

SUMMER 2011

SMALL FARM QUARTERLY

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



Feature Articles

- In Defense of SpecializationPage 6
- Why Consider Off-Farm Dairy Processing?Page 13
- Profit: Making a Life and Living from Your Farm ..Page 16
- Farm PondsPage 19



SMALL FARM QUARTERLY - SUMMER 2011

TABLE OF CONTENTS

SMALL FARM PROGRAM UPDATE

Cornell Small Farms Program UpdatePage 3

BUSINESS MANAGEMENT

Farm Profit: Making a Life and a Living from Your Farm,
by Erica FrenayPage 16

COMMUNITY AND WORLD

Ghana, Putting A Face On 7 Billion People, by A. Fay Benson.....Page 18

DAIRY

Family Dairy Ventures Back into Cheese, by Patricia BrhelPage 3
Why Consider Off-Farm Dairy Processing?, by Fay BensonPage 13

FARM TECHNOLOGY

ZEA2™: Changing the Way We Grow Food, by Michael McDonoughPage 5

FARMING COOPERATIVELY

Farmstock: For Farmers, By Farmers, by Sonja Hedlund.....Page 20

FOREST, FIELD AND WOODLOT

Changing the Face of Agricultural Landscape:
One Gas Well at a Time, by Sue Smith-Heavenrich.....Page 4

HOME & FAMILY

Neighbors Growing Winter Greens, by LisaM. DellwoPage 14

HORTICULTURE

Late Blight of Tomato and Potato in 2011, by Meg McGrath.....Page 17

NEW FARMERS

Starting a Farm Incubator, by David LlewellynPage 7
Greenhorns: A Growing Network, by Severine von Tscharner Fleming ...Page 12

NON-DAIRY LIVESTOCK

In Defense of Specialization, by Ulf KintzelPage 6
Heritage Breeds, by Lindsay Debach.....Page 11

NORTHEAST SARE SPOTLIGHT

All Dressed Up and No Place to Snow, by Annie BassPage 9

RESOURCE SPOTLIGHTS

Greenhorns Tips for Organizing Young Farmer Events,Page 12
Understanding the EnemyPage 17

STEWARDSHIP & NATURE

The Wonder of Life, by Bill Duesing.....Page 15
Farm Ponds, by Ben FalkPage 19

VALUE ADDED

Fabrics of Our Livelihoods, by Karey Solomon.....Page 8

YOUTH PAGES

What 4-H Means To Me by Jenna BrokawPage 10
Brothers Have Fun Raising Rabbits, by Brandon Knoll & Blaine KnollPage 10
Raised Bed Gardening, by Megan RoskoPage 10

SMALL FARM QUARTERLY

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

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

OUR GOALS ARE TO:

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

Small Farm Quarterly is produced by Lee Publications, Inc., and is distributed four times a year as a special section of *Country Folks*. Volume 9 publication dates: January 10, April 4, July 4 and October 3, 2011.

EDITORIAL TEAM:

• Anu Rangarajan, Cornell Small Farms Program	Editor in Chief	607-255-1780
• Violet Stone, Cornell Small Farms Program	Managing Editor	607-255-9227
• Laura Biasillo, Broome County CCE	New Farmers	607-584-5007
• Celeste Carmichael, NYS 4-H Youth Development Program	Youth Pages; Home and Family	607-255-4799
• Gary Goff, Cornell Natural Resources Department	Forest and Woodlot	607-255-2824
• Martha Herbert Izzi, Vermont Farmer	Vermont	802-492-3346
• Betsy Lamb, CCE Integrated Pest Management Program	Horticulture	607-254-8800
• John Thurgood, USDA-Natural Resources Conservation Service-Vermont	Stewardship and Nature	802-865-7895
• Nancy Glazier, Northwest NY Dairy, Livestock and Field Crops Team, Cornell Cooperative Extension	Grazing	315-536-5123
• Jill Swenson	Community and World	607-539-3278
• Michelle Striney	Farm Technology	607-255-9911

FOR SUBSCRIPTION INFORMATION CONTACT

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

FOR ADVERTISING INFORMATION CONTACT:

Laura Clary, Lee Publications, Inc., 518-673-0118 or 800-218-5586, ext. 118
or lclary@leepub.com

SEND YOUR LETTERS AND STORIES TO:

Cornell Small Farms Program
15A Plant Science Building, Cornell University, Ithaca, NY, 14853
607-255-9227 • vws7@cornell.edu

About copyright: The material published in *Small Farm Quarterly* is not copyrighted unless otherwise noted.
However, we ask that you please be sure to credit both the author and *Small Farm Quarterly*.

SUPPORTING ORGANIZATIONS:



ABOUT OUR ADS...

All advertisements in *Small Farm Quarterly* are managed by Lee Publications. Cornell's Small Farms Program, Cornell Cooperative Extension, and other *Small Farm Quarterly* sponsors and contributors do not endorse advertisers, their products or services. We receive no revenues from advertisers.

To find out how your business or organization can advertise in *Small Farm Quarterly*, contact: Laura Clary, Lee Publications, 518-673-0118 or 800-218-5586, ext. 118, lclary@leepub.com

Cornell Small Farms Program Update

Message from the Managing Editor

Happy Summer! I hope this season brings you restful lunch breaks under shady trees and afternoon swims in wild ponds. I also hope you have some quiet evening moments to read through our summer issue of Small Farm Quarterly! This issue features a wide variety of content, from spinning wool to making cheese to design and construction of a farm pond! In the seasonal theme of 'growing', we hear the latest news from the Greenhorns, the expanding national network of young farmers. We also hear from an organization supporting young farmers called the Glywood Center (Hudson Valley, NY) and their research toward a farm incubator program to support and mentor new farmers in their area. As always, drop us a line at smallfarmsprogram@cornell.edu anytime. I hope you enjoy this issue and hope your fields are already full of bounty!

-Violet Stone,
Managing Editor



Violet Stone

2010 Small Farm Summit Report Published

We are pleased to report that the 2010 Small Farm Summit Report has been published. The Summit was a very interactive meeting for farmers, educators, farm agency and anyone else concerned or invested in a vibrant and thriving small farm sector in New York. The Report summarizes priorities that need to be addressed over the next two years to enhance the viability of NY small farms. These priorities have both local and statewide impacts on research, extension and policy efforts. Thanks to all those attendees who provided their opinions and creative thinking to help us shape future efforts supporting NY Small Farms. The 2010 Summit Report is available at <http://www.smallfarms.cornell.edu/pages/projects/smallfarmssummit.cfm>

Small Farms Program is on Facebook!

