TABLE OF CONTENTS

SMALL FARM PROGRAM UPDATE
Cornell Small Farms Program Update .......................................................... Page 3

BUSINESS MANAGEMENT
Farm Businesses and the Join Venture Agreement, by Adam Prizio, Esq. .......... Page 6

COMMUNITY AND WORLD
Increasing Local Food Consumption in the Catskill Mountains, by Challey Cormer ................................................................. Page 18

COWS AND CROPS
Learning to Read Whole Farm Systems, by Matthew Goldfarb .................. Page 4
Rare Breeds Pose Challenges, Offer Opportunities, by Adrienne Masler ........ Page 13
Kvatta Farms Dairy, by Debra Welch and Nancy Glazier ................................. Page 16

FARM ENERGY
Fighting the Weeds with Fire and French Fry Oil, by Annie Bass ............... Page 5
Harvesting Water is a Breeze, by Troy Bishopp ............................................. Page 18

FOREST AND WOODLOT
Emerald Ash Borer, by Mark Whitmore ...................................................... Page 19

GRAZING
True Capital is Biological Capital, by Troy Bishop ........................................ Page 7

HOME & FAMILY
Fall’s Bounty, by Jill Swenson ........................................................................ Page 14
A Truck Transition, by Troy Bishopp .............................................................. Page 17

HORTICULTURE
Another Tool for Your Disease Management Toolbox, by Elizabeth M. Lamb . Page 11

LOCAL FOODS & MARKETING
PR 101, by Michael Seinberg ......................................................................... Page 6
Tricks of the Trade, by Aaron Munzer ............................................................ Page 11

NEW FARMERS
Growing a Groundsell, by Rachel Firak ....................................................... Page 12

NON-Dairy LIVESTOCK
Pasture Bloat in Sheep, by Ulf Kintzel ............................................................ Page 8

NORTHEAST SARE SPOTLIGHT
Training Systems for Wine Grapes, by Annie Bass ....................................... Page 9

RESOURCE SPOTLIGHTS
Organic Insect and Disease Management, by Elizabeth Lamb ..................... Page 11
Livestock Conservation and Specific Breeds .................................................. Page 13
Good Meat ...................................................................................................... Page 16
2010 Cornell Small Farms Program Publications .......................................... Page 20

SUSTAINABILITY 
October Harvest, by Bill Dueing .................................................................... Page 19

URBAN AGRICULTURE
Aeroponics, by Aaron Munzer ....................................................................... Page 15

YOUTH PAGES
Exploring the Small Farm Dream, by Rachel Lee, Billy Yang, Dana Seag ....... Page 10
Small Farms, Big Job, by Billy Yang ............................................................... Page 10
Education vs. Experience, by Rachel Lee ...................................................... Page 10
Exploring the Small Farm Dream, by Dana Seag .......................................... Page 10
Cover photo: Brittany Harris and Chris Bickford, employees of Early Morning Farm, attract attention at their stall at the Ithaca Farmers Market. Photo by Aaron Munzer
New Online Courses for Beginning Farmers Debut This Fall! Reserve Your Spot Now

Need some guidance on the development or expansion of a farm enterprise? Can't find any trainings near you? If you're comfortable enough with a computer to consider learning online, you'll be glad to know that the Cornell Small Farms Program and Cornell Cooperative Extension are expanding offerings of their popular online courses for beginning farmers with two new online courses this Fall, in addition to our usual beginners Fall course, BF 101.Join experienced CCE and farmer instructors and 25 of your farmer peers in a dynamic learning experience that incorporates both self-paced readings and real-time virtual meetings with discussion forums, homework activities, guest presenters, and developing a customized plan for your next steps in farming.

The Cornell Small Farms Program and Cornell Cooperative Extension (CCE) present:

BF 110: Soil Health Basics: Investing in the Vitality of Your Farm
BF 104: Financial Record-keeping: A Cornerstone of Farm Profitability
BF 101: Taking Stock: Evaluating Your Land and Resources and Choosing an Enterprise

COURSE DATES: Thurs. Oct 14, 2010 to Wed. Nov 24, 2010. All courses incorporate live webinars featuring farmers, agency staff, and University faculty. See link below for webinar dates and details.

COST is $150 per course, except the Soil Health course, which is $165.

TO REGISTER, or for more information on course format and requirements, please visit www.nybeginningfarmers.org/index.php?page=onlinecourse%20

Farms Demonstrate Wind, Solar, Conservation Strategies

This summer the Cornell Small Farms Energy Work Team sponsored a series of farm energy field days on small farms across New York to hear directly from farmers about how they produce energy to power their operations. From energy efficiency strategies to wind, solar electric, and solar thermal, farmers offered details of the cost of installation, any grants or incentives available, amount of energy saved or produced, and where to go for further information.

The Cornell Small Farms Energy Work Team offers many farm energy resources, including a new book of profiles on innovative farmers that have tips for saving energy and producing renewable power. To download the profiles and for other farm energy resources, visit www.smallfarms.cornell.edu/pages/resources/production/energy.cfm

4H Career Exploration: Cornell Hosts Small Farm Dream Sampler

This past July, the Cornell Small Farms Program hosted a 4H Career Exploration event titled “Exploring the Small Farm Dream” for twelve high school students and four adult chaperones from around New York State. Over the course of 3 days, the enthusiastic 4H members learned about the components of running a small farm through group activities, discussions, and four farm tours.

The career explorers inoculated mushrooms at the MacDaniels Nut Grove, weeded beans at Dilmun Hill Student Farm, picked raspberries at Reisinger’s Apple Country, and learned about cheese making at Sunset View Creamery. Each farm also provided insight into a different aspect of agricultural careers. Read about some of these career explorer experiences in the Youth Pages section.

Small Farm Quarterly is Recruiting!

We are looking for several new members to join the Small Farm Quarterly Editorial Team, and we are always looking for new writers and photographers. We are especially looking for editors and writers from outside of New York State, so that we can improve our coverage of New England and Pennsylvania small farm issues and innovators. All SFQ editors and writers are volunteers. If you’re interested, please contact Violet Stone at 607-255-9227 or vws7@cornell.edu

How can I get Small Farm Quarterly?

Country Folks subscribers automatically receive SFQ four times a year at no extra cost. Country Folks is delivered weekly for $45 per year.

SFQ-only subscribers receive just the 4 issues of Country Folks that contain the SFQ insert for only $5 a year.

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Minimum order is 50. Orders must be placed at least 4 weeks before the publication date - Winter 2010 copies need to be ordered by December 3rd.

To find out more, contact: Tracy Crouse
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P.O. Box 121, Palatine Bridge, NY 13428
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Cows and Crops

Learning to Read Whole-Farm Systems

Lessons from a “Reading the Farm” Workshop in Chambersburg, PA

By Matthew Goldfarb

In mid-August I had the opportunity to attend a two-day workshop in Chambersburg, PA on reading the farm, hosted by Penn State with support from a SARE (Sustainable Agriculture Research and Education) Grant. Reading the Farm is an on-farm training workshop on whole farm system assessments for extension educators, NRCS (Natural Resource Conservation Service) staff, and farm support specialists. Two dairy farms in Franklin County, PA served as model systems to illustrate how interactions between different components of the farming system affect farm sustainability. The workshop included farm tours with facilitated discussions on whole-farm system analysis.

At each farm a team of Penn State agricultural specialists joined us to facilitate discussions with the farmers in specific areas. This team included:

Mary Barbercheck, Professor of Entomology at Penn State University
Tim Beck, Senior Extension Educator in Dairy Business Management with Penn State Cooperative Extension
Douglas B. Beegle, Distinguished Professor of Agronomy and extension soil fertility specialist in the Department of Crop and Soil Sciences at Penn State University
Bill Curran, Professor in the Department of Crop and Soil Sciences at Penn State University
Ron Hoover, Coordinator of On-Farm Research at Penn State University
Brian Kelly, Penn State Extension Educator in Blair County, Pennsylvania
Nancy Ellen Klieman, Program Evaluation Specialist for Penn State Cooperative Extension
Jonathan Rotz, regional agronomist for Pioneer Seeds
Robert Van Saun, Professor and Extension Veterinarian in the Department of Veterinary & Biomedical Sciences, Penn State University
Jack Watson, Professor in the Department of Crop and Soil Sciences at Penn State University
Charlie White, Extension Associate in Sustainable Agriculture with Penn State Cooperative Extension

Farm Overview- Pleasant Valley Jerseys

Doug and Julie Martin own and operate Pleasant Valley Jerseys, a registered herd of 375 Jersey cows. The milking herd (currently 300 head) is managed using a rotational grazing system and supplemented with a total mixed ration (TMR). The herd is well known for its genetics and sales of breeding system. Approximately 250 calves are born in March and April ing system and supplemented with a total mixed ration (TMR). The TMR consists of haylage, corn silage, Ralston Purina mix (a by-product of the pet food industry), corn earlage, wet brewers grain, and a mineral mix.

The Shankstead EcoFarm transitioned to organic during 2006-2008 and became certified organic in 2009. Prior to the organic transition, Edwin managed a Holstein dairy herd using recommended practices for a confinement system. As part of the organic transition, Edwin switched his herd to Jersey cows with the current herd size of 300 head.

Acreage: 110 acres of rotationally grazed pasture on the home farm support the milking herd, broilers, and laying hens. Acreage: 110 acres of rotationally grazed pasture on the home farm support the milking herd, broilers, and laying hens. Acreage: 110 acres of rotationally grazed pasture on the home farm support the milking herd, broilers, and laying hens. Acreage: 110 acres of rotationally grazed pasture on the home farm support the milking herd, broilers, and laying hens.

