia, "This [online seminar] was very useful. It introduced us to probably the most important resource in the whole course."

IN THE COMFORT OF HOME

The beauty of online courses is that you can do them from the comfort of your own home, at whatever time of day suits your schedule. So sit down at the computer, grab a cup of coffee, and get ready to start making your farm dreams a reality.

For more information about the online course and to find out when it will next be offered, visit http://beginningfarmers.cce.cornell.edu.

Erica Frenay is the Project Manager and Chief Cat-Herder for the NY Beginning Farmer Project. The project was funded by the NY Farm Viability Institute and Cornell Cooperative Extension.

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Home and Family

Raising Rural Kids -- Get Ready for Summer!

Research shows that children experience significant setbacks in math, reading and other skills when they don't engage in educational activities during the summer. The silver lining? You can make a big difference at home

By Celeste Carmichael

When I think about summer, I still think fondly of the summers of my own childhood - relaxing, playing cards and games with the neighborhood kids, creating forts, performing skits, having picnics, swimming, canning tomatoes, watching thunder storms... I'm sure it wasn't as good as I remember it, but I do know for sure - I loved summer.

I also seem to recall that getting back into the swing of school was difficult in the fall. According to the research, I was experiencing exactly what happens when children are not involved in strategic learning activities for two and a half months. Standardized tests document what teachers have long known - when students are not involved in learning activities during the summer, they experience learning losses.

Summer fun activities can be educational - and vice versa.

Photo courtesy NYS 4-H Web Gallery

SUMMER LEARNING LOSSES

Did you know that:

* All young people experience learning losses when they do not engage in educational activities during the summer. The Center for Summer Learning at John Hopkins University has summarized research spanning 100 years that shows that students typically score lower on standardized tests at the end of summer vacation than they do on the same tests at the beginning of the summer.
* Most students lose about two months of grade level equivalency in mathematical computation skills over the summer months. Low-income students also lose more than two months in reading achievement, despite the fact that their middle-class peers make slight gains.
* More than half of the achievement gap between lower- and higher-income youth can be explained by unequal access to summer learning opportunities. As a result, low-income youth are less likely to graduate from high school or enter college.
* Children lose more than academic knowledge over the summer. Most children-particularly children at high risk of obesity-gain weight more rapidly when they are out of school during summer break.
* Parents consistently cite summer as the most difficult time to ensure that their children have productive things to do.

Source: Center for Summer Learning, John Hopkins University

THE GOOD NEWS

Although formal learning activities - like summer school - are likely not on many children's wish list, children who attend summer school programs do score higher on achievement tests when they return to school at the end of the summer. No, I'm not supporting full year school, but these reports do help me to think more intentionally about my own children's summer plans.

The good news is that there are indications that "out-of-school-time" enrichment activities (participation in youth serving organizations like 4-H, projects at home with a parent or other caring adult or specialized camps) also lessen the achievement gap. Research shows that out-of-school-time strategies, whether after school or during the summer, can have positive effects on the achievement of these students.

WHAT YOU CAN DO

So, what can you do to inspire your children to keep on learning throughout the summer?

* Read, read, read. Whatever your kids are interested in - stay stocked up on reading materials. Just keeping books around - strategically placed in the car and in the house -- will encourage reading.
* Plan ahead. What will your children study in school next year? If you find out in advance, you can plan some interesting stops on your summer vacation...or some enriching activities at home.
* Add it all up. Research indicates that kids loose more math skills than other skills during the summer. So - be sure to include some math games, cards, darts...or even flashcards into your repertoire of summer fun "stuff". Consider giving your kids chores that will require math skills - be it cooking, building, feeding animals etc. Any chance to practice will be helpful.
* When is it right to consider summer school? If your child is struggling and not enjoying school, talk with your child's teacher or school administration. Summer may be the time to give your child an edge for next year. May not sound like fun now...but it could make next year a whole lot easier.
* Camps and things. Find out what opportunities might be in your area that meet the needs and interests of your children. Are there summer camps that focus on science and technology, or a skill that they would like to perfect?
* Does your school offer enrichment activities in the summer? What about scheduling day trips to local museums, universities, educational festivals?
* Learning is a part of everything we do. Involve your kids in your own work and learning. Time to make jam (weed the garden, build a shed, put up a pool etc)? Do it together! Never done it before? Learn how to together - read about, ask questions, try...maybe try again.

Investing time in our children now will pay back with dividends.

Celeste Carmichael is a state program specialist with the NYS 4-H Youth Development Program. She can be reached at 607-255-4799 or cjc17@cornell.edu

Resource Spotlight

Summer Learning Resources

Center for Summer Learning (John Hopkins University): www.summer-learning.org

Family Education - Stop the Summer Brain Drain http://school.familyeducation.com/summer/cognitive-processes/38453.html

Prevent Summer Learning Loss in Your Kids www.msnbc.msn.com/id/13388817/

For Summer Camp information: www.mysummercamps.com - will help you find the right extra-experience for your child.

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Internal Parasite Management In Sheep

By Ulf Kintzel

Internal parasites are often very poorly managed, may it be by wrong pasture management or by using wrong dewormers or de-worming at the wrong time. In fact, in my opinion internal parasites are the killer #1 in most flocks that I have seen. Internal parasites can become overwhelming and hard to manage in some years, especially when it is wet.

BARBER POLE WORM

The Barber Pole Worm (Haemonchus contortus) is in my opinion the single most dangerous worm that can kill sheep and lambs at a high rate. It is mainly but not exclusively a problem in the middle of the summer. This worm sits in the true stomach (the abomasums) by the hundreds and thousands and sucks lots of blood. This leads to anemia, significant loss of weight, damage to the stomach and often to death in both adults and lambs.

Anemia and sometimes a bottle jaw (swelling under the lower jaw) are the clear symptoms of an infestation with barber pole worms. When you open up a sheep that died because of it, you are likely to find significant holes in the forth or true stomach.

Rotate pastures. First step in controlling this and most other internal parasites is pasture management. Rotational grazing means a lot less parasite pressure than set stock grazing. Leaving residue of about 3 to 4 inches is one good practice but does not work quite as well for sheep as it does for cattle.

Due to the sheep's pointy mouth it is able to eat extremely selectively. That means that a flock of sheep can eat a patch of tasty forage, i.e. White Clover, down to the ground within hours and will leave other species of forage alone until the tastiest legumes or grasses are completely gone.

Leaving your own pasture for at least three weeks and grazing the sheep on some rented land helps to break the three-week cycle of the worms. If you have a neighboring farmer who can seed down some cereal rye in August at 3 bushels per acre you are likely to be able to graze the rye twice before winter. Harvested hayfields may be another option. If this is not possible you should attempt a rotational schedule of no less than three weeks on your own land.

Selecting for resistance. Selecting sheep that are more resistant to internal parasites is another great tool. This is done by eliminating those sheep that show clinical signs of worm infestation again after de-worming took place. One needs to be ruthless to do that since you will find that you will have to cull sheep that are otherwise very productive. Get rid of them anyway! It pays in the long run.

Dewormers. Selecting the right dewormer is also very important. The Barber Pole Worm is very often immune to all "white" dewormers (i.e. Safe-Guard, Panacure, Valbazen). Furthermore, it builds quickly resistance against Ivermectin/Ivomec. The reason for fast immunity to the very common dewormer Ivomec is the fact that, to simplify it, immune worms when mating with susceptible worms create immune worms.

On the other hand, Levasole or Levamisole (Prohibit) is still very effective because, simply said, an immune worm when mating with a susceptible worm creates again susceptible worms.

Another very effective but very expensive dewormer against Barber Pole Worm is Cydectin. It is fairly new on the US American market but has been used for years in European countries like Germany. Now there is some worm resistance against Cydectin as well. Since I expect the same resistance to develop over time here in the US I use it very rarely.

TAPEWORM

The second worm to be concerned about is the tapeworm. Adult sheep are immune to the tapeworm and those who aren't quite yet adult are not much bothered by it. But in lambs the tapeworm can cause significant loss of weight and at times also death.

The segments of an adult tapeworm are clearly visible in the manure. It is extremely easy to analyze whether or not lambs are infected. The tapeworm does not respond to any of the "clear" dewormers (Ivomec, Levamisole, Cydectin). The most price effective dewormer available that kills tapeworms is Valbazen.