You can now receive small farm news and events on Facebook! This venue will help us to continue providing great



resources to the Northeast community without cluttering your email inbox! Visit Cornell Small Farms Program on Facebook and click the "Like" button to see our resources pop up in your newsfeed. We are looking forward to conversing with more of you in this interactive media format.

Urban Farmers: How Can We Serve You?

Over the last several months The Cornell Small Farms Program has begun to understand and look for ways to address the needs of urban farmers. Although there are numerous Extension and University programs designed to support urban gardening, community gardens and horticulture the needs of an urban farm differ with issues of scale, economics, marketing, storage, distribution, and a host of other topics that are unique challenges to urban farmers. In response we have begun several projects to support this growing base of farmers. First we would like to update and revise sections of the Guide to Farming in New York State to include specific resources for urban farmers. The link can be found at <http://nebeginningfarmers.org/publications/farming-guide/>. Additionally, we will update our production information for urban farmers on our website links page <http://www.smallfarms.cornell.edu/pages/resources/production/urban.cfm>.

If you are an urban farmer or service provider and feel that there are resources we should add to either the guide or our website please contact Matthew Goldfarb, mg682@cornell.edu.

DAIRY

Family Dairy Ventures Back into Cheese

By Patricia Brhel

Members of the Snow family have been farming in the Town of Caroline, New York, since 1816, nearly 200 years. The current generation has returned to cheese making, a value added product, to enhance the options for their milk and increase the farm income. Cal Snow says, "We've got some cheese making equipment around here, old cheese presses and paddles that date from somewhere in the 1800's and early 1900's. We used to sell milk to the local creameries, as I've found notations in early journals and receipt books. Years ago farmers often made their own cheese and butter, selling what they couldn't use, and there used to be cheese plants in the hamlets of Slaterville Springs, Caroline and over in Speedsville." The Snow farm is located near all three hamlets. Cal runs Snow Farm with his wife Jean and two of his

three sons. John manages the crops, machinery, repairs and a multitude of other necessary jobs around the farm, fields and barn. Aaron is Cal's partner in the latest extension of the family enterprise, Snow Creamery.

Aaron Snow came back from a two year stint in the Peace Corp with an interest in not only helping in the family business but in taking it another step. "A year ago," he said, "I didn't know anything about cheese making, I didn't even know where to begin. But I've been doing a lot of reading and I've taken several workshops." He also credits Monica Roth of Cornell Cooperative Extension with providing information and practical advice on the various aspects of farm produced cheese, including marketing.

The Snows are rightfully proud of their cheese making operation, a clean, well equipped room



Cal Snow and his son Aaron Snow

where some of the milk from their 40 cow milking parlor is processed in a large stainless steel tank. After the milk is cultured and begins to form cheese curds, it's pressed into wheels in a separate side room until the heads are firm, then moved into a cheese cave to cure and age.

"We do about 7 milk cans full per batch," Aaron relates. "Each stainless steel milk can weighs about 20 lbs. and the milk in it weighs another 80 lbs., so each batch means lifting about 700 lbs. of milk and can from the milk room in the barn into the back of the truck, then carrying them from the truck to the cheese preparation room. Once the milk has been cultured and cheese curds have formed and been pressed, the excess fluid, the whey, is pored back into the milk cans and delivered to a nearby neighbor who raises pigs. The pigs turn the whey into bacon and hams."

The cheese cave, a small room where the cheeses are left to age has that wonderful smell that only a living product can produce. Each cheese has its own shelf, neatly labeled with the type of cheese and the date it was placed there. The shelves are made from wood harvested on the farm and turned into shelving by still another neighbor. The design is clever, with the individual shelves wedged in and suspended between two back pieces, easy to remove and clean as necessary.

"We make gouda, provolone, feta and asigo right now." Aaron relates. "Cheese allows us to extend the life of our milk, the longer the cheese ages, the better it gets, whereas liquid milk has a limited shelf life."

Aaron shows off the solar powered ventilation system and other modern technology that helps bring the ancient art of cheese making into the 21st Century. "It's another way to use my mechanical engineering degree, and the variety of skills you need to do a good job keeps me challenged. I enjoy doing this, helping to keep the farm successful and boosting the local economy. I anticipate selling the cheese at local stores and farmers markets, not too far from home."

"The rest of the milk," explains Cal, "is still sold through the regular channels, off the farm. We may eventually get to the point where it all goes toward the cheese operation, but that's in the future. I'd thought about starting a cheese operation in the past, but I've always been too busy. When Aaron came back interested in doing this, I was excited. Many hands make light work, and it was that extra pair of hands that allowed us to begin making the cheese."

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

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.

Cooperative Extension Associations and other organizations can offer their members a subscription to SFQ as a member benefit! Your organization collects the names, forwards them to Country Folks Subscriptions, and pays Country Folks just \$2.50 for each subscriber. Country Folks mails out the copies.

Bulk orders: You can order multiple copies of any issue for just 10¢ a copy!

Minimum order is 50. Orders must be placed at least 4 weeks before the publication date - **Fall 2011 copies need to be ordered by September 2nd.**

To find out more, contact:

Tracy Crouse

Country Folks Subscriptions

P.O. Box 121, Palatine Bridge, NY 13428

1-888-596-5329

email: subscriptions@leepub.com

Need Info?

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

FOREST, FIELD AND WOODLOT

Changing the Face of Our Agricultural Landscape: One Gas Well at a Time

By Sue Smith-Heavenrich

You don't need to lease your land to feel the impacts of industrialized gas drilling, which is now happening over much of New York and Pennsylvania. Just ask John Lacey who, for 30 years, served as an agricultural land resource specialist for NY State Dept. Agriculture and Markets. Every farmer needs to understand the potential impacts that drilling and pipeline construction can have on agricultural lands, he says.