Edwin Shank and his family own and operate Shankstead EcoFarm, a certified organic farm that raises dairy cows, broiler chickens, and laying hens in a rotational grazing system. Products of Shankstead EcoFarm, including PDA certified raw milk, cheese, butter, cream, beef, chicken eggs, are marketed directly to consumers through The Family Cow, LLC. Customers can purchase products in the on-farm retail store, or order products for delivery to numerous locations throughout southeastern Pennsylvania. Excess milk is sold to a creamery in Chambersburg where it is processed into cheese, ice cream, yogurt and pasteurized fluid milk.

The Shankstead EcoFarm transitioned to organic during 2006-2008 and became certified organic in 2009. Prior to the organic transition, Edwin managed a Holstein dairy herd using recommended practices for a confinement system. As part of the organic transition, Edwin switched his herd to Jersey cows with the current herd size of 300 head.

Acreage: 110 acres of rotationally grazed pasture on the home farm support the milking herd, broilers, and laying hens. Additional 184 acres of hay and 155 acres of annual crop acreage is in silage corn. Further information can be reached at 607-255-9227 or mg682@cornell.edu

Crop Rotation: This is the first year the Edwin is managing organic production of an annual crop. For this season, all his annual crop acreage is in silage corn. In the future, he plans to use a rotation of corn, oats, or barley, wheat, and 3 years of alfalfa/grass hay.

Feeding: Milking cows receive 40# of dry matter/day. During the grazing season, 20-20# of dry matter/day is fed from pasture, with the remaining supplemented by TMR. The TMR consists of haylage, corn silage, roasted soybeans, and corn grain.

Grazing System: There are 22 paddocks ranging from 3-5 acres in size. Cows are rotated to a new paddock 1 to 2 times a day. Broiler chickens are housed in movable pens which are rotated around the same pastures as the dairy cows. Pens are moved 3 times a day and rotate at a slightly slower pace than the dairy cows.

SWOT and recommendations

After the group finished our farm visits we spent several hours discussing our observations using a simple SWOT analysis (Strength, Weakness, Opportunity, Treat) with recommendations. Once the course participants completed their analysis, the two farm families were invited to the local extension office for lunch and presentations. Two facilitators who had working relationships with the farmers presented the final report. Both farmers were eager and open to hear the feedback and find ways to improve their system and achieve their specific goals.

The greatest takeaway for me were three main points expressed by the facilitators:

1. To always first understand the needs and goals of the farmer.
2. To consider whole farm interactions and think outside of your farm.
3. To communicate in a manner appropriate to each specific farmer.

Matthew Goldfarb is an extension associate with the Cornell Small Farms Program in Ithaca, NY. He may be reached at 607-255-9227 or mg682@cornell.edu
Fighting the Weeds with Fire and French Fry Oil

Flying Rabbit Farm, Otego, NY

By Annie Bass

In 2006, Flying Rabbit Farm was under water. “We rode the canoe up over the railroad tracks,” Dave Dolan said. “Your head would’ve been under water.” To note the rows of wheat and kale on either side of us.

Their main challenge is weeds. Dave picked a sprig of small white and yellow flowers from the edge of one of the rows. Galinsoga, Flying Rabbit’s most problematic weed, is a perennial that seeded itself among their crops for the first time in the 2006 flood. “See all these little flowers?” Dave said. “Each one has 4,000 seeds in it.”

“Other organic farms, that aren’t in floodplains, maybe it’s not such a problem for them,” Mary said. But since 2006, Flying Rabbit Farm has had to contend with “all the weed seed in the county.” They plant both fall and summer cover crops whenever possible to combat the weeds. But with 30 hours spent working off the farm each week, Mary and Dave don’t have time to hand-weed, mulch, or direct-seed into compost above the soil.

Dolan redesigned his flame weeder to fun efficiently on waste vegetable oil.

Dave and Mary Dolan have been farming this land for seven years, in a small-scale organic operation that includes collards, kale, chard, and baby lettuce mix for wholesale, and a wide variety of offerings, including tomatoes, corn, and chicken eggs, for the family and their neighbors. After 20 years of farming in three locations, they’ve worked out most of the kinks. They used to sell directly at a New York City Green Market, but with two part-time jobs, one child, and environmental concerns about using the grain, “I want to try that, just doing the baby salad mix first,” he said. “The Bible says to let your land rest every seven years,” he said. “I want to try that, just doing the baby salad mix first.”

Babington ball nozzles receive separate inputs of waste oil and pressurized air, facilitating a steady flame.

Their commitment to sustainable practices, even before they sought organic certification, ruled out chemical options. Row cover, put down to thwart flea beetles, increases the temperature in their arugula beds so that the plants germinate faster than the weeds—but row cover is impractical or ineffective for most of their greens and row crops. And with the baby lettuce mix, their primary crop, harvesting takes twice as long in a weed-filled bed as in a clean one.

With baby lettuce’s three week growing cycle, flame weeding is an attractive technique. After the beds are prepared, before planting, a flame weeder can turn the young weeds to ash, killing them without disturbing the soil, which would cause more weed seeds to germinate. Mary could then direct-seed into the ash. The Dolans wanted to implement this method, after applying compost and letting the beds lie fallow for the winter. In past years they’d tilled to create a dust mulch, which didn’t work in their arugula beds. So they piloted a different approach, affixed on top will guide the flames downward to the soil.

But flame weeders run on propane, and the Dolans are committed to environmental sustainability. They run all of their farm equipment on waste oil, mostly from a tank of second-hand vegetable oil, so the waste oil flame weeder is an attractive technique. After the beds are prepared, before planting, a flame weeder can turn the young weeds to ash, killing them without disturbing the soil, which would cause more weed seeds to germinate. Mary could then direct-seed into the ash. The Dolans wanted to implement this method, after applying compost and letting the beds lie fallow for the winter. In past years they’d tilled to create a dust mulch, which didn’t work in their arugula beds. So they piloted a different approach, affixed on top will guide the flames downward to the soil.

The Dolans hope to spread this new technology among organic farmers who “tend to shy away from intensive use of fossil fuels” such as propane-fueled flame weeders. “It’s the first flame weeder I’d seen,” said one farmer. “Me too,” he said.

After the demonstration, Dave asked if I could think of any improvements. I said this was the first flame weeder I’d seen. “I think they need better propulsion,” said one man. “Well, I think they need better propulsion.”

Ultimately, the flame weeder is one of a series of experiments and improvements. I said this was the first flame weeder I’d seen. “I think they need better propulsion,” said one man. “Well, I think they need better propulsion.”

And there’s always a next project. Across the tracks from the house and main field, Dave surveyed the rows of rye he’d left in through the summer. With the flame weeder up and running next year, his vision is to sow the whole rest of the farm like this. “The Bible says to let your land rest every seven years,” he said. “I want to try that, just doing the baby salad beds. We make more money on that amount of salad greens than I could fiddling around with acres of tomatoes.”

Annie Bass was a summer intern with the Cornell Small Farms Program in 2010. She may be reached at arb258@cornell.edu.
Busi ness Ma n age ment

Farm Businesses and the Joint Venture Agreement

By Adam Prizio, Esq.

Picture these scenarios:

1. A restaurant in a nearby city is featuring sausage, and salami.
2. Keeping business records takes so much time that you often have to choose between neglecting your paperwork and neglecting your farm. Many of your neighbors face the same dilemma, but you are not on the farm.
3. Combining net profit in order to purchase equipment or infrastructure (such as wheat farming) is common in joint ventures. Each business must consider how much information about their business they can afford to share with the other venturers. It also what can be lost in failure, and the give-and-take that will be necessary to operate the venture. At the same time, joint ventures pose a certain amount of risk to the individual venturers. Each business must consider how much information about their business they can afford to share with the other venturers. It also what can be lost in failure, and the give-and-take that will be necessary to operate the venture.

In many joint ventures, it is necessary to outline the terms of the ownership of the venture, and the terms for use and repair of its assets. The venturers should also agree in advance about what should happen if one of them wants to sell or transfer ownership of the venture. It is also also what can be lost in failure, and the give-and-take that will be necessary to operate the venture.

The joint venture is a powerful tool for helping small agricultural businesses to build a local food economy. The considerations discussed in this article should help you to start thinking about ways in which you can use this tool to advance your own business.

Adam Prizio is a partner at Law for Food, L.L.P., a law firm dedicated to providing affordable legal and business counsel to farmers and food entrepreneurs in New England and New York. You can reach him at adam@lawforfood.com.

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 Voilet Stone, Cornell Small Farms Program, 135C Plant Science Building, Cornell University, Ithaca, NY 14853
vws7@cornell.edu
When a farmer whose family lineage on the same land dates back to 1863 speaks about taking back our own destiny from the very people who keep us in fossil fuel/low price farming bondage and advocates for spending more time watching your kids, animals and the checkbook, I sit up and pay attention. The statement, “Making a profit is not a good word”, and other very colorful sound-bites by Ian Mitchell-Innes, a PH paper wielding, South African rancher and Certified Holistic Management Educator made for an inspiring planned grazing training.

He eloquently brought to light the fact that we are in the energy regeneration business—human, solar and soil carbon energy. "It's about using decision-making with two future generations in mind and a positive attitude in working with nature to capture this energy flow through our own biological power plants right at home", said the man who grazes 5000 head of cattle on 14,000 brittle acres and grows more grass than he can use by trampling in the leftovers for his microbial friends.