Use dewormers only as needed. With few exceptions there should be no regular schedule for deworming. Anyone who still recommends deworming every six weeks is wrong. It should be mostly done on a need to do basis. I like to

Author Ulf Kintzel de-worming his sheep in his self-made chute. Photo by Ulf Kintzel

deworm my ewes with Cydectin or Prohibit at lambing in the spring. This way the worm pressure on the pasture is reduced when it matters the most and when the ewes are the least capable to build immunity.

I also like to deworm the ewes again in the late fall/early winter when the grass stops growing and it gets cold, or when I leave my farm and graze the sheep on neighbors' fields. This way I get my ewes "clean" and the chance that they get re-infected right away is very low. I put "clean" in quotation marks since there is no such thing as getting sheep actually parasite-free.

The lambs get dewormed for the first time when they are about six weeks old. That is when they need it the most. I use Levasole or, if tapeworms are present, a Levasole/Valbazen mixture. Usually, the ewes do not get dewormed at that time.

In a dry year I try to wait it out and don't do any further deworming until the fall. Or I just deworm the ones that seem to be infected. In a wet year the worm pressure may become so high that both ewes and lambs need to be treated again during the summer. Most often, I use Levasole.

Wait and watch. As long as you are capable of seeing the first signs of an infestation there is no need to take immediate action. I always wait a while. This way I kill two birds with one stone. There will be more adult worms to be killed and the immune systems of the sheep are more challenged and thus the sheep are more likely to build resistance. On the other hand, waiting too long will lead to losses or may affect the sheep's growth. It is a balancing act.

The means to deworm my sheep are my chute, my dog and my drenching gun. The dog moves the sheep from a holding pen into the chute and makes them move up so that there is little to no space in between any two sheep. A second person can replace the dog. When the chute is full I close it and I walk through the chute from the front to the rear and deworm as I walk through.

It is important that the chute is narrow enough that no sheep can turn around. Then I empty the chute by opening the front and letting the sheep go into another holding pen, followed by refilling the chute.

COCCIDIOSIS

A third problem can be coccidiosis. This often occurs in the months of July and August. I put Di-Methox or the like in drinking water. It was recommended to me to add some Jell-O powder to reduce the bitter taste of it. The treatment has to be done for five consecutive days. Coccidiosis often causes diarrhea and thus dehydrates the affected lambs and sheep. The beauty is they are the ones who are more likely to drink the bitter brew because of the dehydration the diarrhea causes.

In summary, none of the above described methods alone is the secret to successful internal parasite management. A mixture of proper treatment, rotational grazing and selecting for parasite resistance is in my opinion the key to reducing these parasites to an acceptable level.

Ulf Kintzel owns and manages White Clover Sheep Farm (www.whitecloversheepfarm.com) in Rushville, NY and breeds White Dorper Sheep.

Food For Thought

Something Must Be Done!

By Jean Burr

More than once I have attended an agricultural meeting where small farmers voiced how hard it was to sell farm products to local people. These farmers are generally not reliant on their products as their main livelihoods, but are trying to grow and sell as a sideline. They complained that local people drive long distances to buy cheaper products in a big store rather than buy eggs from the neighbor. The benefits of locally grown produce and locally raised meats are either unknown to them, or not as important as price.

What raised my hackles was the reoccurring consensus that "Something must be done!"

I suppose this wouldn't bother me as much if these farmers were simply lamenting. What really irks me is that "something must be done" implies someone else should do it. No solutions were suggested, no positive strategies to improve education through farm tours or outreach to the local elementary school were provided. The very people who are best situated to address this problem apparently think someone else will do something, and they don't have to be involved.

But who better to inform and educate an ignorant public than the small farmer? These farmers have chosen to work the land, pasture the animals, and grow a quality product that they enjoy and want to share with others, for a price. To make the investment in animals or vegetable crops takes commitment, and knowledge of the benefits of locally grown products. Therefore, the small farmer is in a perfect position to provide information to the local community.

In some areas, farmers are already spearheading public outreach efforts. I know of two small farmers who hold open houses, and use that time to educate the interested public on their farm. One farm has been doing this for many years, and has quite a number of people coming and seeing many different animals and farming practices, along with educational explanations. The other farm has held two open houses, and takes visitors on a tour of the farm. Both farms started these open houses on their own, without prompting, because they saw a need.

The "something that must be done' is that the small farmer must look for his or her own solution, and not expect anyone else to come to the rescue. Educate your neighbor, and be proactive. The time waiting for someone else to do something is opportunity lost.

Jean Burr is a grazing specialist with the Soil and Water Conservation District in Onondaga County. She may be reached at 315-677-3851 or jburr@ocswcd.org.

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GRAZING

Grazing Heifers

What are the potential benefits of grazing heifers versus confinement feeding? Which constraints may make grazing impractical on a particular farm?

By Samuel M. Leadley

Do you have a modern image of "grazing?" Not a weedy exercise lot. Rather, visualize a paddock of dense ten-inch tall grass sod. Can you picture it being mowed down by a line of shoulder-to-shoulder, hungrily eating heifers? Keep this image in mind.

What are the potential benefits of this kind of grazing for heifers? Northeast grass pastures when properly managed and harvested can produce six or seven tons of dry matter per acre in years with average rainfall. When the pasture is harvested through managed intensive grazing heifers can consistently gain more than two pounds daily.

CONTINUOUS VS MANAGED INTENSIVE GRAZING

It is important not to confuse continuous grazing with managed, intensive grazing. In continuous grazing, entire fields are available to all the heifers for the whole grazing season.

We often hear the phrase; "We put the heifers out to pasture." Most often, this refers to a continuous grazing program. There is a surplus of feed in the spring with much of it going to waste because there is no mechanical harvesting. There is too little good quality feed for much of the growing season.

Often, management oversight of continuous grazing consists only of counting the heifers monthly to be sure they are all still there. Heifer growth rates are commonly less than one pound per day.

In contrast, with managed intensive grazing, heifers are moved regularly to fresh pasture. Previously grazed paddocks are allowed to regrow new forage. When surplus feed accumulates in paddocks, it is harvested mechanically in order to maintain a steady supply of high quality forage for grazing.

Management oversight is daily or at least every other day. Both the heifers and the available forage, or "sward," are evaluated at this time. Heifers are moved to fresh pasture often enough to insure a constant supply of high quality feed. Heifer growth rates of two or more pounds per day are common.

Many farms considering managed intensive grazing for heifers also have dairy cattle in confinement housing and feeding facilities. These farms may wish to integrate managed intensive grazing with their on-going confinement feeding operations.

BENEFITS OF MANAGED GRAZING

Lower harvesting costs. The most obvious benefit of managed intensive grazing is the reduced cost of harvesting the forage crop. Cornell's James Grace provides some facts that fill in the picture.

Well-managed grazing farms in 2002, Grace reports, harvested about forty percent of their grassland mechanically once a season. This was done usually in late spring or early summer. In addition, their pastures averaged 1.3 clippings per season. Thus, these farms using managed intensive grazing did have some mechanical harvesting and pasture maintenance costs.

In contrast, consider when all hay forage acres are mowed and raked three times a season. The estimated 2004 cost mowing and raking of $18.00 per acre adds up quickly. Also, hay baling ($.50 per small bale) or haylage harvesting ($7.50 per ton) add a lot to the overall mechanical-harvesting bill.

Lower manure disposal costs. Do you have memories of days spent loading out and spreading manure from confinement feeding heifer facilities? That's the second cost reduced by managed intensive grazing of your heifers. Rates in 2004 per hour for loading out and field spreading manure were $38 and $40 respectively.

In a managed intensive grazing program, as the heifers are moved from paddock to paddock for fresh grass the manure goes with them. No front-end loaders, tractors or manure spreaders are involved.

Lower crop costs. Grass sods, once established, endure from year to year. They do not require annual tillage. There are costs associated with sod maintenance such as fertilizing and reseeding.

These costs are much lower than 2004 field expenses of plowing ($15 per acre), fitting ($11.00 per acre) and planting ($13.00 per acre). In contrast to corn and alfalfa, grass pastures also require fewer insecticides and herbicides.

Improvements, too. Benefits more difficult to quantify in dollars are improvements in animal health. These include lower rates of respiratory illness and better condition of feet and legs. Soil nutrient management may improve as well. Decreases in rates of soil erosion have been observed also.