Until the 1970s gas drillers and pipeline companies didn't show much concern for the land they used, Lacey says. They left fields with depressions where a pipeline trench subsided, dead zones polluted by residual salt from a brine spill, or pipelines buried so close to the surface that farmers couldn't plow or cultivate. Things have changed for the better, he says. Pipelines are buried deeper now, but even the most careful operators can spill chemicals that contaminate water and soil. And there are other impacts on agricultural land, Lacey notes.

Once energy companies have developed wells capable of commercial production, they'll need to build gathering pipelines to convey the gas to market. These pipelines will cross a number of parcels; even landowners not involved in a drilling unit may be affected by pipeline construction.

Protect your soil

"You need to have a good understanding of your soils and the way they drain," Lacey tells farmers. While the valleys are made up of gravelly soils that tend to drain well, the hills are covered with a thin topsoil layer. Farmers must insist that, before drilling or pipeline construction begins, their topsoil is scraped to the side and piled in a berm. Only after the construction is completed and the area de-compacted should the topsoil be replaced.

The biggest issue with NY soils, Lacey says, is the impermeable "fragipan" - a silty-clay subsoil layer with low fertility. Pour water onto soil and it percolates downward until it hits the fragipan - then it begins to flow horizontally.

What this means for pipelines is that water flowing horizontally along the fragipan layer will pool in the trenches. Left unaddressed, this will create chronic drainage problems for a field or right-of-way through forest.

Many of the problems that Lacey has documented resulted from misunderstanding the soil drainage qualities and regional climate. Pipeline consultants from the south and west don't understand that the SWCD map indicating "moderately drained" soil type refers to the root zone for crops, not the depth required for pipeline excavation, he says.

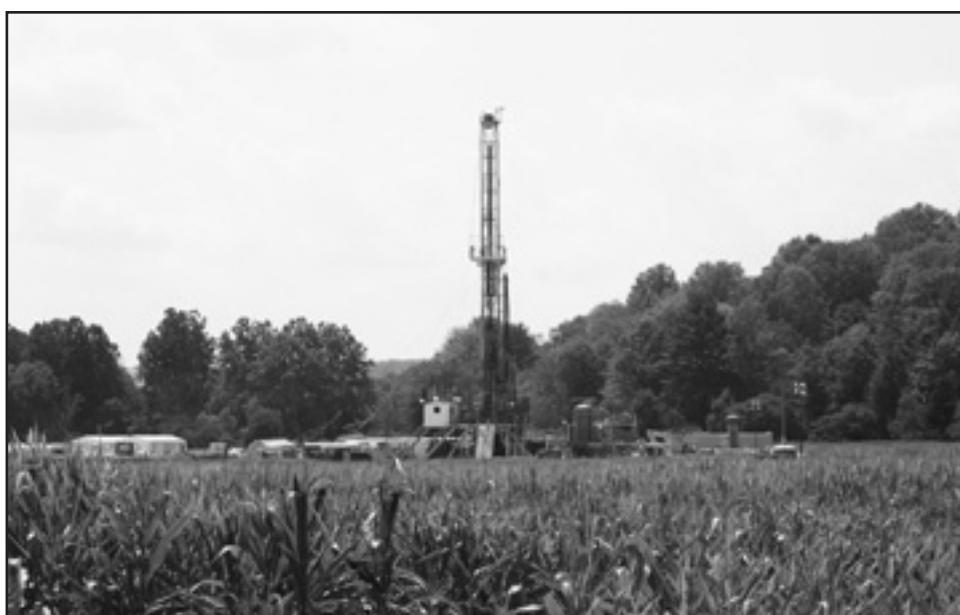
The northeast often receives three inches of precipitation a month, so it's hard to find an extended period of time for construction when the soils aren't excessively moist. Even in winter the soils are subject to periodic thaws. "That makes them too wet and vulnerable for the type of traffic that drilling and pipeline work require," Lacey explains.

Lacey also emphasizes the need to continually monitor and inspect the activities surrounding drilling and pipeline construction on the farm. This may mean checking everything from the numbers imprinted on drainage pipe to making sure that workers don't pad the pipeline trench with valuable topsoil.

Protect your timber

"Natural gas leasing is now the number one rural land-use issue," says Brett Chedzoy, a regional extension forester with Cornell Cooperative Extension of Schuylar County. Without proper lease protections, forest owners face potential losses in terms of timber, wildlife habitat and other property uses.

If a gas company wants to use your land for a drilling pad or as a pipeline right-of-way, they ought to pay fair value for all the timber they remove. Even young successional forests have value, Chedzoy points out. An 8-inch tree may have current value only as firewood, but if left



Marcellus drilling on a farm near Towanda, in Bradford County PA

for another 50 years it would have significant value as a saw log.

"Make sure you specify that the trees be cut by a logging crew and piled in an accessible location," Chedzoy warns farmers. Too often ener-



Natural gas leasing is now the number one rural land-use issue in PA and NY

Photos by Sue Smith-Heavenrich

gy companies use bulldozers to clear land, leaving trees mixed with stones and debris and unacceptable to mills.

As with fields, forest owners will want to protect topsoil, restore drainages, and control erosion. Once construction is completed, the soil needs to be de-compacted. Then the topsoil should be replaced and - especially if the area will be maintained by brush-hogging - make sure that the rocks and stones are picked out

Usually the companies re-seed the area with a conservation mix, Chedzoy said. Forest owners may also want to consider shooting chopped straw or hay to mulch the area, and putting in water bars or other erosion control measures.

out the trees, you create an "edge" - an opening preferred by such invasive species as European buckthorn, multiflora rose, privet, several Asian species of honeysuckle, burning bush, Japanese barberry, autumn olive, swallowwort, Oriental bittersweet, and garlic mustard.

The problem with invasive species is that they interfere with native plants and degrade the wildlife habitat, says Chedzoy. Buckthorn, for example, displaces other berry-producing shrubs such as Viburnums, Amelanchier (service berry), raspberries and blackberries. Unfortunately, buckthorn fruit has a cathartic effect on wildlife that causes them to vomit the fruit without deriving much nutritional value. That helps the buckthorn disperse its seed, Chedzoy says, but offers little benefit for the wildlife.

Invasive plants also affect the quality of the forest. The more competitive invasive plants may shade or crowd out the existing seedlings and saplings, changing the character of the woods. Or, like garlic mustard, they may produce chemicals that inhibit seed germination.