The Rotokawa Beef Cattle Company was the gathering place for 30 farmers from the Northeast, Texas and Canada to learn about the principles of mob grazing, ultra high stock densities, holistic decision-making and financial planning over 3 days in the rugged hills of Hardwick, Massachusetts. Mr. "Litter" made it quite clear that every farm should develop a holistic goal and use it to plan the future you want to create before adopting any grazing strategy. He was adamant about not giving any blanket grazing recipes for participants who have not discovered this thought process.

He talked extensively about the energy input/output, money in-money out dynamic of generating triple bottom line wealth derived from using animal power to capture solar dollars from pasture plants. He wished more farmers would just sit and watch their animals graze. "You can learn everything you need to know about soil and animal health from observing their grazing habits", said Ian. We took this suggestion literally as we proceeded out to the field to see the mob of Rotokawa cows, calves and bulls.

What I intimately witnessed was an affirmation or (gut check) of my life-long journey to understand the nuances of forage height, plant diversity and grazing management. The classroom prophesy came to fruition when the herd was moved to a new paddock. The cows immediately ripped off the seed-heads and flowers followed by tearing at leaves on the way down into the tall canopy relishing the clovers and young forbs at the bottom of the sward. Ian explained the cow's need for concentrated energy in the seed to balance the protein content in the legumes. By using PH paper dunked in the urine, Ian demonstrated this equilibrium by showing farmers a near neutral rumen pH. "Give your animals a smorgasbord and let them decide their own diet", said the grazing master.

Heads turned quickly when the grazing guru said we should be allowing our cows to selectively graze twenty percent of the sward where-by maximizing animal performance, and tran-splanting the rest into the soil substrate for our biological livestock. Questions and conversations about WASTING grass circled the rancher to which he held steadfast to his belief, "There is no such thing as wasted grass. You'll make more money turning litter into an active, healthy microbial soil growing more forage and drought-proofing your farm than selling beef".

I was pleased to condition my grazer's eye to what constituted an 80, 50 and 20 percent pratmeal. I also bantered the grass king about fuel to cut grass. Maybe you should change your management, animal densities or add cow numbers to take care of your need for conformity. Mother Nature likes her land to be a mosaic of heights for all species, and not just for your cows". "Ok already, I'll study my decision to mow more closely", I said.

This brought Ian to say, "Who cares, and was it part of my holistic goal? You must gauge the energy in-energy out advantage of your decision to spend valuable time, equipment and fuel to cut grass. Maybe you should change your management, animal densities or add cow numbers to take care of your need for conformity. Mother Nature likes her land to be a mosaic of heights for all species, and not just for your cows". "Ok already, I'll study my decision to mow more closely", I said.

The idea of mob stocking and ultra-high stock densities grazing tall paddocks is to invigorate the microscopic biologists, dung beetles and microscopic life forms grazing on the paddock. The cows, calves and bulls.

Ian advocates for a cafeteria style mineral program containing at least 12 separate ingredients mixed with sea salt.

Rotokawa Beef Cattle Company was the gathering place for 30 farmers from the Northeast, Texas and Canada to learn about grazing principles and holistic decision-making.
Pasture Bloat in Sheep

By Ulf Kintzeli

For a sustainable grazing system, one should have legumes in the pasture. Legumes have the capability of fixating nitrogen from the air and thus reduce or even eliminate the need for nitrogen fertilizer. To accomplish this, the pasture must contain at least 30 percent of legumes. I prefer 50 and up to 70 percent of legumes in the pasture. Legumes are also highly nutritious and remain palatable when grass dries up. However, most legumes like clovers and alfalfa (and with the exception of Birdsfoot Trefoil) have one big disadvantage: They cause bloat. Bloat is defined in this case as a forage causing the buildup of gas in the rumen, which must be released and expands to the point that it pushes onto the diaphragm, making it difficult to impossible for the animal to breathe, and on occasion suffocates.

Many articles have been written about how to prevent bloat. Often times I have found that the advice given was not based on experience and prove to be ineffective. In this article I will describe what I found over the course of more than 25 years that works or doesn't work.

The most important approach in dealing with bloat is preventing it rather than treating it. Not every part of the legume plant causes bloat equally. The more fibrous parts of the plant are not likely to cause bloat, but the young leaves are. In addition, there are times and conditions when the same stand of legumes is more likely to cause bloat than at other times.

A young stand of legumes that lacks fiber and is just a few inches or less is something that needs to be avoided. Letting the stand mature will increase the amount of fiber. Additionally, it is harder for the sheep to eat fast when the plants are taller. Fast or hasty eating aids bloat. In case of alfalfa the rule of thumb is letting it bloom. Red Clover can also easily grow taller before pasturing. White Clover on the other hand is a lot harder to deal with since it never develops much fiber and also matures at different times in a stand.

In a rotational grazing system it is up to the manager to determine the size of a grazing cell and the time the sheep spend in it. A small grazing cell in which all animals just fit in without leaving much additional space assures that the sheep will have to eat all of the plant, including the parts with more fiber. After eating the cell down, the sheep should be immediately moved to the next cell before they get hungry again. Smaller grazing cells also prevent the sheep from rushing around, looking for the tastiest plants, and thus prevents the sheep working up a higher heart rate which also aids bloat. In fact, any rushing and hastiness should be avoided when facing the possibility of bloat.

The single most important advice I can give is this: Keep the pasture full and doing "nothing" when I found over the course of more than 25 years that works or doesn't work.

Doing "nothing" was indeed the best advice I ever received. I lost far fewer sheep that way in comparison to being very active, trying to keep sheep from dying. That approach takes nerves and yet it really does work.

So, between keeping my sheep full and doing "nothing" when I get some bloat on rare occasions has led to next to no losses due to bloat in the last years. The rare sheep that stall bloats is being culled, if I get a chance and the sheep doesn't beat me to it.

Ulf Kintzeli owns and manages White Clover Sheep Farm (www.whitecloversheepfarm.com) in Rushville, NY where he breeds grass-fed White Dorper sheep. He can be reached at 585-554-3313 or by e-mail at ulf@whitecloversheepfarm.com.

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Training Systems for Wine Grapes

Richard Lamoy at Hid-In-Pines Vineyard is researching the best training systems for his hybrid varieties with the help of a SARE farmer grant.

By Annie Bass

French law has regulated how wine makers can grow their grapes since the sixteenth century. Germany, Hungary, and Portugal also have some of the oldest appellation laws, from what percentage of the grapes in a bottle of wine have to be of the stated variety, to how many buds can be left on each vine. Needless to say, the best ways to grow the old varieties of grapes are well known.

Richard Lamoy operates Hid-In-Pines Vineyard, in Morrisonville, NY, and, unlike the time-tested varieties of Europe, his main varieties of grapes are hybrids, which were developed in 1911, 1970, and 1996. Though Leon Millon, La Crosse, and Frontenac grapes are now grown throughout the Midwest, Northeast, and Canada, there is still no consensus on what the best techniques are.

With the help of two farmer grants from Northeast SARE, Richard is finding out. In 2009, he conducted an eighteen-way comparison: the Leon Millon and Frontenac varieties were trained in Vertical Shoot Positioning and 4 Arm Kniffen systems, La Crosse vines were trained in 4 Arm Kniffen and Top Wire Cordon systems, and all six of those samples were divided into Shoot Thinned, Cluster Thinned, and control vines. For each combination, Richard measured the productivity of the vines, the sugar and acidity of the grapes, and the labor required to produce them, calculating a net value per acre. In 2010, he is repeating the trial to verify the results. He also added four new varieties of vines, trained in four different systems, to show field session attendees how to prune in the vines’ establishing years.

The training systems dictate which parts of the vine are removed in the winter and how the remaining parts of the vine are directed to grow. The shape and layout of the vine can be tailored to optimize airflow, preventing disease, and sun exposure for the leaves and berries on all parts of the vine to photosynthesize properly. The training system can also ease vineyard maintenance, putting all of the grape clusters at an optimal height and positioning the locations to be pruned.

In 4 Arm Kniffen, the vine has two sets of two branches (cordon), like a combination of a capital and lower-case T. The cordon are trained to grow along horizontal wires. Shoots, the small branches which are pruned at the end of each season and which bear the clusters, grow from the cordon in all directions. In Vertical Shoot Positioning (VSP), two cordon grow along the lowest of several wires, and the shoots are sandwiched upright between the higher sets of wires. In Top Wire Cordons (TWC), the vine has two cordon along the top wire, and the shoots hang down across the lower wires. The Shoot Thinned and Cluster Thinned vines were pruned during the growing season according to their names.

Richard found the largest gains with the Frontenac vines grown in 4 Arm Kniffen with Shoot Thinning. A combination of low maintenance, low acid, and high sugar (due to the levels of sunlight the fruit received) both increased the grapes’ value and decreased labor costs. Though the higher yield produced by a particular method is sometimes counterbalanced by the poor quality of the fruit, in the Frontenac case, the Shoot Thinned 4 Arm Kniffen produced both better fruit than the VSP vines, and more of it. In the case of the Shoot Thinned vines, 4 Arm Kniffen yielded 67% more fruit than VSP. The Leon Millot variety yielded similar, though less dramatic, results.

The La Crosse vines were a replacement for a sample of the Chardonnay variety, which are usually cold hardy enough to grow in northern New York, but which suffered dieback all the way to the snow line due to unusually cold temperatures last year. The rows containing La Crosse vines were shaded by trees with Richard has since cut down, which lowered the grapes’ sugar levels. Their acid levels were also low, indicating that without the shade, the other conditions would produce high-value grapes. The four-armed vines produced a higher yield than the two-armed (TWC) ones.