NOT FOR EVERYONE

Farms without adequate land near heifer housing and handling facilities clearly will not institute this kind of extensive land use practice. Sometimes roads, suburban land development or irregular topographic features prevent the development of a practical grazing plan.

Moving from year-around confinement feeding for heifers to grazing at least part of the year is a big change. Many persons now grazing heifers report labor requirements were actually higher in the first year of transition. Later, they fell below prior confinement feeding levels.

WHAT DOES IT TAKE?

What are the specific management practices necessary in order to make pasture feeding profitable for heifers?

The grass. Growing grasses is the foundation on which everything else rests. For the computer literate, the several websites have recommendations for species selection, grazing management and forage crops. Users will get the most accurate information if they have farm soil maps giving soil types for the fields being considered for grass production.

Infrastructure. The layout of an efficient grazing system is a prerequisite to profitable heifer feeding on grass. Layout decisions include fencing, laneways, water distribution, paddock shape and size and gate location.

A publication entitled, "Prescribed Grazing and Feeding Management for Lactating Dairy Cows," is available through the NYSGLCI. This free resource contains numerous illustrations of practical paddock, laneway and waterline layouts.

Stocking paddocks. Efficient utilization of grass resources depends on matching the number of heifers to the amount of forage available for grazing. Experienced grazing managers have adopted a variety of methods to remove some of the guessing involved in estimating the amount of forage available in a paddock.

THE LEARNING CURVE

Management is always central to profitability of any dairy farm practice. Using pasture for raising heifers requires more than good animal management, however.

Farmers with grazing experience point out that their first two or three years using pasture involved acquiring lots of new knowledge and learning many new skills related to growing grass.

Samuel M. Leadley is a Calf/Heifer Management Specialist with Attica Veterinary Associates, P.C. in Attica, NY. He can be reached by e-mailing sleadley@frontiernet.net or visiting http://www.atticacows.com.

Managed grazing of heifers offers lots of advantages. Photo by Robert DeClue

MANAGED INTENSIVE GRAZING HEIFER CHECKLIST

How do your grazing procedures measure up? Do they provide the opportunity for your heifers to grow into their genetic potential?

Let's consider procedures for managed intensive grazing. Compare your routines with the standards in this checklist. When making this evaluation I like to use these scores:
1=never, 2=seldom, 3=often, 4=usually, and 5=almost always.

_____ 1. I have a plan to transition heifers from a milk/grain ration to grass that avoids post-weaning slump.

_____ 2. I have selected forage species that will provide good quality feed throughout the grazing season.

_____ 3. I manage my paddocks by harvesting surplus forage and clipping so that the available grass is high quality.

_____ 4. I have arranged my paddocks, gates and lanes to make it easy to move animals into and out of paddocks. [Low stress on both humans and animals.]

_____ 5. I have reviewed with my nutritional consultant the ration for my replacement heifers to ensure an age-appropriate ration for each group.

_____ 6. I group replacement heifers by similar age and weight.

_____ 7. I have a written vaccination program to follow for all replacement heifers (IBR, PI3, BRSV, BVD -Types 1 & 2, lepto, and clostridials).

_____ 8. I treat replacement heifers for internal and external parasites.

_____ 9. I routinely monitor growth. I use weight, height and body scores.

_____ 10. If replacement heifers are moving from grazing to confinement housing and feeding, I have a transition plan to maintain consistent growth.

_____ 11. By means of daily visual inspections, I monitor heifer well being and the availability of high quality feed making timely changes to maintain good health and growth.

Resource Spotlight

Getting Started with Grazing

Graze Newsletter
Published ten times yearly this newsletter may be ordered for $30 from Graze, P.O. Box 48, Belleville, WI 53508. Telephone is 608-455-331 email graze@mhtc.net and www.grazeonline.com is the web site. Each issue contains articles from practicing graziers focusing on practical issues of species selection, pasture management and infrastructure issues.

Grazersedge email listserv.
Send an email to grazersedge-subscribe@onelist.com and in the subject field enter subscribe grazersedge.

Vermont Pasture Network
The Vermont Pasture Network (VPN) is a collaboration between the UVM Center for Sustainable Agriculture, the USDA Natural Resources Conservation Service (NRCS) Grazing Lands Conservation Initiative (GLCI), the Vermont Grass Farmers' Association (VGFA), and UVM Extension. For information contact Jennifer Colby at (802) 656-0858, or jcolby@uvm.edu.

Dairy Farm Business Summary: Intensive Grazing Farms, New York, 2002
This summary is available as publication DFBS4 for $15.00 + $4.25 S&H from NRAES 607-255-7654. This resource documents differences in profitability among various farms. Also described are the financial performance and costs of producing milk for these farms. Pasture management practices of the most profitable farms are also identified.

Cornell Forage-Livestock Systems website
www.css.cornell.edu/forage/forage.html. Includes the Forage Species Selection Tool. Species specific projected yield data are available by month during the growing season.

Vermont Crops and Soils website
http://pss.uvm.edu/vtcrops. Click first at the left on Pasture and Grazing. Then choose Topics and Articles for more resources. The "Links" choice has an excellent list of grazing sites for a broad variety of topics.

NYS Grazing Lands Conservation Initiative
This cooperative effort involves a wide range of individuals and organizations. The consultants are available without charge to assist with (1) species selection, (2) the planning and design of grazing systems, and (3) assistance with ration balancing with managed intensive grazing (MIG). The publication Prescribed Grazing and Feeding Management for Lactating Dairy Cows is available through the NYSGLCI. NYSGLCI may be contacted at 607.753.0851 extension 117.

Horticulture

Choosing Pesticides to Minimize Impacts On You and The Environment

The "Environmental Impact Quotient" offers guidance for reducing pesticide risks

By Abby Seaman

A lot of different factors come into play when you make control decisions for each of the pest problems on your farm. Of course before you even get to the point of deciding to apply a pesticide, you should accurately identify the pest, and know its most vulnerable stage. The smaller, newly hatched larvae or nymphs of insect pests are often easier to kill than larger immature stages or adults.

Alternatives to pesticides are available for some crop pests and may work well in your production scheme. Releases of the parasitic wasp Trichogramma ostriniae can effectively control corn borer in sweet corn, for example, and in greenhouse situations natural enemies can be purchased and released for the control of several important pests.

Scouting the crop to determine if a pest is present at high enough levels to justify a spray, or keeping track of the movement of disease to know when a fungicide is needed are important for minimizing both costs and impacts on the environment.

But when it gets right down to the question "What am I going to use?" the primary considerations are often, "What works best?" and "How much does it cost?" But there is another important aspect of pesticide choice, namely, "How can I minimize the negative effects on the applicator and the environment?"

The pesticide label includes the most basic piece of information - the signal words warning, caution, and danger indicate the chemical's potential for harm to the applicator. Clearly, it makes sense to choose the most effective pesticide with the least potential for harm to whoever is applying pesticides on your farm.

Some pesticide labels also contain warnings to prevent specific environmental impacts, such as fish kills, but there is no similar system of signal words that help you make pesticide choices to minimize effects on the environment.

ENVIRONMENTAL IMPACT QUOTIENT--EIQ

To address this need, a number of systems generally known as "pesticide risk indicators" have been developed. One, known as the Environmental Impact Quotient (EIQ), was developed by Joe Kovach at the New York State Integrated Pest Management Program at Cornell and is recognized as one of the methods that give valid and consistent results. The EIQ takes into account many aspects of pesticide impacts including:

Dermal toxicity - how readily the material is absorbed through the skin
Chronic toxicity - the long term effect of exposure to the material
Systemicity - whether the pesticide is absorbed into the plant
Plant surface half-life - how long the material takes to break down on the leaf surface
Leaching potential - how likely the compound is to leach through the soil
Surface loss potential - how likely the material is to be carried away from the field in soil runoff
Soil half-life - how long it takes to break down in the soil
Toxicity to non-target organisms - how poisonous the pesticide is to birds, bees, beneficial insects and mites, and fish (if it ends up in the water)

All these aspects are calculated into one number for each pesticide, its EIQ.

EIQ FIELD USE RATING

But the EIQ value alone is not enough to determine a pesticide's impact on the environment. To make accurate comparisons, you must consider the amount of pesticide applied, the percent active ingredient, and the number of applications for each pesticide.