A pipeline right-of-way may create other problems for forest owners, such as access for logging operations. Trespass liability has become an issue as well. Many forest owners have complained that pipeline ROWs become conduits for ATV and snowmobile traffic.

Protect your agricultural landscape

Like forests, agricultural land can be fragmented due to gas well development. NY Ag and Markets Farmland Protection Program Manager David Behm is concerned about preserving agricultural land for future generations. He questions whether conservation easements will be strong enough to protect farmland in the face of a natural gas rush.

A conservation easement is a legal document that is written in the form of a deed, Behm explains. It permanently restricts the future development of a piece of property for the purpose of preserving or maintaining the scenic, open, historic, agricultural, or natural condition, character or significance of that property.

While a single gas well on a farm doesn't seem like a huge impact, Behm is concerned about the cumulative affect of gas development. He believes that access roads to well sites will fragment the agricultural land. Anytime there's a road dividing a field, agricultural land is at risk, Behm says. Access roads that cut off a couple acres from a larger field put the smaller pieces at risk for development.

Sue Smith-Heavenrich is an independent journalist who writes about agriculture and environmental issues for regional and national publications as well as Marcellus Effect (<http://marcelluseffect.blogspot.com>). You may contact her at sueheaven@gmail.com or 607-659-3022.

This article was originally published in Organic Farms, Folks & Foods in summer of 2009 and is reprinted with permission.

Protect your woodland

Right-of-Ways (ROW) are the number-one entry point for invasive species. Once you take

Leasing Pointers for Forest Owners

The loss of current and future timber should be appraised exclusively by your Forester

Cleared timber should be harvested by conventional logging methods and left neatly piled in designated areas if to be later sold or utilized. Otherwise, the timber should be chipped or removed from the site.

If you are currently enrolled in the NYS 480-A Forest Tax Law, conversion penalties should be paid by lease holder. If you are contemplating enrollment in 480-A, will you still qualify if additional forest land is cleared?

Outline penalties and provisions for non-compliance, such as failure to re-vegetate temporary worksites, damage to unmarked trees, delays in completion, erosion damage, and spills.

Require a performance bond with your Forester as the final authority on compliance.

Require the lease holder to construct at least one permanent crossing in a designated location if you expect to someday cross the pipeline with heavy equipment.

Consider what can be done to minimize the impact on wildlife habitat.

List measures to reduce the establishment of invasive plant species near disturbed areas, such as planting screens along cleared edges.

Taken from Brett Chedzoy's fact sheet, Gas Rights and Right-of-Way Leasing Pointers for Forest Owners (pdf) available online at <http://gasleasing.cce.cornell.edu/>

Agricultural mitigation for pipeline right of ways

1. Strip the topsoil and store it in a berm.
2. Allow a right of way wide enough to allow for the segregated storage of the topsoil, the trench spoil, and truck traffic. This may mean a temporary right of way up to 60 feet wide for a small gathering pipeline, and up to 110 feet wide for a major transmission pipeline, during the construction phase.
3. On sloped land make sure there are durable sandbag "trench breakers" placed sufficiently along the trench to control water from following the excavated "path of least resistance" and preventing "blowouts" down the hill.
4. Make sure the exposed subsoil is ripped and de-compacted before covering it with the protected topsoil. Also they should pick up and remove all the larger stones and rock material lifted up during the ripping, prior to replacing the topsoil layer.
5. After replacing topsoil they should go over again with a deep subsoiler. When finished, you should be able to easily penetrate the soil at least 18 inches below surface.

Best mitigation practices for agricultural landscapes are discussed in the publication, Pipeline Right-of-Way Construction Projects: Agricultural Mitigation through the Stages of Project Planning, Construction/Restoration and Follow-Up Monitoring available online at <http://www.agmkt.state.ny.us/ap/agsservices/WEBAPConstrGuides.pdf>

FARM TECHNOLOGY

ZEA2(tm): Changing the Way We Grow Food

By Michael McDonough

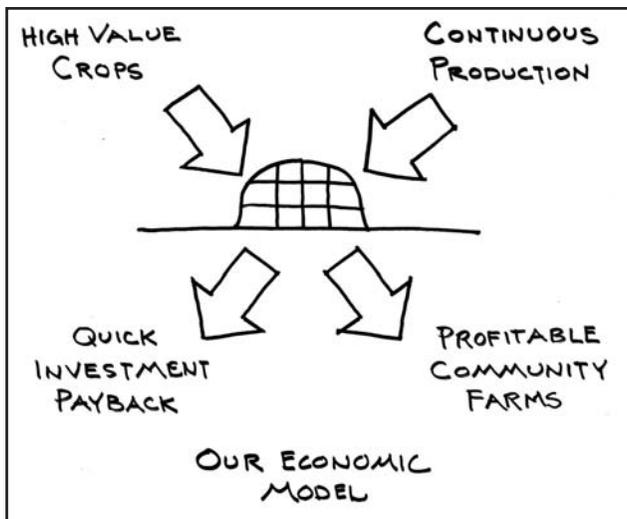
I'm an architect working with a team of scientists and engineers to develop a type of Controlled Environment Agriculture that we are calling ZEA2(tm). The name might look like an algebra formula to you, but what it stands for could revolutionize the sustainable farming movement. "Zero Energy Agriculture Squared" refers to a special greenhouse now in development that is designed to be far more deployable, productive, and sustainable than anything currently on the market.

If you've ever seen a greenhouse, you're already familiar with Controlled Environment Agriculture a.k.a., CEA. CEA is an idea that dates back to Roman times: an artificially maintained indoor climate for growing crops that would not otherwise be possible to grow. Today, CEA generally comprises a greenhouse using heating, cooling, humidity control, irrigation, and artificial lighting, and using a great deal of non-renewable, budget-busting fossil fuels. What makes ZEA2(tm) different is that it will offer the benefits of CEA, but will reduce energy consumption so much that renewable energy and other onsite resources such as rain-water can be economically employed. It comprises a high tech, sustainable farming system that can support organic and low-input agriculture virtually anywhere on the planet.