Comparative projects often outsource the testing of their results. Richard worked on a previous project testing which of 25 varieties were sufficiently cold hardy, which did just that. (The project was guided by Kevin Lugerman, of the Cornell Cooperative Extension NY Fruit Program, who as a result of that collaboration became Richard’s SARE grant technical advisor). But this time, Richard did all of his analysis in house. From September until the mid-October harvest, he measured the brix (sugar), pH, and titratable acidity of 50-grape samples from each group of vines every ten days. The results are available along with his final report, one spreadsheet in a series of meticulous records, which allow others to make use of his results, and made Richard’s 2010 SARE project all the easier.

Unlike France’s Appellation d’origine controlee laws, Richard isn’t looking to specify font sizes for wine labels. In fact he doesn’t want to regulate anyone’s practices at all. But the information he’s providing is just as precise and reliable as any old-world code. And it may just change the norms of new-world viticulture.

This article discusses SARE grants FNE09-662 and FNE10-691. To view the final report from 2009, visit http://sare.org/MySare/ProjectReport.aspx?do=viewProj&pn=FN

To learn more about Hid-In-Pines Vineyard, visit www.hipvineyard.com/hipvineyard.

Annie Bass was a summer intern with the Cornell Small Farms Program in summer 2010. She may be reached at arb258@cornell.edu.

Richard demonstrates winter pruning for field day attendees.

For advertising information call: Bruce Button, Country Folks, 518-673-3237
Small Farms, Big Job

By Billy Yang, New York, NY

Everybody has a comfort zone. Mine is with roaring subway trains, crowded streets, and colossal skyscrapers in a bustling metropolitan environment. Small farms in rural upstate New York are a nearly completely foreign concept to me. However, after visiting several of these farms, I finally had a chance to see what was behind all the milk in the supermarket, or that piece of lettuce in the produce section. But more importantly, with the help of these field trips, I came to realize the amount of hard work and dedication needed for these farms to succeed and thrive the way that they do.

The first stop on my three-day trip here at Cornell University was MacDaniel’s Nut Grove, located on the Cornell University Campus. There, I was introduced to the concept of forest farming, where crops were grown in the shady, damp environment that a wooded forest provides. The people who worked there grew a variety of crops ranging from native pinecones, to exotic Shiitake mushrooms. The Shiitake mushrooms, a delicious kind of fungus native to China, are grown in logs, specially inoculated with the mycelium of the mushroom and sawdust. After a long year of living in a relatively dormant state, the mushrooms sprout out after being soaked in water for 24 hours. It is certainly a lot of work and requires some amount of patience, considering a year of waiting produces only one pound of mushrooms per log. They also grow ginseng plants there for their roots. These small, simple plants can take more than ten years to harvest. However, wild ginseng can fetch upwards of $600 per pound; that is quite an investment!

The next day, we explored a few places farther out, off campus. After a 45-minute drive from the university, we arrived at Keisinger’s Apple Country in Watkins Glen. Because I am such a huge fan of apples, I certainly wondered how they were grown. At the orchard, Rick Keisinger, who does most of the work along with his daughter, showed us how apple trees were planted, grafted, and maintained. The growing of apples is such a laborious task! He grows more than twenty varieties of apples there on more than 9,000 trees, and it takes a large amount of work all year long to keep the orchard running smoothly. When he has to thin the apple trees, it can take hours to finish a single row. With the amount of work that he has to put into his orchard, I have come to appreciate apples for more than just their crisp, sweet flavor.

Later on in the day, we dropped by Sunset View Creamery in Great Swamp, and saw how a third-generation dairy farm and creamery on more than 400 acres of land. Just looking at the sheer amount of land, it is clear that it cannot be an easy job to maintain all of it. The wonderful amiable woman who gave us a brief tour of the farm, Mrs. Hoffman, showed us the machinery behind cheese production. The entire process involved pieces of large machinery, and it can take many hours in a humid room that may approach temperatures in the nineties to produce cheese. It definitely seemed like an interesting task. However, before we left, she gave us a few pieces of cheese to try, and I can safely say that all that hard work has paid off.

Our last trip was to Sunset View Dairy Farm. I loved seeing the animals. Coming from a much more urban area, I felt like I was on an “authentic” farm with all of those cows mooing around me! The science put into the use of lead arsenate. It inspired me so much and broadened my horizons and become a little more educated. I am grateful that I actually got to see farms and learn about what they do.

Each trip we took was very eye-opening. I learned a lot and I’ve gained a lot of respect for the people who work on farms. I also became inspired to find places to work in my community as well as New York State and get involved in the local food movement.

Small Farms Quarterly

Exploring the Small Farm Dream

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

Exploring the Small Farm Dream

By Dana Seag, Rockland, NY

Coming from a suburban area, just outside of New York City, I was unaware of the work, money, and science put into farming. My 4-H program was not agriculturally based, but I learned living on a farm. Before attending Career Explorations, I loved gardening in my less-than-half-an-acre backyard, but I had very little knowledge of the large scale growing and care of fruit, vegetables, and livestock.

Our first visit was to MacDaniel’s Nut Grove here on the Cornell campus. Learning about forest farming was particularly interesting because, unlike the other types of farms we visited, I had never even heard of it. Although they are easy to grow, mushrooms take a lot longer than I thought to grow. They were also making ginseng, a plant used for its roots that take 10 years to harvest. These little roots can sell for $600! I never imagined people using the fungus to grow domesticated food or that one tiny root could be sold at such a price.

Dilmun Farm, also on campus, was really interesting. It is almost entirely run by underclassmen, which really impressed me. The students were all very excited about their work and you could tell they loved being out in the fields. It was really encouraging to see young adults putting so much work into something they love. Not only were these students toiling away in the hot sun all day, but they were participating in cutting-edge research as they tried to find ways to plant over land contaminated from the use of lead arsenate. It inspired me so much that I can’t wait to go back to Dilmun and look for similar opportunities for teens.

The amount of work put into owning and caring for an apple orchard is immense. I had no idea what I was thinking in I wouldn’t learn much much stick a seed in the ground, wait for it to grow, maybe turn on the sprinklers twice in a while, pick the apples. But that is nowhere near what Rick Keisinger does, and his farm is not just a hundred apple trees. He grows apples on 9,000 apple trees currently and has plots for black raspberries and raspberries as well as strawberries and sour cherries. The apples must be cared for during all 4 seasons, it’s not just the planting in the spring and picking in the fall that I thought. Apples must be picked off by hand before the tree loses energy trying to grow too many, meaning Keisinger and his daughter had to go around 9,000 trees this spring and pluck off excess apples! I gained a lot of respect for apple growers and I would love to help in one of the orchards near my home.

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More information about the Cornell Cooperative Extension 4-H Youth Development program can be found at: http://nys4h.cce.cornell.edu
Tricks of the Trade: Farmer marketing advice from the masters at the Ithaca Farmers Market

By Aaron Munzer

Any farmers market vendor worth their vegetables can tell you that if you don’t catch people’s attention, you won’t sell your product. So how to do that, without shouting your prices with a megaphone, or throwing your oversized eggplants at the customers to damage to the plants…? What is the best way to market your products? To know what to do, what to say, and how you can get customers to stick around is to offer samples, which Bellorti always has prominently displayed? “You're never going to taste a cheese like ours, unless you're at our booth,” she says.

Perform
On slower days at market, you can see Lauren Salzman, who works at the Garlic Farm in Newfield, NY, says he makes a conscious effort to meet passersby with eye contact and a friendly greeting.

“When they’re walking by, they’re resistant to talking, so you have to break the ice,” he says.

Rosé Bellorti, who makes probiotic raw milk cheese at Finger Lakes Dexter Creamery, points out that engagement doesn’t end with a greeting - she tries to have conversation with as many customers as are interested.

“A lot of people want to tell you about their life, or how they grew up on a farm, it’s like therapy for them,” she says. In addition, she and her husband Tim will often let customers name their cheeses, so they can go back and talk about what it is they find, which builds loyalty, she says.

Another way to get customers to stick around is to engage the customer.

Stones simple, doesn’t it? In reality, it’s much easier to hide in the back of your stand and read a book, knit a sweater, or finish that crop rotation plan you’ve avoided for months. Fritz Schmidt, owner of The Magic Garden, a plant nursery in Newfield, NY, says he makes a conscious effort to meet passersby with eye contact and a friendly greeting.

“Why should I use disease resistant varieties? Are disease resistant varieties resistant to all the races and strains of a single disease. How does disease resistance work? A plant’s leaf surface may prevent the disease organism from growing. Or the plant cells may react to the pathogen and disease to prevent it from spreading to other cells. Or the plant may produce chemicals upon infection that act like our own immune systems. Some reactions are general and may control more than one disease. Others are very specific and only interfere with certain disease organisms or strains of a particular disease. Because these reactions are genetically controlled, they can sometimes be combined in a single variety to give multiple disease resistance.

How do I know which disease resistant veget-

ables are working?

If you know which diseases you usually get in your vegetable garden, look for a variety with resistance to those. If you aren’t sure which diseases you have, or you are starting a garden for the first time, try a variety with resistance to multiple diseases.

Where can I get more information on resist-

ant vegetable varieties?

* Vegetable Varities for Gardeners (http://veg-

iety.cce.cornell.edu/) has lots of information on the different varieties to grow. Use the search feature and type in the disease name or simply type in "resistant" to find a list of appropriate varieties.