To account for different formulations of the same active ingredient and different use patterns, these factors are used to calculate the EIQ Field Use Rating (EIQ Field Use Rating = EIQ x proportion active ingredient x rate). A lower EIQ Field Use Rating mean a material has a lower impact on the environment (Table 1).

Material	EIQ	ai	Rate	EIQ field use rating
Sevin 50WP (carbaryl)	22.6	0.50	6.0	67.8
Thiodan 50WP (endosulfan)	40.5	0.50	3.0	60.8
Guthion 35WP (azinphos-methyl)	43.1	0.35	2.2	33.2

Table 1: An example showing the difference between EIQ and the EIQ field use rating

While the EIQ value is important in deciding which pesticide to use, the amount of active ingredient and the application rate are equally important. In the table above, Guthion and Thiodan have very similar EIQ values. However, the field use rating for Thiodan is nearly twice that of Guthion as it is used, so if both compounds were labeled for the same pest and crop, Guthion would be a better choice.

The EIQ Field Use Ratings for many pesticides labeled for vegetables are found in the Cornell Integrated Crop and Pest Management Guidelines for Vegetable Crops. An example from the European corn borer section of the sweet corn chapter is shown below in Table 2.

Compound(s)
In the "Field Use EIQ" column is the range of EIQ (Environmental Impact Quotient) values for the rate range recommended for each pesticide (lower EIQ = lower environmental impact).

Common name / Trade name	Rate/A Product	PHI (days)	REI (hours)	Field Use EIQ
beta-cyfluthrin				
*Baythroid XL 1 lb/gal	1.6-2.8 fl oz	0	12	<1
bifenthrin				
*Capture 2 EC or OLF 2 lb/gal	2.1-6.4 fl oz	1	12	3-9
Bifenthrin + zeta-cypermethrin				
*Hero 1.24 lbs/gal	4.0-10.3 fl oz	3	12	4-11
chlorpyrifos				
*Lorsban 4E 4 lb/gal	1.5 pt	35	24	29
*Lorsban 15G 0.15 lb/lb	5-6.5 lb	35	12	33-42
esfenvalerate				
*Asana XL 0.66 lb/gal	5.8-9.6 fl oz	1	12	1-2
indoxacarb				
Avaunt 0.3 lb/lb	2.5-3.5 oz	3/35	12/336	2-3
lambda-cyhalothrin				
*Warrior or OLF 1 lb/gal	2.56-3.84 floz	1	24	<1-1
methomyl				
*Lannate LV 2.4 lb/gal	0.75-1.5 pt	0	48	7-13
methyl parathion				
*Penncap-M 2 lb/gal	1-2 qt	4	96	5-25

Table 2: An excerpt from the European corn borer section of the Cornell Integrated Crop and Pest Management Guidelines for Vegetable Crops

EIQ field use values for pesticides used in vegetable crop production for New York State can be found in Cornell's Integrated Crop and Pest Management Guidelines for Commercial Vegetable Production at www.nysaes.cornell.edu/recommends.

The overall EIQ takes all the factors listed above into account, but sometimes one aspect of environmental activity, such as the beneficial arthropod toxicity, is most important to you. Those with internet access can view a table with the numbers for all the individual EIQ factors listed at: http://nysipm.cornell.edu/publications/eiq.

One thing to keep in mind is that the EIQ only evaluates the active ingredient in pesticide formulations. Inert ingredients are generally not disclosed on the label, so cannot be included in the EIQ calculation.

Don't forget that it's also important to keep resistance management in mind when making pesticide choices. It's essential to rotate between effective materials with different modes of action to prevent the development of resistance.

While the selection of effective pesticides is limited for some pests, for others you may have a choice of several materials that differ both in their potential impact on the applicator and the environment. Paying attention to the signal words and adding the EIQ to the list of factors to consider when making a pest management decision can help you minimize negative impacts.

Abby Seaman is a Vegetable IPM Extension Area Educator for the New York State Integrated Pest Management Program Geneva, New York. She can be reached at 315 787-2422 or ajs32@cornell.edu.

Resource Spotlight

More on Environmental Impact Quotients

For additional information on the Environmental Impact Quotient and the EIQ Field Use Ratings,
check out the following resources:

J. Kovach, C. Petzoldt, J. Degni, and J. Tette. A Method to Measure the Environmental Impact of Pesticides. http://nysipm.cornell.edu/publications/eiq

Thomas J. Greitens and Esther Day. An alternative way to evaluate the environmental effects of integrated pest management: Pesticide risk indicators. Renewable Agriculture and Food Systems (2007), 22: 213-222 Cambridge University Press

Cornell Integrated Crop and Pest Management Guidelines for Vegetable Crops
www.nysaes.cornell.edu/recommends

NOW

Each of us has all the time in the world. How much time is that?
The past is history. It is gone and, at best, we can learn from it.
The future is not yet here. It is a mere vision and, at best, we can plan for it.
Now is nothing more than a fleeting split instant where the past and the future meet.
Now is the only time we own and, at best, we control it.
If there is something that needs doing, the only chance we own is now. By Bill Henning

Food For Thought

Unexpectedly Prepared for the Unexpected

By Bill Henning

At sunrise a haze hung over the countryside. From the road you could barely make out the neat farmstead of red barns with white trim setting in front of a stone house having well over a century in age. All things on this farm reflected meticulous care. It would do any calendar proud.

Over the previous ten years three new tractors and a new combine had been purchased. A new pickup sat in the shed along with a fairly new car. Even the old tractors looked relatively new. All machinery was stored indoors. There was a place for everything, and everything was in its place. The farm, while not big, cropping about 400 acres and milking about twenty-five cows, was profitable. While money was never squandered, it was a minor concern in decision making. Hard to believe, but true, this farm had no debt.

If ever there could be a utopia, this would be about as close as you'd come. Nestled in Canada's bread basket, the fertile, well drained soil supported this organic farm. Impeccable management looked after soil, machines, crops, and animals. Guests were aware of an undercurrent of serenity. Older folks and young alike would find the quiet approach to be refreshing and endearing.

By 8:00 the haze had burned off and the sun shone brightly over the farmstead. The chores were done. The cows were out to pasture. The mother and daughter had finished the barn chores and had disappeared into the house. By 10:00 a saw had accomplished what it had never been intended for. The mother was now a widow.

The farmer was my cousin, one I always enjoyed visiting. I attended the funeral. Afterward we had a discussion about the future of the farm. The mother and the daughter had always managed the cows. With organic production they had just started the learning curve of grazing, and they liked it. There was no doubt, the mother and the daughter would continue farming and continue grazing. In the mother's words, "How else could two women farm?"

That was nearly ten years ago. Since then they have cut back on total acres and increased the grazing. They have weathered their learning curve well. They grow all their own forage and their own grain. Off-farm purchases are about as low as they can go, short of becoming women mechanics. By their faith they live simply, avoiding many of the distractions of the more modern world. But they have prospered - there is still no debt.

Today there are still mornings of haze and the sun eventually burns it off. The chores get done. The cows go out to pasture. There is a sense of serenity and the quiet approach is still refreshing and endearing. I still like to visit.

Bill Henning operates a small diversified farm in the Finger Lakes of New York with his wife Kathy. He has recently joined the Animal Welfare Institute as a field representative for AWI's Animal Welfare Approved program.

ORGANIC FARMING

Certified Organic - What does it really mean?

Since 2002, USDA's National Organic Program has defined what it is and isn't

By Lisa Engelbert

As organic products become more and more available in grocery stores and other retail outlets, there seems to be some confusion on what the "certified organic" label really means.

Prior to October of 2002, there were numerous organic certification agencies operating in the United States. They each had their own set of standards, and while they were similar, there were some very distinct differences as well.

Since the National Organic Program was officially implemented in October of 2002, any agency certifying farms and processors as organic in the United States (and abroad if selling organic product in the United States) is required to be accredited by the USDA as a certification agency and to certify operations to a uniform set of standards.

STRICT REQUIREMENTS

There are very strict regulations that organic farmers and processors must follow if they plan to label their products as "organic." Any farm or processor with gross organic sales of $5000 or more per year is legally required to be certified by a USDA-accredited certification agency.