Let's take a closer look at the concept: The "Zero Energy" of the title is borrowed from advanced architecture and engineering in which enough energy is produced annually from onsite alternative energy sources to power a building and its systems. Thus a solar PV array may produce excess electricity in the summer, and very little in the winter, but balances out as a net sum over a year's time. The "Agriculture" part refers to a growing system that is scalable from micro-farming to large scale commercial growing. Its initial iteration, however, targets small growers serving community-scale markets by emphasizing small-scale systems for small plots. "Squared" refers metaphorically to the geometric potential of high density/high value cropping, and designs that can be employed to grow cash crops in places that might not otherwise be feasible. ZEA2(tm) can be sited on poor or marginal lands in struggling rural communities, small suburban plots, exurban corporate campuses, and urban settings including rooftops.

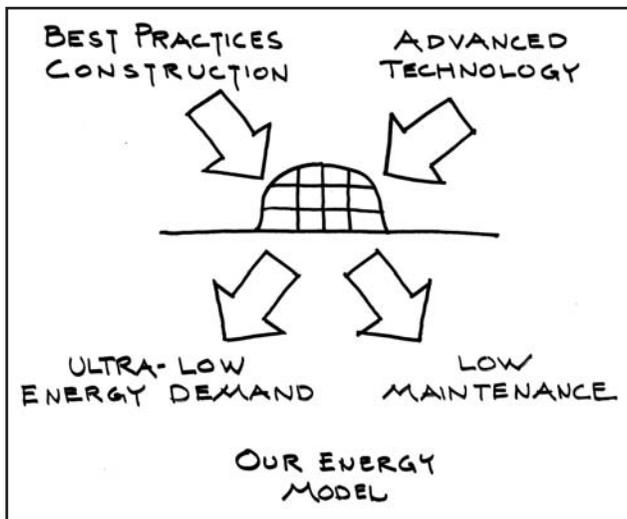
Where the Concept Began

While controlled environment growing has been in use for thousands of years, it wasn't until 2003 that a Dutch company devel-



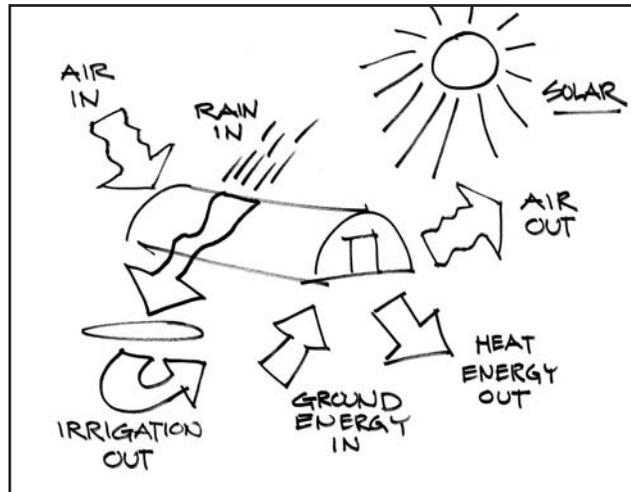
Our economic model Sketches by Michael McDonough

oped a design known as "gesloten kas" or closed greenhouse. By developing a greenhouse that effectively seals out the exterior environment and completely controls indoor climate, closed greenhouses marked the beginning of energy-efficiency principles being applied to CEA. The Netherlands and the EU in general have a very different farming industry from North America's, however. Shipping distances to dense populations are shorter; climates are milder; and investments in long term energy efficiency for large production facilities are mandated by and directly supported by. So something different is required in the United States.



ZEA2(tm) systems are custom designed to with built-in sensitivity to the opportunities of location and climate

ZEA2(tm) is rooted in the idea that hyper-energy efficient CEA can work in the extreme climates and in the less-intensively government-subsidized, more free-market-principled systems that typify North America. Initially supported by a New York



Our energy model

State Energy Research and Development Authority (NYSERDA) research grant, a team including my architecture firm, scientists, and engineers is now working cooperatively to build the first series of ZEA2(tm) greenhouses. The goal is to make them available to a range of community-based farms, including traditional family-run farms and all sorts of new farms.

A Holistic Response

ZEA2(tm) systems are custom designed to work essentially the same way that crops grow; that is, with built-in sensitivity to the opportunities of location and climate. Every square millimeter of the system has been designed for maximum efficiency. Greenhouse snow and wind loads exceed code requirements to minimize frame flexure and leaks. Plastic coverings are chosen for low initial cost, structural integrity, durability, insulative properties, and solar heat gain control. Every joint is sealed, every opening is gasketed, and the concrete slab-based heating and cooling system is so thermally isolated and moisture resistant that it could just about float in the Bering Strait and maintain its temperature.

This highly-focused and integrated system is inevitably rooted in energy demand management, so every ZEA2(tm) sold will have its own climate-adjusted design. ZEA2(tm) uses off the shelf solar hot water (solar thermal) systems for heating, and is co-developing LED lighting that offsets energy consumption by up to 80% over conventional CEA high pressure sodium and metal halide lamps. The LEDs also reduce installation costs and light-induced heat, and eliminate the highly-toxic rare earth metals in conventional bulbs.

Taken altogether then, ZEA2(tm) design innovations can meet CEA energy needs using onsite solar energy, offsite Certified Green Energy wind energy, and other alternative energy sources while generally promoting clean technology in agriculture. The growing media are engineered to be certified organic, and pest control uses beneficial organism and biological controls as part of an Integrated Pest Management (IPM) program. In many instances the system can satisfy all reduced irrigation inputs using captured roof-rainwater runoff. ZEA2(tm) systems work passively, or without equipment, whenever possible. Where they do use equipment, it is minimally configured, and controlled a continuous commissioning software program that simultaneously data logs, reports, and synergistically operates ZEA2(tm) 24 hours a day. The technology research phase is currently being deployed in Upstate New York, with additional commercial research locations in various climates now in development. After a proof-of-concept stage, the system will be incorporated into formal marketing and business plans, and will seek private investment to achieve wide deployment.

In these ways the ZEA2(tm) team aspires to re-imagine agriculture, making it possible for all sorts of farms to employ intensive growing while reducing fossil fuels and associated carbon footprints while and producing nutrient-rich food closer to where it is marketed and consumed. And where it makes sense to the health of established farming communities, sustainable and best practices large scale farming is welcome too.

Michael McDonough, AIA, NCARB designed the ZEA2(tm) system and heads its technical development team. He owns Michael McDonough Architect PC, an architecture and design firm in New York, NY. He can be reached via email at mail@michaelsmcdonough.com.