* MD Vegetable On-line (http://vegetableon-

line.ppath.cornell.edu/) has descriptions of di-

ese pests and lists of products to help you iden-

tify what’s making your plants sick. It also lists resistant varieties for each crop (see button on left of main page).

* Some seed catalogs add codes for disease resistance to their variety descriptions.

* Ask your local garden center!

“Nope, they just want to grow this way,” Bickford says, tossing a one up and down like a tall ball. That’s another one of his strategies - constantly keeping the vegetables in motion. He’s always rearranging stakings of peppers on his vegetable tent, or tossing new bundles of Swiss chard and kale onto the stacks.

“I’m always fussing with what I have, sorting veg-

ies, or tidying up. If you have the same piles of vegetables, people who come in can’t use this up. That’s a good idea to have some resources to help you identify and treat them. Here are a few places to find information on disease identification and control that fits into an organic production system.

1) Disease and insect management for organic producers can be more difficult because of the limited control options available. Cornell has produced a set of guidelines for inte-

grated pest management of crops, vegetables and dairy.

2) Crop and insect pests is available on-line and through a hard copy manual.

3) Insect guide. The Resource Guide for Organic Insect and Disease Management also provides information to help organic farmers. The Guide is divided into three sections. The first section provides cultural information and management practices for a number of important vegetable crop groups. The second section is a set of generic facts about specific materials that can be used in organic systems. The last section contains appendices with useful information about additional practices and additional resources.

Resource Guide for Organic Insect and Disease Management

http://www.nysipm.cornell.edu/organ-

ic_guide/

For more information, please visit the following websites:

1) NYS IPM Factsheets

http://nysipm.cornell.edu/factsheets/vegetables/default.

2) Information on natural enemies that can control vegetable insects is available on-line and through a hard copy manual.


Horticulture

Another Tool for your Disease Management Toolbox: Disease Resistant Varieties

By Elizabeth M. Lamb

Last summer’s tomato late blight epidemic may have been the first time many people heard about using resistant varieties to control disease. But what is disease resistance and how can it help small vegetable farmers and home gardeners?

What is disease resistance? Disease resistance is a plant’s genetic ability to prevent a disease causing pathogen from causing disease and damage to the plant. Some species develop resistance to diseases through natural selection. Many of the varieties available today have been bred to have resistance to one or more diseases combined with good yield and other desirable traits. If a variety is described as resistant then all the plants of that variety will be resistant to the diseases listed. Levels of disease resistance can vary from near immunity to a restriction in disease development. This depends on how the plant resists the disease and the genes involved.

Why should I use disease resistant varieties? Disease resistance is one way to reduce reliance on pesticides to control diseases that reduce yields and harm the environment. It is a stand-alone measure - it needs to be combined with cultural and environ-

mental methods that reduce the potential for dis-

ease. Disease pressure is very high, some pesticide use may be required.

If a plant is free of diseases, does that mean it is disease resistant? Not necessarily. In order for disease to develop, the pathogen needs to be present and the envi-

ronment needs to be conducive. Under these condi-

tions, a disease resistant variety will still grow good and produce well while a susceptible vari-

ety will show symptoms of the disease.

Are disease resistant varieties resistant to all diseases and insects? Unfortunately not. A disease resistant variety might not be resistant to all the races and strains of a single disease. However, breeders are working to develop varieties that are resistant to multiple fungal, bacterial and viral diseases. Insect resistance isn’t common in veget-

able varieties although some have resistance to nematodes.

Resource Spotlight: Organic Insect and Disease Management

By Elizabeth Lamb

As new plant diseases seem to appear every year, it is a good idea to have some resources to help you identify and treat them. Here are a few places to find information on disease identification and control that fits into an organic production system.

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Resource Guide for Organic Insect and Disease Management

http://www.nysipm.cornell.edu/organ-

ic_guide/

4) Another resource for identifying diseases of vegetable crops is the department's Vegetable MD On-line. On-line factsheets in English and Spanish provide descriptions and photographs of a wide variety of vegetable diseases. There is also a link to news articles and crop alerts, that includes updates on control materials registered in New York, and another for disease diagnostic keys for cucurbits and tomatoes.

Vegetable MD On-line http://vegetablemdonline.ppath.cornell.edu/

5) The NYS Integrated Pest Management program has a series of fact sheets on vegetable and garden and insect pests, including information on biological control of economic vegetable pests.

NYS IPM Factsheets

http://nysipm.cornell.edu/factsheets/vegetables/default.

6) Information on natural enemies that can control vegetable insect pests is available on-line and through a hard copy manual.


Growing a Groundswell

Groundswell Center cultivates the next generation of farmers and food citizens

By Rachel Firak

Where is the culture of agriculture? Is it found in homesteads, ranches, and close-knit farming communities in rural America? Can it be glimpsed in farmers markets, community gardens, and country kitchens where family and friends gather? Our civilization has preserved food together for generations. Has it followed us into the cities, to be reincarnated in urban chickens and window boxes? Or has this ancient agriculture vanished, unnoticed, along with the small farms and farmers of our nation? And if it has, how can we rebuild it?

Last winter, seeking answers to these questions, I began working with The Groundswell Center for Local Food & Farming in Ithaca, NY. An emerging agriculture education nonprofit, we follow the footsteps of Growing Power in Milwaukee and Hawthorne Valley Farm’s Learning Center in Ghent, NY. The Groundswell Center involves youth and adult learners in all aspects of sustainable food production.

In 2010 Groundswell launched three new programs: the Finger Lakes CRAFT, the Summer Practicum in Sustainable Farming and Local Food Systems, and the Ithaca Crop Mob. A new USDA-funded New Farmer Training Project is also on the horizon. Each program seeks to educate people from all walks of life in matters of the soil, and in doing so, build community from the ground up.

Finger Lakes CRAFT

When Groundswell interviewed local farm interns last winter, we discovered a trend. Interns almost universally expressed the need for access to higher-quality educational opportunities in farming, as well as enhanced networking opportunities. In response to these needs, Groundswell launched the Finger Lakes CRAFT (Collaborative Regional Alliance for Farmer Training). The first CRAFT began in the Hudson Valley in 1992. By 1994 to augment the training interns were receiving on their respective farms. Every month, a different CRAFT farm sets aside a full day to educate a group of interns. This next generation of farmers are introduced to the diversity of farming operations and management styles, and in the process, connect with other farmers and interns. Since 1994, five CRAFT programs have been established in the country; the Finger Lakes CRAFT is the newest addition.

This fall, one of our program’s priorities is to host 12 participat- ing farms and 23 trainees. One of these farms is Dilmun Hill, Cornell University’s student-run farm. Elizabeth Goodwin, a CRAFT trainer and one of Dilmun’s student managers, feels that participation in CRAFT offers “Dilmuners” a chance to see aspects of farming they wouldn’t otherwise. “We work within certain limitations. We can’t have animals at Dilmun, and there aren’t the same financial pressures, since we’re not dependent on market revenue,” she says. “It’s really important for us to be exposed to farmers who do have livestock, and who are making farming their livelihood, so we get a fuller picture of what farming is.”

Elizabeth feels CRAFT’s education and networking opportunities are in alignment with the philosophy behind CRAFT- connecting people, sharing information, sharing experiences, and getting people inspired to try different things. “It’s a model for all of our group,” she says.

By mid-fall, the interns from Dilmun had had over 30 hours of training at participating farms. The program serves new farmers, but Goodwin expects it will benefit our whole local community. As serious prospective farmers are attracted to the Ithaca area for its opportunities in hands-on agricultural education, our farms, businesses, institutions and food consumers will all share in the advantages.

The Groundswell Center’s exhortation, “Help us create a truly community-supported agriculture,” reminds us that agriculture is not just about plants, but people. Widening our agricultural circles, and providing our farmers and future farmers with opportunities to learn from one another, will strengthen our community and awaken us to our interconnectedness- the fact that we are all participants in the culture of agriculture.

For more information on the Groundswell Center for Local Food & Farming, visit www.groundswellcenter.org.

Rachel Firak is a Program Assistant with the Groundswell Center for Local Food & Farming in Ithaca, NY. She can be reached at: info@groundswellcenter.org.

Students in Groundswell’s Summer Practicum work one full day each week at West Haven Farm, located at EcoVillage in Ithaca, NY.

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October 4, 2010
Cows and Crops

Rare Breeds Pose Challenges, Offer Opportunities

By Adrienne Masi

Ever since the advent of animal agriculture, 10,000 years ago, countless breeds of livestock have evolved and adapted in response to natural and human selection. Livestock breeds adapted to harsh environments and to the interests of their human partners, evolving traits such as increased milk or muscle production, smaller size relative to wild ancestors, and distinctive coloration. Differences in environment and culture contributed to the development of about 7,600 livestock breeds worldwide. However, 20% of the world’s livestock breeds are known to be at risk of extinction.

Maximizing production is the primary concern of modern agriculture, and breeding programs reflect this priority. A handful of breeds comprise the majority of the population: four breeds of swine make up 87% of the American pig population. Holstein cattle are about 83% of the national dairy herd, while three breeds of beef cattle make up about 60% of the American population. The dominance of a small handful of breeds has significant consequences not only for other breeds, but also for farmers whose needs aren’t easily met by production-oriented animals. Perhaps most important, the emphasis on production raises concerns about the viability and longevity of the livestock gene pool.