Operations with less than $5000 in gross organic sales are not legally required to be certified, but must be following the same regulations, and must be able to present documentation to show what their practices are upon request. Any operation found to be willfully violating the National Organic Standards is subject to a fine of up to $11,000 per sale of fraudulent product.

PLANS AND RECORDS

Organic farmers must submit an Organic System Plan (also known as an Organic Farm Plan) to an accredited certifier. This plan must include information about all aspects of the farm, including a three-year history of all fields, what crops are grown on adjoining fields, maps of all fields, an animal list (if certifying livestock), any products in use or planned for use, seed information and fertilizer (usually manure or compost) application records.

Organic farmers must update their information and pay a certification fee each year, and must have at least one inspection each year.

Organic farmers and processors are subject to unannounced spot inspections to verify compliance at any time.

For land to be eligible for organic certification, it must not have had any synthetic fertilizers, pesticides, herbicides or fungicides applied for the three years immediately prior to the harvest of an organic crop. Treated seeds are considered a prohibited substance in organic production, so the use of treated seeds will disqualify a field from organic certification for a full three years. Organic seeds are required to grow an organic crop unless they are not commercially available, in which case untreated, non-GMO conventional seeds are allowed to be used.

Organic farmers are required to build or maintain organic matter and soil structure and must show a crop rotation that meets this requirement. Practices must be in place to prevent water contamination and soil erosion.

ORGANIC LIVESTOCK

Farmers raising organic livestock have additional documentation requirements. There must be an animal list that shows all animals on the farm, including an ID# and birth date for each. If animals are being raised for organic meat, they must be managed 100% organically from the last third of their mother's gestation period and must be fed 100% certified organic feed from birth.

Poultry must be managed organically from at least the second day of life to be eligible to produce organic eggs or meat. Organic animals cannot be totally confined and must have access to the outdoors all year. Ruminant animals (cows, goats, sheep, etc) must be on pasture during the grazing season.

A detailed healthcare log must be maintained for any healthcare products used, even natural ones. If a prohibited product (antibiotic, hormone, or other synthetic healthcare product) is used to save an animal's life, the animal must be removed from the farm and will never be considered organic again.

Detailed certification standards specify the production practices and inputs that are allowed and prohibited on organic farms. Here certified organic pigs enjoy their pasture at Kingbird Farm in Berkshire, NY.

DAIRY

There is a one-time, whole herd transition allowed for conventional dairy animals. To be eligible to produce organic milk, dairy animals must be managed 100% organically (including feed, pasture and healthcare treatments) for a full year before certification is granted. During the one-year transition period, the milk produced by the transitioning herd is sold into the conventional market.

Once the transition begins, no more conventional animals may be brought to the farm to transition. When a farm completes transition and becomes certified for dairy production, all animals, whether farm raised or purchased, must be managed organically from the last third of their mother's gestation period, the same as slaughter stock animals. Purchased animals must come with a valid certification certificate and other tracking documents.

PROCESSED PRODUCTS

Processors making organic products must submit an Organic Handling Plan that shows a diagram of their facility, what pest control products are used and how often, and what cleaning products are used in the facility. A product profile for each product being made is submitted and must show every ingredient, the source of the ingredient, who it is certified by (along with a certification certificate for each), any processing aids that may be used, and the process for making the product.

If the facility also processes non-organic product, there must be a clear plan to prevent co-mingling of organic and non-organic product. This is usually accomplished by processing organic products first, when all equipment is clean.

There are three labeling categories for organic food, "100% Organic" products may contain no ingredients other than salt and water that are not certified organic. "Organic" products must be at least 95% certified organic ingredients other than salt and water. "Made With Organic" products must be at least 70% organic ingredients.

All three categories must list the certification agency certifying the product on the label. The "100% Organic" and "Organic" categories may also display the "USDA Organic" logo.

STRICT ACCOUNTABILITY

Organic farms and processors are following very strict standards. Their practices are verified at least once a year with an on-farm inspection and a full review of their practices. Unannounced spot inspections can occur at any time.

Operations found to be in noncompliance with the standards are given time to correct a minor problem, or if it is a willful violation or a non-correctable, major violation, their certification is suspended or revoked. Once an organic operation has their certification revoked, they are not eligible to apply for certification for five years.

For more information on organic regulations, please visit the Northeast Organic Farming Association of NY website at www.nofany.org and the National Organic Program website at www.ams.usda.gov/nop.

Lisa Engelbert is the Dairy Certification Specialist with the Northeast Organic Farming Association of NY, and owner of Engelbert Family Farm in Nichols, NY. She can be reached at (607) 699-3775 or kengelbert@stny.rr.com.

THE MISSING LINK FOR LOCALLY RAISED MEATS

Continued From Page 5

Though former dairy farmer Dick Ayres of Brookside Farm lives just a few miles away from Locust Grove in North Argyle, NY, he got in the habit of taking his beef cattle and veal calves almost an hour to Wing's new slaughterhouse. Three years ago, when he began selling at his first farmers market, his wife Peggy said appointments were too hard to come by at Locust Grove.

The Meat Shop is the only slaughterhouse in the region that's certified organic, so having meats processed there allows farmers with certified organic farms and livestock to label their meats as such. Because of this, the plant has attracted customers from a wide area, like Jerry Peele, who owns Herondale Farm in the southern part of Columbia County, NY, near the Connecticut border.

Peele makes a monthly trek to Wing's facility with his grass-fed cattle or pastured pigs. He said he has tried to interest plants closer to home in getting organic certification. But because these plants already have sufficient business, they're not interested in taking on the extra paperwork, he said.

A VITAL LINK

With direct sales of 400 grass-fed lambs annually at a NY City Greenmarket and through various other outlets, Karen Weinberg and Paul Borghard of 3-Corner Field Farm normally have their animals processed weekly in the fall and winter and every two weeks the rest of the year.

Their farm in Shushan, NY, used the Farm Fresh Beef slaughterhouse in Rutland, VT, exclusively until last year. Then, when the slaughterhouse was destroyed by fire last August, Weinberg and Borghard were left scrambling to piece together the services they needed at other busy plants.

Weinberg said the experience left her feeling risk-averse and reluctant to become over-reliant on a single plant, no matter how good its service. But because of the way the slaughterhouse industry is set up, Weinberg said, small farms like hers don't have many alternatives.

"You need to be able to trust ... that your processor will follow your directions -- and will care about your customers as much as you do," she said.

Tracy Frisch was Founding Director of the Regional Farm and Food Project in New York's Capitol District. Now she is a freelance journalist on agriculture and environmental issues in Washington County, NY. Tracy can be reached at 518-692-8242 or tracyf@fastermac.net. This article first appeared in the August 2007 issue of the Hill Country Observer: An Independent Newspaper for Eastern NY, Southwestern Vermont and the Berkshires, and is reprinted with permission.

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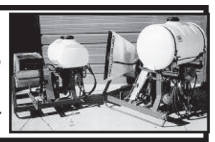
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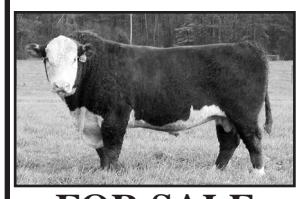
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Small Farm Quarterly Youth Pages

The Youth Pages are written by and for young people. Many thanks to the 4-H Teens from Cortland County who contributed to this issue.

We believe there's a bright future for young farmers in the Northeast. Whether you live on a farm or only wish you did, we'd love to hear from you!

Get your article published by sending it to:
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Poultry Perfect!

By Mary Cope, Age 11, River Valley 4-H Club

For as long as I can remember I have always loved poultry. Even as a very young child I was fascinated by their lifestyle and body structure. Because of this fascination, I often asked my parents if I could have some birds of my own.

When I was five, my uncle gave me two chicks to raise and then return back to the farm. This experience only strengthened my desire to have birds of my own.

A few years later I met a poultry breeder at the Cortland County Junior Fair whose son showed in 4-H. In our four-hour-long conversation, I learned all about the wonderful opportunities the 4-H poultry program has to offer. She spoke with my mother and encouraged her to allow me to get a few bantam chickens of my own.

Since that day I have hatched and raised bantam chickens, guinea fowl and turkeys. I have shown my poultry at the County Fair, State Fair, and open show competitions. I have spoken to the children at our local schools about chicken embryology. I have also talked about the importance of poultry in agriculture at the county wide Ag-Stravaganza, hosting 600 4th graders over two days of stations.