ZEA2(tm) offers the benefits of Controlled Environment Agriculture, but without the fossil fuel inputs. Additional advantages are:

- It can be applied to readily available plasticulture greenhouses
- It can be used for year-round secession planting and continuous production
- It can reduce agricultural land food-print
- It can reduce irrigation and fertilizer inputs, minimizing nutrient leaching and run-off
- It can eliminate weather-related crop losses
- It can provide a viable economic model for micro-farming
- It can increase national and regional food security.

Page's Seeds
Quality Seeds Since 1896

IA Green Street - Greene, NY 13778
Toll Free: 1-800-688-1896 - Phone: 607-656-4107
Fax: 607-656-5316 - www.pageseed.com

LANDSCAPE SUPPORT
Professional & Retail Fertilizers · Landscape Fabrics
Hydro Mulch · Lawn Edgings
Turf & Landscape Chemicals · Green Plants · Nursery Stock · Bulbs

AG & FARM
Grain · Silage Corn · Grass · Turf · Farm Stand · Bulk Seed

Page's® Grass Seed Blends · Page's® Premium Seed Blends
Page's Liberty Garden® Seed Blends · Customized Promotional Products



Rugged outside. Smooth inside.

New RTV1100 Utility Vehicle

Powered by a heavy-duty 24.8 HP Kubota diesel engine and 3-range variable hydrostatic transmission (VHT), the all-new RTV1100 is tough enough to handle chores and backcountry trails. It's also the industry's first utility vehicle with a factory-installed, fully integrated premium cab.

Available in Kubota orange or Realtree® camouflage.

SHARON SPRINGS GARAGE INC.

Rt. 20, Sharon Springs, NY · (800) 887-1872 or (518) 284-2346
1175 Hoosick St. Troy, NY · (518) 279-9709



©Kubota Tractor Corporation, 2007



Irrigation & Row Crop Supplies

Irrigation System Design, Drip Tape & Tubing, Pumps, Filters, & Fert Injectors, Row Covers, Wire Hoops, Clear, Smooth, Embossed, Bio & Colored Plastic Mulch. Wooden Boxes & Baskets, Stakes, Twine. Use a Fellow Farmer for all your Irrigation & Row Crop Needs!

Download Catalog Online or Call 603-465-2241

www.Brookdale Fruit Farm.com
38 Broad St. Hollis, NH 03049
7 Generations of Family Farming Since 1847 and Growing!

GOT GAS, LP & OIL PRICE JITTERS?

CHOP YOUR HEATING COSTS TO ALMOST NOTHING!



CALL US TODAY!
(800) 358-0060
www.yukon-eagle.com

Prices start at \$1,874



Made in the USA

"0" Down - No Interest Financing



Save up to 80% on fuel bills!

Whole House Multi-Fuel & Wood Furnaces

Eligible for Biomass Tax Credit

NON DAIRY LIVESTOCK**In Defense of Specialization**

By Ulf Kintzel

The case has often been made that a diverse farm is less vulnerable if the market for one product, say pork, collapses. The other products produced on the farm will compensate for the lost income, so goes the theory. It is "hip" again to speak up for the diverse farm like we knew it from our grand-parents.

Why did farms specialize in the first place? Most arguably it is because of cost reduction. The more units are produced with the same machine, with the same management, with the same personnel, the less the cost per unit. This has brought us the 1,000 cow farm and the several thousand acre cash crop farm that grows corn and soy beans and nothing else. The argument is that these specialized farms bring environmental problems with them and are unsustainable. In addition, they are highly vulnerable to a collapse of the market for their specific product. The small diverse farm on the other hand is supposedly more sustainable, while writers and advocates imply that the mega farm is the most vulnerable to demise. Perhaps this is true, but why pick the extreme farm to make the case against specialization? Let's compare apples to apples instead. Let's compare a small specialized farm with a small diverse farm.

I raise sheep and that is basically all I do. While we raise some chickens, eggs, ducks, squabs, and many vegetables - all these products are for home consumption. The sheep and lambs I raise are basically the only commercial product. So, I am indeed highly specialized. I am also considered a small farm. I farm about 130 acres of pasture. I buy all my hay. Together with my wife's off-farm income we make a comfortable living.

Specialization allowed me to get a special set of knowledge about sheep and about pasture. While it is impossible to know everything, I am confident that my knowledge has a lot of depth. Few sheep diseases or unforeseen events surprise me or put a dent into the profitability of my enterprise. I am convinced that such knowledge with such depth cannot be compiled when focusing on many different species and crops. The saying "Jack of all trades, master of none" had its origin somewhere. The special knowledge I have gained helps me raise my profit margin since I profit far more per ewe than the average sheep farmer.

Specialization also always means cost reduction. You have the same fixed costs whether you raise 50 sheep or 100. Cost reduction through specialization is a well established and undisputed fact. Thus, I will refrain from elaborating more on this detail.

Furthermore, the specialized farm creates peaks in labor but it also gives you down time. In my case, the most notable peaks in labor are my three lambing seasons and later marketing the meat. But I also have enough down time that I can go once a year for a week on vacation, leaving the remaining work to a hired hand. How many farmers can easily do that? A customer of mine who bought breeding stock from me farms far less land than I do but has far more animal species and in addition grows produce. He is as diversified as one can possibly be. He complained that he has no off time whatsoever. When lambing is over, chickens need to be butchered. When that is done, vegetables need to be harvested. The list continues and he admitted it wears him out.

What about the claim that specialized farms are vulnerable to a collapsing market? The answer is simple. Diversify your market. The traditional market is the finished market lamb. The claim has been made on occasion that one has to have a market first, then one can or should produce a product. I disagree.

Markets can be created, at least to a degree. Does the reader believe there was a market for "Facebook" or the TV show "The Apprentice"? I doubt there was. I am convinced marketing created these markets. That can be done with your product as well. In the case of my sheep I entered the market for breeding ewes of a hairsheep breed. While I certainly have buyers who all along wanted hairsheep, I have far more buyers who bought that hair sheep ram for their flock because it is now easily and affordably available. I further diversify my market by selling freezer lambs off the farm or via a buying club in New Jersey. These are perhaps 80 or more customers. There is just no conceivable market collapse that can much impact a customer base which is not at all ethically uniform and extremely diverse instead. I also sell lambs to another organic farmer who is good in raising pigs and beef but needed a supplier of excellent grass-fed lamb. I am also selling to two distributors - one small and local and one large. Last but not least, did I mention that I train herding dogs and give sheep herding lessons as well?