The motley crew of livestock breeds developed and used in traditional agriculture are broadly called heritage breeds. They were not selected only for other breeds, but also for farmers. As the needs and preferences of small-scale producers change, heritage breeds can be a blessing for a smallholder who would be overwhelmed by, say, a Holstein’s average 77 pounds of milk per day. Heritage or mixed-breed animals are often better suited to pasture conditions than animals that have been bred to thrive in enclosed facilities. Some heritage breeds, like American Guinea Hogs and Nigerian Dwarf goats, are smaller and may be easier for children and small adults to wrangle.

However, heritage breeds aren’t just interesting and useful for contemporary small-scale or niche producers. Anticipating changes in climate, societal preferences, market conditions, and agricultural practices, organizations like the American Livestock Breeds Conservancy, the SVF Foundation, and the Food and Agriculture Organization are encouraging the preservation of livestock genetic diversity. Traits such as disease and parasite resistance or high fertility may be confined to rare breeds today but may become commercially viable or even vitally important in the future. If such breeds become extinct now, we will lose the opportunity to adapt our current livestock to future conditions.

Resource Spotlight

Additional information about livestock conservation and specific breeds of heritage livestock can be found in the following sources:

American Livestock Breeds Conservancy - http://albc-usa.org/. Offers information about livestock conservation and genetic diversity. ALBC’s work includes research on breed populations and distribution, gene banks, education, and support of farmers and breed associations.


Oklahoma State Department of Animal Sciences - http://www.ansl.okstate.edu/breeds/. Information on a wide variety of breeds of all types of livestock.


Those interested in raising heritage animals should be prepared to research a variety of breeds to find those best suited to their environment and operation and should plan to plug into a network of producers. Saving or maintaining a rare breed is nothing if not the collective, coordinated effort of a dedicated individual. It’s also a rewarding way to learn more about animals, agricultural history, and science while making new friends. See the Resource Spotlight or contact your local Extension educator for additional information.

Adrienne Masi is a Cornell graduate and former intern for the Small Farms Program. She can be contacted at amm428@cornell.edu.
Field Fresh Beans

By Jill Swenson

The sign may say "fresh," but that is no indication of when beans were picked or how they taste. "Fresh" means they aren't frozen or canned. Beans, like most farm produce, lose nearly 50% of their nutritional value within one week after being picked. If you live on a farm, or grew up on one, you know exactly what farm fresh beans should taste like.

Bean season in upstate New York spans summer into fall: starting in July, you can pick beans into September; or even October with a fall planting. If you buy "fresh" beans outside of this growing season, it means they are at least a week old, if not more, and certainly not fresh. You can find cheap beans, be it at distributors, regional warehouses and big produce auctions sold as "fresh." But such beans can't compare in taste to beans delivered within 24 hours from farmer's field to your plate.

So how do you know if the beans you buy at the roadside stand, local grocer or farmer's market are REALLY farm fresh? Here's an old farmer's trick you can use. In the first 24 hours of picking, beans have natural fuzz much like a peach. Any cotton t-shirt or garment of picking, beans have natural fuzz much like a peach. In the first 24 hours of picking, beans have natural fuzz much like a peach. This fuzz tells you that beans are fresh and, if you find beans that do not have fuzz, you know they are at least a week old, if not more, and certainly not farm fresh.

To test beans for freshness, try this farmer's trick you can use. In the first 24 hours of picking, beans have natural fuzz much like that of a peach. Any cotton t-shirt or garment you are wearing will work to test the bean for freshness. If the bean sticks to your shirt better than if you'd attached it with Velcro, then the beans are fresh. If it doesn't stick to your shirt, put it back and walk away. Those aren't field fresh beans.

If beans are more than a day old, they need to go into cold storage to stop further decomposition of the sugars into starch. Field fresh beans should not really 'snap.' You should be able to bend a bean almost in half before it splits with a wimpy crisp sound. No seeds inside should show bulges on the outside. Once the plant puts the energy into seed making, the beans are tough and stringy. It doesn't taste fresh when raw, beans will taste worse when cooked. Depression era cookbooks often include a recipe for preparing these old beans: "feather britches beans."

Recipe: Creamed New Potatoes and Yellow Beans

Ingredients:
- 1 quart field fresh yellow beans; snap the cap ends off and rinse in cold water
- 1 lb of freshly dug and thoroughly washed new potatoes; red or white. It matters most that the potatoes are small and harbor no more than a few minutes. In a large cast iron frying pan, slowly melt the butter. Then set aside.
- 1/2 c. fresh cream [or buttermilk]

Instructions:
Put the butter back on the burner on medium and add one tablespoon of the cornstarch mixture to a jug. Stir vigorously. Pour in the cream and blend thoroughly. Turn heat down to low and mix with a wire whisk until it begins to thicken. Turn heat off and let steam until you finish the roux.

Drain the potatoes, add and yellow beans to the 4 qt pan. Boil for 2 minutes more. Then turn off heat and let steam until you finish the roux.

Recipe for Silly Dilly Beans

Nearly every refrigerator has a jar in the back filled with old dill pickle juice. Somebody has done left the jar and eaten the last pickle. Mom cleaned out the fridge religiously in the month of July heat and humidity. I discovered her logic later in life when I wanted to crawl into my own Calvinator as I struggled to put up seasonal yummies in a filthy freezer long ignored for the weeds in the garden. The current steam bath climate has me looking in my fridge for such a jar of brine. Olive juice works too for silly dilly beans; perfect garnish to your Bloody Mary.

After a meal of green and/or yellow beans simply steamed, you may be lucky enough to have leftovers. If the beans have not already been lathered in butter and herbs (which could get rancid in this low-heat pickling process), put the naked beans in your old pickle jars with the leftover brine. Cooking the beans stopped the process of converting sugar to starch and they're ready to pickle as is. Overnight refrigeration makes for an instant dilly bean. They'll last until January when mom cleans out the fridge again and enjoys the last taste of field fresh beans.

Fall's Bounty:
Field Fresh Beans

By Jill Swenson

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- 1/2 c. fresh cream [or buttermilk]

Instructions:
Put the butter back on the burner on medium and add one tablespoon of the cornstarch mixture to a jug. Stir vigorously. Pour in the cream and blend thoroughly. Turn heat down to low and mix with a wire whisk until it begins to thicken. Turn heat off and let steam until you finish the roux.

Put a 4 quart pan half full of water to boil.

When the water is boiling, add potatoes. Boil at medium heat for 10 minutes.

Dilly beans:

- 1/2 stick salted butter (no substitute for the roux)
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Creamed new potatoes and yellow beans is the one recipe I heard over and over again from family, friends and neighbors as central to local cuisine. When folks mention it, there is a visceral reaction that erupts from the stomach and emits a sound; "Mmmmmm."

Dig potatoes, pick beans. Autumn is nigh.

Jill Swenson is a former farmer and freelance journalist living in Brooktondale, NY. She may be reached at 607-539-3278 or jilldswenson@yahoo.com.
Aeroponics: a piece of the urban farming jigsaw puzzle?

By By Aaron Munzer

Ed Harwood is willing to concede that many folks think of urban farming as raised beds on vacant lots. But he also thinks there’s another way to grow vegetables in cities that’s just as promising, and it uses a new stackable, modular hydroponics technology called aeroponics, that his company AeroFarms has refined and now offers to other growers.

“I haven’t seen any silver bullet for [urban farming] yet,” he says. “Everything has its own technical limitations.”

In a nutshell, aeroponics is a system of growing plants by continuously spraying a mist of nutrient-laden water on their roots, which hang in the air in a special system. Though hydroponics is a system as old as Babylon, aeroponics is a more recent innovation - it was originally developed in the 80s as a research application to allow scientists to better study root growth. Harwood’s four-employee company tested the system for more than four years before deciding to offer the technology to others.

The benefits to the method? Better airflow, Harwood says, in addition to less water usage and, of course, the ability to grow vegetables year round. In addition, he has perfected a reusable cloth medium for growing the plants, which saves costs, and says that even though the system is not technically organic, it requires much less water and virtually no pesticides or herbicides because of the contained environment, making it more sustainable than conventional cropping.

Plus, a farmer using the system can grow fresh greens year round, and not have to worry so much about food safety, since there’s no contact with soil borne pathogens or animal manure.

“Greens go straight into the bag, so most sources of contamination in conventional systems are avoided,” he says.

He envisions the technology AeroFarms sells as a way to fill the many abandoned buildings within upstate New York cities with small, productive farms. In fact, the building where his system is located is in an old canoe factory in Marathon, NY, although he has plans to move his operation to Ithaca, NY in the future.

Ed Harwood, founder of Aerofarms, inspects his baby arugula plants in his company’s research facility in Marathon, NY. Photo by Aaron Munzer

The system currently works well for growing mostly leafy greens and herbs, and, though the cost for the smallest system is currently $20,000, he’s hoping the results will shatter expectations. He has a program that allows potential buyers to test the product with a short term lease, because he knows it’s a new technology that some people might be wary of trying. Harwood also puts that $20,000 into perspective:

“My brother has a tractor that cost him $220,000 dollars,” Harwood says. “Aeroponics is as capital intensive as dairy farming, you can start out fairly small, and grow, but nevertheless you’re going to be putting into a fair amount of capital.”

The smallest system, called the AGL21, requires a 25 square foot room, and with a growing surface of 91 square feet, should produce 48 to 68 pounds of produce a month, depending on the crop. Harwood says. Monthly inputs are 122 gallons of water, 1.6 gallons of fertilizer, and about 5 ounces of seed. The units are also stackable up to seven high, to make most use of the space. In comparison, a conventional agricultural crop requires 27 gallons of water to produce one pound of food.