The 4-H Poultry program is more than just showing birds. There are numerous opportunities to learn about the many aspects of the poultry industry.

I currently compete each year in the State Fair Poultry Science Contest that involves the ability to judge and grade a hen's laying capacity, eggs, raw chicken, and part identification. I also participate in Avian Bowl, which covers all aspects of poultry, from breeding to embryology, flock management, disease, and much, much more.

There are also competitions in Chicken BBQ, Turkey BBQ, and Egg Preparation. Each year the top three senior youth travel to Louisville, Kentucky, to compete in the poultry nationals. Last year, New York State placed second in the nation. I hope to compete at the national level when I am old enough.

Poultry are incredibly versatile animals to have on the farm, whether for eggs, meat, a morning wake-up call, or just a fun pet for a child to have. They come in various shapes, colors, and sizes too. So if you haven't explored poultry yet, give it a try. You'll be hooked!

For more information on 4H Poultry Programs, visit www.ansci.cornell.edu/4H/birds/index.html

Mary Cope and her feathery farm friends

Best in Show Opportunities

By Rob Wilcox, Age 19, Cortland County 4-H Teen Ambassadors

For the past five years now I have been raising rabbits, and having an amazing time in doing so. It takes a lot of hard work and energy to raise rabbits, but in the end it is worth it. One of the best feelings is the first win you get with a rabbit you bred, and an even bigger feeling is when you take a Best in Show award with that rabbit. My first Best in Show was in 2006 at the TARBA (Taughannock Area Rabbit Breeders' Association) Show in Cortland, N.Y. I will never forget the feeling that it brought to me when I won. All of the hard work paid off.

I attend shows all over New York State and compete when I get the chance. I also like to help out behind the scenes. One of the best jobs I've had was being the Junior Superintendent of rabbits at the Cortland County Junior Fair. This meant I was responsible for cleaning up the area to make it presentable; making sure to contact the owner if any of the rabbits were sick and have the rabbits taken home; set up and also tear down cages in the display area. Also I had the pleasure of setting up for the show and teaching some showmanship skills to the younger kids and to the new showmen.

In recent months I have been studying to be an American Rabbit Breeder Association judge. There are many steps involved in working toward an American Rabbit Breeders' Association Judge's license. The first step in this progress is to get twenty adult American ARBA members' signatures. After that you need to study, take your Registrar's test and pass, register so many rabbits, and work under the guidance of a Judge. Finally, you take your Judge's test and pass. ARBA currently has 47 accepted breeds of rabbits to learn the standards for in this process, and many more new and exciting breeds to come.

To find out more about all the opportunities 4H has to offer, visit http://nys4h.cce.cornell.edu

Rob Wilcox says it takes a lot of hard work to raise and show animals - -but it's worth it!

My 4-H Experience

By Loey, Age 18, Cortland County Teen Ambassadors

4-H is one of the most positively influencing programs that I have ever been involved with in my life. I can definitely say it has come to shape the person that I am.

Dairy goats were the project that I started with in 4-H. My club was called Kids for Kids. As a group we met once a month and discussed things like public presentations, the upcoming fair, shows, goat facts, and the dairy parade. We were active in community service such as river clean-ups, bringing petting zoos to the elderly and disabled, and ringing the Salvation Army bell.

Throughout the years I have taken advantage of the various programs that 4-H offers. One of 4-H's themes is that "4-H Takes You Places." With 4-H I have gone on a career exploration trip to Vermont, visited the state capital in Albany to find out about government, and participated in the State Teen Action Representatives Retreat, otherwise known as STARR.

I have had the opportunity to lead by being vice-president of my clubs. I have taught crafts at workshops and assisted other leaders. I was a Teen Leader at State Fair, aiding the judges. It was a very insightful experience, as it taught me how to really look at things like photographs and art.

I am currently in the Cortland County Teen Ambassadors. Our goal as a club is to promote 4-H around the county, so that others may experience the rewards of being a 4-Her as we have.

One recognition that I was extremely honored to receive was a 2007 NYS 4-H Foundation Scholarship. I was one of nine who won the scholarship for merit in 4-H and outside. For me it was the greatest honor, since 4-H is a program that I have been in for thirteen years. The acknowledgement was huge.

I am currently a freshman at Wells College in Aurora, New York, aspiring to be a librarian. My future plans with 4-H are to become a leader and to continue to help the program that helped me. I age out in a year, so I can only do what was done for me and help out by being a judge at fair, a leader to clubs, and aid in any way I can. The values of 4-H are ingrained into who I am, and I hope to share the gifts of 4-H with future generations.

Interested in finding out more information about where 4H can take you? Then visit http://nys4h.cce.cornell.edu/program/events.php

Loey enjoyed teaching an "altered clothing" program with teen ambassadors at the 2000 Junior Fair.

Chef in Training

By Troy Brown, Age 14, Red Clovers 4-H Club

My name is Troy Brown and I am 14 years old. I am the president of the Red Clovers 4-H club. When I grow up, I want to be a chef. Food has been a big part in my 4-H career. My family has a garden in our backyard where there are fresh ingredients for dinner and where I grow my vegetables to enter in the fair.

I have learned a lot about gardening by being a Judge's Assistant at the Cortland County Junior Fair and from my grandparents and parents. My grandfather has two large vegetable gardens, an orchard, berry patches, and grapevines. I love projects like making apple cider with my Papa. He and my grandmother, who is my 4-H leader, have taught me a lot about gardening and food preservation.

I have sent many things to the fair including wood burnings, club projects, tie-dyed shirts, baked goods, and vegetables. I have entered the county and state fair, winning many ribbons, awards, and cash prizes. One of my favorite classes to enter is "Grown in New York State", a baking class using local produce. It's a challenge to come up with new recipes that use whatever is available at the time, but it's worth it to see that blue ribbon on my entry. At the New York State Fair I won second place in the Spam Kid Chef competition last year, and my Mom and I won first place in the 2005 Fleischmann yeast bread contest.

My club and I have done many fundraisers and have helped to stop world hunger with the Share Our Strength Great American Bake sale. We also raised money to help Katrina victims. We sent boxes of candy, cards, socks, and other useful and fun items to soldiers in America and across seas. I have had the privilege to meet one of the soldiers that we sent a box to and he told me many stories that will stay with me forever.

I believe that 4-H is a great way for my club and me to build skills that we will use every day. I look forward to continuing to learn new cooking skills. The time that I spend finding fresh foods and preparing good recipes benefits my friends and my family. I feel good about that.

For food and nutrition information for 4H aged children, visit www.cerp.cornell.edu/4h/search_results.asp?or=s&d=food&c=6&cl=1&a=34&al=1&s=&

Troy Brown is on his way to becoming a chef, thanks to 4-H and an abundant home garden.

Women in Agriculture

Staying Safe and Healthy As We Age

Farming women are on the increase... and we're not getting any younger!

By Susan Neal

The USDA's most recent Census of Agriculture confirms what many of us have known for a while...that the number of female farm operators in this country is increasing. Today 27% of all principle farm operators are women, up 13.4% from the 1997 Census. And while our demographic may be growing, we are certainly not getting any younger.

GENDER, AGE AND RISK IN FARMING

In fact, the face of farming in general has been aging at a pronounced pace for several decades. Today, the average woman farm operator is 56 years old, and the majority of women involved in farming (78%) are older than 45. As business owners, employers, family matriarchs, and caregivers, it is extremely important that those of us in this special demographic group begin to pay particular attention to our personal health and safety.

Here's why: According to the National Safety Council, farming has the highest death toll of all industries, greater than mining, construction, or transportation. Every year some 700 individuals die in farm or ranch related accidents and another 120,000 suffer disabling injuries. Clearly, farming can be a dangerous profession.

In its 2001 report on Adult Agriculture-Related Injuries, the National Agriculture Statistics Service (NASS) reported that, while men still account for the highest number of farm-related injuries, twenty-two percent of such injuries are experienced by women.

Women are at greatest risk from interactions with livestock or the operation of farm equipment or machinery in which loose clothing or long hair can become entangled. Other sources of potential, on-farm, health threats to women include tractors, other motor vehicles, environmental conditions, chemicals, infectious disease, and noxious fumes.