The products offered from a single species can be rather diverse. In case of a sheep it can be wool products, freezer lamb, sheep sausage, individual cuts versus half or whole lambs, burgers and the list goes on. One can also entertain the thought to buy additional products from other farmers like pork, beef, eggs, chickens, and honey as my neighboring sheep farmer does. It is a win-win scenario for both him and the producers. He attracts customers and the producer has a market for what he or she does best: producing his or her specialized product.

The specialized farm also gives me the time to do the marketing necessary in order to add value to my product instead of selling it as a commodity product. How many farmers have you heard saying "I got no time for that" when asked about marketing their product. They simply have too much work and can't focus on marketing. If you want to satisfy one hundred customers each year that want to buy half a freezer lamb, or a ram lamb, or five breeding ewes, you will need to be able to take that time. A specialized small farm will give you that time.

If you raise a variety of products, market to a broad customer base, and still run into financial trouble, perhaps you have larger problems that even a diverse farm would not save you from. If you are managing the farm well, the collapse of one market should not have a devastating effect on your whole enterprise.

Specializing your production does not mean that one should not grow a few other crops or raise a few other animals to complement your main production, i.e. raising a few pigs on whey that would otherwise go to waste when you make cheese. It also does not mean you should not have a few side projects that your kids will do as chores like feeding a few rabbits or chickens to learn to be responsible and productive. And it certainly does not mean you shouldn't raise whatever food you want to raise for your family and perhaps friends. We certainly do that. It does mean, however, that the focus should be on one specific way of raising animals or growing crops instead of having several production venues at once that all carry the same weight and have the same importance. And don't kid yourself about the nature of your farm. If three-quarters or more of your income comes from one or two products, you are a specialized farm no matter how many side projects you entertain.

In summary, running a specialized farm has in my opinion more advantages than disadvantages: cost reduction, in depth knowledge, and peaks but also down times in labor. These down times in labor can be used to take care of your customers, to recover from labor



Raising sheep is all I do

Photo by Ulf Kintzel

peaks, or perhaps to go on vacation. To reduce the vulnerability of such farm to market swings and possible collapses, one should try to diversify the market as much as possible. If one feels the need to have some diversification in production to escape boredom and wants to make it interesting, one can always raise some poultry, beef or pork or grow some vegetables and fruit for home consumption. That might be just enough diversification to satisfy you without burdening you with a lot of labor and cost.

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

Copyright 2010 Ulf Kintzel. For permission to use either text or photographs please contact the author at ulf@whitecloversheepfarm.com.

Need Info?

Subscribe to the Small Farms Update, a monthly email newsletter with announcements, upcoming events, resources, funding and farming opportunities and more. Send an email to smallfarmsprogram@cornell.edu.

Wessels' Farm Wesplug Wessels' Farm Wesplug

Wessels' Farms, Inc.*Quality Plants: Grower to Grower***Mum or Poinsettia Cuttings:****Quality Rooted Cuttings Started by our Experienced Growers.****Plant-N-Ship: Pre-Planted Flats Available in Most Common Tray Sizes.****WESPLUG Plugs:****No Minimum for Listed Varieties, 3 Tray Minimum Custom****Limited Use of Growth Regulators - Our Plants Grow!****Many Varieties to Choose From****Local Grower - Delivered from Our Door to Your Door****a Family Farm Since 1945****94 Bull Road Otisville, NY 10963****Call Direct or Contact your Henry F. Michell, Richard D. Smith, Fred C. Gloeckner, W.H. Milikowski or Griffin Greenhouse Supply Salesperson.*****Call Today!*****800-431-8353 or 845-386-5681****www.wesselsfarms.com*****Bedding Plants ~ Hardy Chrysanthemums ~ Perennials ~ Poinsettias ~ Plugs ~ Summer Annuals ~ Plant-N-Ship***

Wessels' Farm Wesplug Wessels' Farm Wesplug

NEW FARMERS**Starting a Farm Incubator**

By David Llewellyn

Glynwood is a non-profit organization in New York's Hudson Valley with a mission to save farming by strengthening farm communities and regional food systems. A crucial part of this mission is to link beginning farmers with experiences and resources to ensure their success, and to provide those opportunities if they do not exist elsewhere. Many excellent resources and programs exist in our region, and there is a genuine need for these services to be made known and accessible to help guide beginning farm managers to success.

At Glynwood, we strive to offer a well rounded and thorough apprentice experience. We recruit candidates who already have farm experience, and are serious about pursuing farming as a career path. Our crew members learn about all aspects of our vegetable and livestock operations. We encourage our apprentices to participate in our two area CRAFT groups (Collaborative Regional Alliance for Farmer Training) and attend the NOFA Summer Conference, to augment what they learn on the farm. But soon enough each crew leaves the nest. While we always make time to continue the mentoring relationship, it is a big leap from apprentice to farm manager. The learning curve is steep. The burnout rate is high.

Where are beginning farmers to turn when they have plenty of intern or apprentice experience, but no management experience?

There are many excellent services that help new farm managers, but they are not meeting all the needs of beginning farmers. Some require a lot of time and travel. For beginning farmers, access to land and start-up capital remains difficult, if obtainable at all. How can we improve beginning farmers' access to business expertise and farmer mentors? It is in the nature of Glynwood to take on such issues.

Glynwood has recently conducted a study examining the feasibility of a farm business incubator in the Hudson Valley. Through creation of a farm business incubator, Glynwood could provide beginning farmers with access to land and mentoring as they develop their own enterprises. To determine the scope of an incubator that would make the most impact in our region, Glynwood also researched entrepreneurial innovators who are creating value-added businesses that support regional agriculture. This winter, we had numerous conversations with new and experienced farmers, non-profits, schools, service providers, and successful value-added producers. We gained insight and inspiration, and emerged from the process with a plan for how an incubator could further our regional food system.