His company has already installed the first system in a grow operation in Newark, NJ, and he recently received $500,000 in venture capital funding to expand the product marketing and R&D.

“We’ve put science behind it,” he says, noting that he spent R&D.

For those who doubt the technology's promise, Harwood suggests looking to an unlikely bellwether group for indoor growing technology - the constituency of early adopters, often thought of as the bellwether group for indoor growing technology - marijuana growers.

Even if it's ultimately not the right system for a small urban farmer, Harwood encourages them to look into it more, at his web site, http://www.aerofarms.com/.

“We have been working to support farmer's business models,” he says. “For a very little investment they can do a fair amount of their market plan, they can also lease a unit, show it to investors, vendors, have an open house to expand on that market analysis. We make sure it's the right system for people.”

But according to one Cornell University professor who’s used similar aeroponic technology in his research on root diseases three years ago, the system had some serious downsides.

“We were never satisfied with the concept,” said Lou Albright, a professor in the department of biological and environmental engineering, who built a system three years ago. “With the smallest interception of [power] you don't have [mist] coming into the chamber, so you really have to back up the system. It doesn't have to happen very many times a year, but it can cause you to go bankrupt.”

In addition, nozzles tend to be easily clogged, energy costs were higher than expected and the growth and vigor was never as good as normal hydroponic systems, Albright said.

“They're solvable, but I don't know it's worth the effort,” he said. “[Harwood’s] very brave to try this.”

Harwood says he’s resolved many of these difficulties, or they simply don’t apply to a commercial grower - high energy costs are wiped out by low input costs and profits, he said, and the clients he’s looking to sell to will have backup power generators to avoid crop losses. In addition, Harwood said he’s developed proprietary nozzle technology to avoid nutrient build up and clogging, and his yields are comparable with existing hydroponic systems.

For those who doubt the technology’s promise, Harwood suggests looking to an unlikely constituency of early adopters, often thought of as the bellwether group for indoor growing technology - marijuana growers.

Aaron Munzer is a freelance journalist writing mostly about agricultural and environmental developments. He is the caretaker of a small farm in Dryden, NY and is also the assistant manager of the Ithaca Farmers Market.
Kevatta Farms Dairy

By Debra Welch and Nancy Glazier

Kevatta Farms, in the hills of Dansville NY, is owned and operated by Kevin and Annetta Herrington with children Jessica and Tyler. Their high-producing registered herd consists of predominantly Holsteins and Jerseys that are grazed on 65 acres. Youngstock are grazed on 15 acres of dedicated pasture. Kevin has worked closely with JoBeth Bellanca, NRCS District Conservationist, over the past 6 years to implement many conservation practices. The farm also participates in the NY Cattle Health Assurance Program (NYSCAP), with veterinarian Dr. Rob Wilson from Perry Vet Clinic.

Since Kevin’s pastures are all uphill from the barn and the well, initially he had to pump or haul water daily to watering tubes stationed in the paddocks. Now, however, a solar-powered pump at the top of the hill sends water to a holding tank for the youngster pasture, and if enough water is available, some of the distant cow pastures. Kevin is very pleased with this system, which was purchased and installed literally through a grant with Finger Lakes Resource Conservation & Development Council. The area around the pump is a wet area and contains several springs; water collection tiles were installed which lead to an underground holding tank. The collected water is then pumped to another holding tank and gravity fed downhill parts of the farm.

Kevin's 35 lactating cows are moved to fresh paddocks every day. About 500 bales of alfalfa baleage are made on another farm and brought to Kevin’s farm. The herd prefers being outdoors even in the winter months; Kevin explains this makes it difficult to justify building a new barn. The pasture gets abused, so side even in the winter months. The herd is fed corn silage and baleage there from a wagon. The herd prefers being outside pasture by half from the advice of the district conservationist. This reduces the risk of runoff reduces the area needing seeding. The dry hay, baleage and pack bedding are all grown on rented ground, as well as the corn silage; 300 bales of dry hay and 250 tons of corn silage are harvested. About 500 bales of alfalfa baleage are made on another farm and then wrapped at the home farm.

Eating sustainable meat—grass fed meat humans contributes to our environment; and strengthen our farm communities.

Kevin's 35 lactating cows are moved to fresh paddocks every 12 hours. Dry cows, bred and open heifers are moved into the paddocks after cows. Heifers younger than 12 months are grazed anywhere a cow has been due to disease prevention with NYSCAP. Instead, calves are grazed on other pastures after getting their start in a “training” paddock where they learn to respect electric fence. Kevin improves his pastures by frost seeding with red clover. Each pasture has a 26-day re-growth window, although Kevin knows that pastures are mowed 2 times a year. Kevin discovered that purchased fertilizer did not improve pastures on his poorer soils as much as compost manure from the pack barn and will spread it on.

Cows are milked 2 times a day; grain is fed during milking at a ratio of 1 lb for every 4.4-1/2 lbs of milk. Kevin is in constant consultation with his nutritionist. Overall ration is about 17 to 18% protein. Dry hay is offered free-choice to the cows year-round, but the cows largely reject it in the summer months. The dairy herd is housed in a bedded pack in the winter months with access to an outside pasture. The herd is fed corn silage and baleage there from a wagon. The herd prefers being outside even in the winter months. The herd is housed in a bedded pack in the winter months.

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A Truck Transition

By Troy Bishopp

A tear fell from my eye onto the window sill below as I watched my youngest daughter travel down the driveway on her first solo run. As she drove away in my old battered, slightly rusted, bumper stickered Dakota pickup, I realized my friend that transported me to check the cattle, give my grand dad a Sunday drive away from the nursing home and carried a farmer's passion to D.C. was going through a transition — A truck transition.

It wasn't too long ago that Katie used to travel with me in a booster seat or "rooster" seat as she called it and play with little dinosaurs and Rugrat dolls. It was imperative to keep the radio locked onto KISS FM or play The Land before Time's soundtrack over and over again. I have been down this road before with daughters Lindsay and Sarah listening to The New Kids on the Block, Nirvana and a worn-out cassette of Mary-Kate and Ashley Olsen songs. There were always plenty of adventures when Barbie, Ken, Jem and Della the cow inhabited the cab. You should've seen the peculiar looks from the cattle when a sun-dress wearing little girl wielding a poly-post, and belting out "Smells like Teen Spirit" burst into the paddock.

Ah, the memories of truck time. It's important to recognize the bond between a man (or woman) and his or her pickup as very special. Heck, how many songs or movies have used this agrarian mode of transportation as the theme? My connection to this hunk of steel, rubber and vinyl is a long one. Reciting from my past, my list of motorized compadres include: A 1948 Ford, 1967 3 speed on the column Chevy, 1990 Isuzu space cab, 2001 Dodge Dakota and current 2004 F-150 king cab, 4-wheel drive. If you notice, I usually keep my buds around for awhile. They become like family.

There's no big secret that in our household, Mom is the better driver education trainer with a size appropriate car, devoid of any bumper-stickers saying "Save the Crabs, Then Eat'em". I mean really, who could argue the point since I have been known to take a few short cuts, back-up on the thruway cause I missed an exit and do my own modified parallel parking and 3 point turns. I like to call it -- being seasoned. These behaviors are scorned when taking the road test but it was funny to relive the dad moments and have some laughs while my Katie was anxiously awaiting the "brownie" to give her the test towards parental freedom.

The tester looked military-like, sporting a jacket with coast guard insignias and a flat-top haircut. I said good morning and referenced something about riding with a farm girl while I exited the vehicle, as it would help her get extra points before the test began. Standing on the curb, I watched as the blinker came on to turn right and she yielded to a pedestrian. Mom taught her well. In ten minutes she transformed from a "Little Tikes" foot powered cruiser into a real, insurance paying legal driver. Do you remember how good it felt to drive your parent home for the first time? No amount of words could describe the smitten, wry smile all the way home, indicating this virgin ride was well, priceless.

It was time to dust off the pickup which was parked in the field, patiently awaiting the new driver. "We need to get it up to Sangerfield Tire to check it over, replace two tires and get a NYS inspection", I said. Retiring a truck for six months cost dad 500 bucks as the rusty brake and power steering lines both sprung leaks. When I drove it home from the shop, I became acutely aware of how much stuff can collect in an extended cab over time and that Katie will have to clean it and customize her new ride.

The "hoe out" event yielded two milk crates full of essential truck paraphernalia including 15 cassette tapes, countless fencing and corral plan books, change, batteries, pictures, business cards, mystery plastic pieces, crimps, hay, Mapquest directions, rags, forgotten tools, old Christmas cookie air fresheners and the signature John Elway figurine hanging from the rearview mirror.

By the time I saw my manly workhorse again it was equipped with a new CD player, a pink steering wheel cover, fuzzy dice and the old seat covers were gone revealing a nice, gray-colored palate. The Graze-A-Paloza and Save Gas-LeFem Eat Grass window stickers were all gone but two slogans remained: Farm Girls Rock and Cowgirls Up. These sayings speak well about a country girl and her transitional truck.

I must confess a certain amount of pride when I look at my last daughter getting into my old wheel-horse with the weathered Bishopp Family Farm logo on the door. I think we’ve done alright in preparing her for the future journeys of life. She may never know how the memories of her napping with the herd of toys or belting out lyrics together in the cab on a road trip shaped our relationship together forever. And will she appreciate being relentlessly waved to in our community from folks who know that signature, black Dakota pickup. What I know for sure is; a daughter and her truck is a beautiful thing.