INCREASING RISKS

The NASS also notes that 62% of all agriculture-related injuries are suffered by individuals 45 and older. As women age, there are unique factors that can contribute to on-farm accidents or injuries, such as:

* Natural decreases in our levels of stamina, coordination, strength, and reaction times.
* Activity or movement restrictions due to physical disabilities.
* Vision changes. As we age, we may experience changes in our vision such as weakened eyesight. Cataracts and glaucoma are diseases of the eye that become more common as we get older. Medical detection and treatment can often reduce the negative effects of such diseases.
* Hearing loss. According to the Women's Health Zone (www.womenshealthzone.net) one third of all Americans over 65 suffer from hearing problems. Many of these problems are preventable or treatable if medical assistance is sought. Hearing losses can be significantly higher among farmers due to exposure to loud machinery and animals.
* Complications due to prescription medications, fatigue, or stress.

There are steps farming women can and should take to minimize health and safety risks as we grow older.

In addition, women should be aware of medical problems that increase as we mature. Heart disease is, by far, the greatest threat. The National Heart, Lung, and Blood Institute estimates that one out of four women will die as a result of heart disease. All mature women should talk to their doctor or health care provider about the warning signs or contributing factors of this deadly disease.

Other serious health concerns include breast and lung cancer, stroke, COPD, diabetes, depression, and complications from osteoporosis. (More than half of all women over the age of 65 suffer from osteoporosis as a result of decreased estrogen levels following menopause.) In some instances, exposure to infectious disease such as Eastern Equine Encephalitis, Lyme, or West Nile Disease can pose certain health risks.

WHAT WE CAN DO

Faced with such serious risks, what should women do to ensure our health and safety on the farm? Here are a few simple suggestions.

* Develop a risk analysis of all potential health and safety threats on your farm. With this information, you can address specific risks or even develop an emergency preparedness plan. Your insurance agent, Cooperative Extension office, or County Emergency Management Office may be able to provide useful information.
* Properly maintain and operate all machinery and equipment; ensure that machinery is equipped with safety features such as rollover protective structures (ROP's), seat belts, PTO shields, and slow-moving vehicle (SMV) signage.
* Use the proper equipment and techniques for working around livestock.
* Dress appropriately for your working conditions. Loose fitting clothing or jewelry should be avoided. Long hair should be secured or covered. Choose safe footwear as the situation warrants.
* Use Personal Protection Equipment (PPE) routinely or as needed. Such items include gloves, hearing protection devices, coveralls, riding helmets and hard hats, and face shields.
* Use ergonomically-designed tools or equipment whenever possible; such items may include electric trimmers, shock absorbing and slip-resistant flooring, or modified work stations.
* Receive regular medical exams, check-ups, and vaccinations; do not ignore health warning signs such as changes in your physical, mental, or emotional state.
* Exercise regularly, eat right, limit the use of caffeine and alcohol, and get plenty of sleep.
* Recognize stresses in your life and find ways to minimize or eliminate their influence.
* Make time to enjoy family, friends, and others.

There are numerous organizations that can help you improve on-farm health and safety standards. Check out the Resource Spotlight for informative tip sheets, brochures, and workshops.

Women are often so busy caring for others, and attending to the day to day details of their farm businesses, that they overlook their own health and safety needs. But it is very important to make these issues priorities in our lives. Our family, friends, employees, and consumers depend on us. And we owe it to ourselves to be safe and healthy so that we may enjoy active, productive lives well into our golden years. Be well!

Susan Neal farms and writes at Wiccaway Farm in Beaver Dams, NY, and is a contact person for the NY Women in Agriculture Network. She can be reached at (607) 535-2135 or wiccawayfarm@aol.com.

Resource Spotlight

Health and Safety on the Farm

New York Center for Agricultural Medicine and Health
Offers free farm safety trainings in topics such as: tractor and machinery safety; animal safety; chemical safety; safe lifting and carrying.
1-800-343-7527; www.nycamh.org

Northern New England AgrAbility Project is a partnership with Vermont, New Hampshire, and Maine Cooperative Extension and Alpha One Services, a non profit disability organization committed to supporting farm families affected by a disability to be productive and successful in agriculture. (800) 545-8920 or www.uvm.edu/~farmfam/?Page=nagrability.htm

National Agriculture Safety Database
Provides informative material and videos on agriculture health and safety.
www.cdc.gov/nasd

National Safety Council
Provides a wealth of information on agriculture health and safety issues and statistics.
www.nsc.org/issues/agrisafe.htm

National AgrAbility Project
Assists individuals with physical, cognitive, or illness-related disabilities who are involved in agriculture. Website offers resources, tip sheets, and information on assistive technology. www.agrabilityproject.org

STEWARDSHIP & NATURE

Agricultural Environmental Management:

From the Ground Up

By Barbara Silvestri

New York State is the home of a rich variety of farms - large and small farms; dairy, livestock, fruit and vegetable farms; greenhouses and henhouses. All have different natural resource concerns and goals. New York's Agricultural Environmental Management (AEM) Program provides tools and resources to serve the needs of all members of this diverse agricultural community.

One worksheet that is useful for almost all farms is the Soil Management Worksheet. Farms depend on productive soils, and every farm is in a watershed. Protecting soil quality and keeping the soil on the land benefit both the farm and the watershed. It's a win-win!

As stewards of the land, farmers know that productive soil is important to their farms' bottom line. When soil erodes, it removes organic matter, nutrients, and topsoil, which in turn decreases soil fertility, tilth, and water holding capacity. This soil degradation causes reduced crop growth and inefficient use of crop inputs.

Increasing soil organic matter improves soil tilth, reduces susceptibility to compaction, increases nutrient and water holding capacity, slows the movement of pesticides through the soil, and reduces soil erosion. Protecting soil from compaction can enhance water availability to crops and root growth, resulting in increased yields and less runoff.

Loss of your farm's precious soil resources is not only a problem for the farm; it can also harm the environment. Soil erosion can carry sediments, nutrients and pesticides to surface water bodies, degrading water quality. Sediment from erosion fills drainage and road ditches, culverts and stream channels, and shortens the life of lakes, reservoirs, and ponds. Sedimentation of water bodies can also lead to increased phosphorus levels, which cause algae blooms that can degrade drinking water quality and limit recreational uses.

Do you want to learn more about how you can enhance the way you manage the soils on your farm? The AEM Soil Management Worksheet is designed to help you assess how your farm's practices can protect soil resources. Your County Soil and Water Conservation District can help you develop a plan for a systems approach to soil conservation that will provide multiple barriers against soil erosion and water quality degradation.

The following are some of the practices that you can use to protect your soil resource:
* Crop rotations, strip cropping, conservation tillage, and cover crops help protect soil from erosion by wind and water and help maintain or increase soil organic matter.
* Diversions, waterways, and terraces capture and provide stable outlets for runoff.
* Vegetative filter strips and riparian forest buffers capture sediment, along with nutrients and pesticides attached to sediments, before they reach watercourses.

Conducting an AEM Risk Assessment, including the Soil Management Worksheet, will help you identify the ways that your farm is protecting soil resources as well as areas where improvements could be made to protect both the environment and your farm's bottom line. Soil management is one area where simple changes can often reap substantial benefits for both your farm and the watershed. Where more expensive changes are needed, there are cost-share programs that can help.

If you would like to schedule a free, confidential AEM Risk Assessment for your farm, including the Soil Management Worksheet, contact your County Soil and Water Conservation District. To learn more about AEM, view the Worksheets (including the Soil Management Worksheet), or to locate your Conservation District office, visit: www.nys-soilandwater.org.

Check the next issue for more information on how AEM is helping over 11,000 farm families statewide farm cleaner and greener, and how AEM can benefit your farm enterprise.

Barbara Silvestri is the Information & Education Program Coordinator with the NYS Soil & Water Conservation Committee in Albany, NY. She can be reached at 518-457-3738 or barb.silvestri@agmkt.state.ny.us.

Contour strip cropping is a popular way to reduce soil erosion. Strips of hayland placed between strips of row crops slow runoff, increase the infiltration of water into the soil, and trap sediment moving from the crop strips above.
Photograph by USDA Natural Resources Conservation Service

Resource Spotlight

The Pond Guidebook

The Pond Guidebook is a new publication from NRAES, the Natural Resource, Agriculture, and Engineering Service. It is full of practical insights, remedies, and management tips about ponds. It addresses key topics like pond water chemistry, pond construction, safety, aquatic weed management options, pond fish selection and stocking, dealing with nuisance wildlife, enhancing ponds with vegetation, beach construction, leaking ponds, and more.