Troy Bishopp, aka "The Grass Whisperer" is a grass farmer and grazing specialist for the Madison Co. Soil and Water Conservation District and the Upper Susquehanna Coalition. To read more of Troy's essays, visit http://www.thegrasswhisperer.com/

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FRAM ENERG Y
Harvesting Waters is a Breeze
By Troy Bishopp

When Jonathan Barter and his family arrived from Pennsylvania in 2006 to take over a fellowed, 210 acre farm in Yates County overlooking Kueka Lake, little did they know how lucky it was to live on a breezy knoll in wine country. “We had a vision of turning the goldenrod into lush green pastures with livestock and working towards getting off the grid”, said the Scotsman.

“Our goal of a diverse grazing system with sheep and beef cattle was coming together but providing water to the outlying paddocks was a real bottle-neck. Because of the house well not keeping up with the 170 head’s thirst, hauling water by trailer every day was necessary. By the end of the month, 268 people pledged a total of $207,452 toward food choices benefitting our local agricultural economy. Given that each dollar spent on local food circulates through a local economy three to seven times, an estimated $622,356 to $1,452,164 remained in our region, just from those pledges! Also during Buy Local Month, Farm Catskills sponsored two screenings of the film, “Food, Inc.” The screenings were successful in educating people about where how the mass market food system works. The Oneonta screening sold out and the Walton screening attracted over 150 community members.

To help local food businesses develop new production methods and marketing efforts, educational workshops are regularly offered. Last spring, Pure Catskills staff organized a Farm to Market Conference at SUNY-Delhi which was attended by over 100 farmers, buyers and educators. The Spring 2010 Conference was a collaborative effort between Pure Catskills, the Center for Agricultural Development and Entrepreneurship (CADE) in Oneonta and the Bethel Woods Center for the Arts. On December 4, through the Council’s Farm to Market Program and Cornell Cooperative Extension of Delaware County, Pure Catskills will host a Beef Marketing Tour to three farms in the Hudson Valley. The day will include discussions on managing the sales of beef to retailers, restaurants and farmer’s market customers.

Thanks to the suggestions of several farmers, a number of farmer-to-farmer discussion groups met last winter. Three separate “producer groups” focus on beef, sheep and goat, and dairy. Farmers meet regularly to discuss “tricks of the trade” and work together on addressing the challenges of their business type. In the past, farmer’s market manager meetings have also brought together venue coordinators to share ideas and opportunities with their peers. Gatherings of this type are an effective means by which to grow the network of small farmers and local food business owners in our area.

Opportunities to organize community collaborations are growing. This winter, Pure Catskills will offer a scholarship program available to its business members to help fund expenses associated with attending conferences and workshops. With the help of regional partners, we’ll continue to explore new ways to connect our local community with sustainable food systems. Just last summer, Delaware County organizations including Delaware Opportunities and the Office of the Aging sourced 2,250 pounds of local produce from nine local growers for Senior Meals and food bank needs. A regional coalition is also launching a program aimed at assisting new and existing farmers and gaining access to vacant farmland. With so many great happenings in our area coming from a diverse mix of growers, purveyors and community members, the opportunities for local food development continue to grow.

For more information on Pure Catskills, visit www.purecatskills.com.

Challey Comer is the Farm to Market Manager at Pure Catskills. She may be reached at ccomer@nywatershed.org or (607) 865-7090.

Pure Catskills is funded by the Watershed Agricultural Council whose mission is to support the economic viability of agricultural and forestry through the protection of water quality and promotion of land conservation in the New York City Watershed Region. The Council is funded by the New York City Department of Environmental Protection, USDA, U.S. Forest Service and other federal, foundation and private sources. The Council is an Equal Opportunity Provider and Employer. For more information, visit www.nywatershed.org.

Jonathan Barter’s wind turbine, well head and storage tank.
Group of interested farmers listen to Jonathan Barter and Sean Mulvey of ACS Green Power
The electrical control panel for the wind turbine and solar panel.
BY BILL DUESING

The following excerpt, "Harvest, October 9 & 10, 1992," is the second of a series of essays written by Bill Duesing from the book Living on the Earth: Eclectic Essays for a Sustainable and Joyful Future. I encourage you to take in the crisp air of fall, pick up your feet with a hot cup of tea in hand, and ponder the insights that Bill has to offer.

By Bill Duesing

The harvest and cold weather keep us hopping these days. Last week we took off the frost in our pepper patches with old bed sheets and tarps, hoping for more ripening when it got warmer again. Some of the varieties we didn’t cover were barely bothered, especially the ancho, jalapeno, and Argentine purple peppers. In any case, when we pull the plants and hang them up, the fruit survivors will and continue to ripen and turn red even if the plants have been injured by the frost. Tomato, cucumber, and squash vines which used to sprawl everywhere, suddenly disappear with the first frost if the fruit usually is not harmed, though it needs to be harvested before the next frost.

The sweet potatoes were injured first, over 2 weeks ago. They are very sensitive and need to be dug soon after frost turns the leaves yellow and black. Of the 3 varieties we grew, ‘Caribbean’ was the most prolific, ‘Jewel’ produced nicely and ‘Puerto Rico’ didn’t do well, in part because of the cold summer. One of the real success stories each fall is the Butternut squash harvest. This year, 3 seeds planted in one row produced over a bushel of fruit. There are other squashes we like the flavor of better than Butternut - Buttercup and Delicata - but Butternut has demonstrated wonderful sturdiness. It resists vine borers and other vine pests. In any case, when we pull the plants and hang them up, the fruit survivors will and continue to ripen and turn red even if the plants have been injured by the frost.

We left most of the potatoes in the ground until last week. Besides harvesting the blue potatoes (whose skins have the deep complicated coloration of old potato pen ink), we harvest- ed Yukon Golds and several hills of ‘volun-teers’ which grew from the compost piles. That night Suzanne turned some of the gold pota-toes into pancakes, shredded them with onion and garlic, and adding a little flour and a couple of fresh eggs. They were fried in a small amount of oil. Hold the sour cream: we made fresh applesauce from the fruit of wild apple and crabapple trees with a little local honey and a touch of nutmeg. How delicious and healthy too, because those apple trees have never been sprayed. They fruit’s not so great to look at, but it makes a wonderful sauce.

After gardening for years, we realize that in the natural world blemishes are the exception. Sure, a good gardener can grow some. But between insects and birds, diseases, weather, and mechanical damage, frequently the fruits and vegetables that are available in the garden have holes or other imperfections. When we cook using fresh produce from the garden, we see how little these flaws matter. The first step in the kitchen, after washing if needed, is usually cutting and if we have to cut out a spot, or bruise, it’s no big deal-just food for the compost pile or chickens.

I thought I’d write something about Monday’s anniversary of Columbus’s arrival, but I got caught up in the excitement of the harvest and good food. Then I realized that tomatoes and their relatives the peppers, yellow, and white, and blue potatoes, the unrelated sweet potatoes (which are cousins to morning glo- ries), beans and winter squash are all plants which originated in what’s now the Americas. We should add corn and sunflowers, among others, to this list. They are all native to the so-called “New World” and, through thousands of years of careful selection and cultivation here, have evolved into important foodstuffs.

These plants in our gardens connect us with over 7,000 years of successful life in this land before the Europeans arrived to find what many of them described as a paradise. Like native food, we find that the culture and tradi-tions of the original Americans have much to teach us.

About a year ago I came across a quote from Kirkpatrick Sale that I thought was very interest-ing, if somewhat hyperbolic. In The Conquest of Paradise: Christopher Columbus and the Columbian Legacy, he concludes, “There is only one way to live in America, and there can be only one way, and that is Americans-the original Americans for that is what the earth of America demands. We have tried for five centuries to resist that simple- truth. We resist it further only at the risk of the imperilment-worse, the likely destruct-ion of the earth.”

I’ve thought about this ever since. It seems less hyperbolic all the time. May you enjoy a bountiful harvest.

Reprint information:
Living on the Earth: Eclectic Essays for a Sustainable and Joyful Future includes essays from the first three of the ten years that Living on the Earth essays were aired weekly on public radio from Fairfield, CT. The essays were written by Bill Duesing and edited by Suzanne Duesing. Bill and Suzanne operate Old Salt Farm in Oxford, CT where they produce organ-ic vegetables, fruits, and poultry. The book is available for $10 plus $3 S&H from Solar Farm Education, Box 135, Stevenson CT 06491.

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http://www.agriculture.state.pa.us

There are other squashes we like the flavor of more than Butternut - Buttercup and Delicata - but Butternut has demonstrated wonderful sturdiness.
the revised edition of "A Resource Guide to Direct Marketing Livestock and Poultry" helps to clarify and explain complex laws in layman terms, discussing slaughtering and processing at the custom, state, and federal levels and guiding farmers through the logistics of the various market channels. While the guide is intended for farmers, it is also helpful to buyers, restaurants, market managers, small processors, extension educators, and many others. The Guide was updated by the Cornell Small Farms Work Team on Livestock Processing Issues, with funding from the Niche Meat Processors Assistance Network (NMPSAN) and the New York State Grazing Lands Conservation Initiative (GLCI). The 2010 revised edition has been reviewed by the New York State Department of Agriculture and Markets and the USDA Food Safety and Inspection Service. Download the 155pg Guide for free at 

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You may also order CDs at the cost of $3.00 each. Hard copies are available at the cost of $8.00 each. To order, send your name, address and check made payable to Cornell University to Violet Stone, Cornell Small Farms Program, 135C Plant Science, Ithaca, NY 14853.

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