The authors of the Pond Guidebook are Jim Ochterski, Cornell Cooperative Extension educator; Cliff Kraft, Cornell associate professor of fishery and aquatic sciences; Rebecca Schneider, associate professor in the Department of Natural Resources at Cornell; and Bryan Swistock, water resources specialist at Penn State University.

You can order The Pond Guidebook online at http://thepondguidebook.com or through your local Cooperative Extension office. Call your county office and request a copy of NRAES-178 The Pond Guidebook. They may have it in stock, or they may order it on your behalf. The cover price is $19.75, and shipping charges may apply, depending on the office. They can also order multiple copies, often at a discount.

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HOME AND FAMILY

Grassfed Cooking: Understanding Beef Stew

By Shannon Hayes

When selecting your stew beef, it is important to keep in mind that there are essentially two different types: lean fast-cooking, and juicy slow-cooking. Both types are delicious, and both have a place in the kitchen.

Leaner cuts of stew beef are taken from the round - typically the bottom round, and occasionally the eye round. While these cubes of meat have less marbling, they also don't contain collagen, which means they will become tender very quickly. They are an ideal choice if you don't have a lot of time to simmer your meat.

Stew pieces cut from the chuck, shank and brisket are far chewier at the outset. This is because they come from parts of the animal that do a lot of work, so they contain a fair amount of collagen, a connective tissue protein. They also have considerable marbling, so if time is not an issue and a silky, juicy meat texture is your aim, chuck, shank and brisket stew should be your choice.

Whatever your selection, remember how it will impact your cooking as you review your stew recipe. Stew beef from the round will be ready to serve after about 1.5 hours of simmering. If it is cooked much longer, the meat will taste dry. Re-warming a stew made from round meat, however, should not be a problem, provided it is done gently.

Conversely, stew from the shanks, brisket and chuck may take longer to become tender than your recipe suggests. Happily, there is less likelihood that you will over-cook it, as the collagen and marbling will help to keep it juicy. These are the ideal cuts for slow, all-day stews.

I'm fussy about this matter, and since I work in the cutting room at Sap Bush Hollow Farm, I am able to separate the lean fast-cooking stew meat from the juicy slow-cooking pieces, and all of our packages are labeled accordingly. But not every farmer has a butcher who will do this for them. If you don't know what you have in your stew meat package, simply take care to cook your meat gently and sample often for doneness.

Be patient if it takes longer than your recipe suggests. If it is critical that you know exactly what you are working with, then purchase a bottom round roast, a piece of brisket or a chuck roast and cut the cubes yourself. Then you'll know exactly what to expect.

And, don't forget, for some wonderful grassfed stew dishes, order your copy of The Grassfed Gourmet cookbook! To learn more about cooking with grassfed meats, visit www.grassfed-cooking.com.

Shannon Hayes writes and works with her family on Sap Bush Hollow Farm in Upstate New York, where they raise pastured livestock. She is the author of The Farmer and the Grill and The Grassfed Gourmet, as well as numerous articles and essays on food, farming and rural living. To learn more about cooking with grassfed meats, visit www.grassfedcooking.com. To learn more about Sap Bush Hollow Farm, visit www.sapbush.com.

Grassfed cooking maven Shannon Hayes and daughter Saoirse cook up a storm.

COMMUNITY AND WORLD

Bistro Chef Creates Culinary Delights with Local Farmer's Products

North Country Grown Farmers 'Cooperative makes it easy

By Gerard F. Monnat

Can the small farmer find local markets, beyond the usual roadside stand or farmers' market, to bring in needed income? Can these farmers have year round markets, even up here in Northern New York State? What about the "local foods movement" and the possibility of supplying local schools, restaurants, and grocery stores?

Here's how one local restaurant works with farmers, uses their products, supports local agriculture, and offers their dining patrons delicious fare made with local and regional foods.

THE 1844 HOUSE RESTAURANT

In the simple yet elegant setting of a colonial tavern that later became a farmhouse, Brian and Janny Walker have created the 1844 House Restaurant, an American bistro located in Canton, NY right in the middle of St. Lawrence County's farm country. Open year round, six evenings a week, the Walkers astound their dinner guests with sumptuous meals, using as much local food in as possible in everything from appetizers to desserts.

Beginning in 2006, the Walkers started buying local produce using a farmers buying guide and by going to the farmer's markets. Today, chef Brian Walker says he procures most of his farm products through North Country Grown Cooperative in Massena, N.Y. This cooperative is a New York State corporation, owned by its producers and growers, which is implementing the farm-to-school program in St. Lawrence County, as well as selling produce and other farm products to local restaurants and grocery stores.

All year long, 1844 House Chef Brian Walker serves up a gourmet menu based on local, seasonal farm products. Photo by Gerard F. Monnat

NORTH COUNTRY GROWN COOPERATIVE

The purpose of this co-op is to be a marketing agency for its farmer members, and a local supplier for food service institutions, like 1844 House. For Chef Brian, the advantage of buying through the co-op versus a local farmers' stand or pickup truck, is the convenience, quality and consistency of the farm products the co-op supplies. Brian deals directly with the Director of the co-op, Sue Rau. Sue and her husband live on a small farm near Massena.

Haggling over prices with a farmer is a thing of the past, says Brian, and restaurant owners and chefs don't have time to play that game. Dealing through the co-op, Brian knows the price up front. "If local farmers want to tap into this very lucrative and wide open market," says Brian, "they need to organize into marketing groups, such as the co-op."

"The co-op sorts the produce, assures quality and consistency, and delivers," which Brian says makes his job much easier. He can then concentrate on the food preparation end of his business.

Chef Brian buys 90% of his perishable food products through the co-op. He changes his menu every three months, as the seasons change, to better use the produce growing at the time. He wants to educate people about learning to eat local with the seasons. He does not serve hot-house California or imported tomatoes in Mid-Winter, or other such out of season produce, just to keep up with other restaurants. He is very dedicated to keeping the 1844 House known for its' local foods menu.

WHOLESALE IS NOT RETAIL

In selling to food institutions such as restaurants and grocery stores, Brian says that price really matters. "Farmers should not expect to get retail price when they sell wholesale -- the profit margin in the food service business is too small to pay retail prices."

As far as health regulations go, Brian says, "as long as local farmers are organized into a co-op or other marketing group that can assure quality, cleanliness of product, safe organically grown produce, the county health department will have no problem with it."

When he started out on this venture of using local farm products in 1844 House, Chef Brian thoroughly checked with both NYS Department of Agriculture and Markets, and the County Health Department.

A LOCAL COMMTIMENT

"This is what supporting the local and regional farmer is all about," says Brian. "Bringing locally produced farm products to consumers, whether at restaurants or grocery stores, is a great boost to agriculture, and helps sustain the family farms in their communities."

For more information about the North Country Grown Co-op, check out their website, www.northcountrygrown.com, or contact Sue Rau at drumlins@northnet.org.

Gerard Monnat farms and writes at Emmanuel Farm in Winthrop, N.Y. You can reach him at (315) 265-0206 or gfmfarm@verizon.net.

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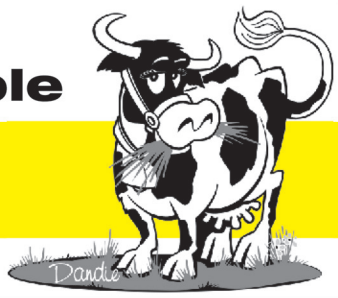

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Buffalo Valley, PA/ G. Stoltzfus	570-922-4919
Centre Co, PA/ John Glick	814-383-4529
Clarion Co, PA/ Ron Reinford	814-275-3033
Erie Co, PA/ Mark Muir	814-438-2185
Jefferson Co, PA/ Smith Farms	814-938-4266
Nippinose Valley/ Levi Stoltzfus	570-745-2391
New Wilmington, PA/ Mose Miller	653 Bend Rd
N. Tioga Co, PA/ Penn York Ag.	814-367-2278
Snyder Co, PA/ Glenn Beidler	570-539-8993
Tioga Co, PA/ Dave Johnson	570-324-2285
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