Beginning farmers informed us about what is and what is not working in our region, their obstacles to success, and what kind of support would be most helpful to them. Our study demonstrates that Glynwood could serve an important role by fostering collaboration among existing beginning farmer service providers. The incubator could serve as a hub for beginning farmer services and would augment these efforts by structuring additional services like access to land and credit, and providing mentorship as needed. Our research also indicates that incubating value-added entrepreneurs would help develop and build the infrastructure our region is lacking. This, in turn, will strengthen the budding food system of the Hudson Valley.

Throughout the study, our intentions have been met with enthusiasm. Helping beginning farmers become successful farm entrepreneurs with access to land and capital would be a strong way to serve the beginning farming population, and drive the growth of a sustainable local food system. We have identified



From left to right: Maggie, the Dave's Belgian-Morgan cross, pulls a field cultivator as apprentice Amy Scott tries her hand behind the cultivator, with Dave instructing.

Photo by Frankie Kim

some core issues that will become the focal points for services provided by the incubator:

Business Mentorship

Most beginning farmers understand farming, but have less expertise in the business side of what they hope to one day run. Many have not gone through a formal business planning process that can help them to identify the strengths and weaknesses of their business plan and improve their ability to gain credit or investors. The incubator will support aspiring farm entrepreneurs with peer learning and business mentors to help develop and succeed in their farm business.

Marketing

The incubator would help the development of collaborative marketing efforts. Multi-farm CSA, shared distribution into urban markets, farm to school efforts, and institutional sales are examples of ways an incubator could strengthen demand for local, sustainable products. Incubator participants will become part of the cooperative effort to market more local products.

Training and Mentoring

Experienced farm managers will be available to provide valuable on-farm trainings and mentoring to incubator farmers. Incubator farmers will be encouraged to become mentors themselves as they graduate from the incubator stage.

Farmland Access

Through our work with land trusts and land owners, we know that land owners are looking for assurance that the farmers they invite to bring their lands back into active production on a long-term basis will farm in an environ-

mentally and esthetically appropriate way and intend to develop a sustainable business. In addition to lending a virtual seal of approval to successful participants in an incubator, we will work with land trusts and landowners to help place beginning farmers on land with secure tenure.

Glynwood is in the process of evaluating potential sites for the incubator and developing plans for the inaugural on-farm efforts. We aim to start 2-3 incubator operations in 2012. We will work with peer groups composed of beginning farmers to continue the conversations began during the study. This will help beginning farmers to articulate and develop their business plans as we work out the best ways to provide services to guide them to success.

Glynwood would like to thank everyone who helped us with the feasibility study and we look forward to helping bring a new generation of farmers back onto the land in the Hudson Valley.

Please visit the Glynwood website at www.glynwood.org. To learn more about Lower Hudson and Mid Hudson CRAFT, please visit <http://www.glynwood.org/programs/glynwood-farm/craft/>

Dave Llewellyn is the CSA Manager at Glynwood. He can be reached at dllewellyn@glynwood.org or (845) 265-3338 x117. Tera Johnson led the feasibility study. Tera is a Glynwood board member and Founder of Tera's Whey, a company that produces whey protein products from organic cow and goat milks.

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

PRODUCE GROWING SUPPLIES

WE ALSO SELL . . .

Greenhouses • Cold Frames • Modine Heaters
Mulch Layers & Lifters • Waterwheel Planters
Drip Tape • Irrigation Supplies • Plastic Mulch
And Much More For Your Growing Needs

Call or Write for a FREE 2011 Catalog

MPS
1-888-381-8641 Shippensburg, PA

Martin's Produce Supplies
627 Britton Road
Shippensburg, PA 17257

1-888-381-8641 Fax (717) 532-5872



Contact us today for all your agricultural fencing needs!

- Electrified Netting • Fence Energizers
- Poli-conductors wire, tape, rope
 - Storage systems & Reels
- Semi-permanent Quick Fence
- Hi-tensile Electric • Fixed-Knot Woven Wire • Poultry & Game Fence
- Tenax plastic deer control mesh
 - Kinghitter Post Drivers

www.wellscroft.com | 603.827.3464



CELEBRATE INDEPENDENCE DAY JULY 4

VALUE-ADDED**Fabrics of Our Livelihoods**

By Karey Solomon

When the United States' agrarian-based economy evolved into an urban-industrial one in the mid-19th century, the new economic structures greatly altered the way work was managed and performed. Most notably, the home ceased to be the center of production for every bit of food, furniture and fabric used by the family.

Fast forward to the second half of the 20th century, when the craft movement countered the sameness of industrial goods. Lots of us learned to spin, weave and knit wool into clothing and useful things for the household. Some wanted to have the experience to prove they could do it if they had to. But for others of us, spinning remains a lifelong pleasure.

Spinning is basic and easy. It's also a lot of work, which is why it was among the first tasks to become industrialized. In recent years, spinning wheels themselves have become more efficient and easier to use.

Suppose an eight-pound sheep's fleece is put into the hands of a skilled wool-worker. She has to skirt the tags; discarding short pieces and damaged wool from the fleece, along with any vegetal matter that may easily be removed. Did the sheep walk through burdocks and embed a few spiky burrs deep in its fleece? Did it rub its neck on the feeding box, damaging the fleece there? Those parts are discarded as well.

The wool must then be washed by hand in tubs or buckets, in several changes of hot water with decreasing amounts of detergent, followed by several rinses. Once the wool is dry, its locks must be loosened, or "picked" before being fluffed and straightened by carding, a process accomplished by hand or machine. The spinner uses a drop spindle or spinning wheel to apply tension and centrifugal motion to draw out the fibers into a yarn, which in turn must be spun back in the opposite direction with other thin yarns to create a strong and balanced multi-ply yarn. This yarn, in turn, is skeined, re-washed, sometimes dyed, and then rolled into balls of yarn for knitting or weaving. The original eight-pound fleece has become, at best, 4 1/2 pounds of yarn.

It's not fabric until it's knitted, crocheted, or woven into fabric. Once a loom has been threaded and set-up, weaving is the quickest route to cloth. Because it requires concentrated time and attention to accomplish this, more portable handicrafts like



Beautiful rovings from Jacob sheep have already been washed, carded, and prepared for spinning.

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 Violet Stone, Cornell Small Farms Program, 15A Plant Science Building, Cornell University, Ithaca, NY 14853
vws7@cornell.edu

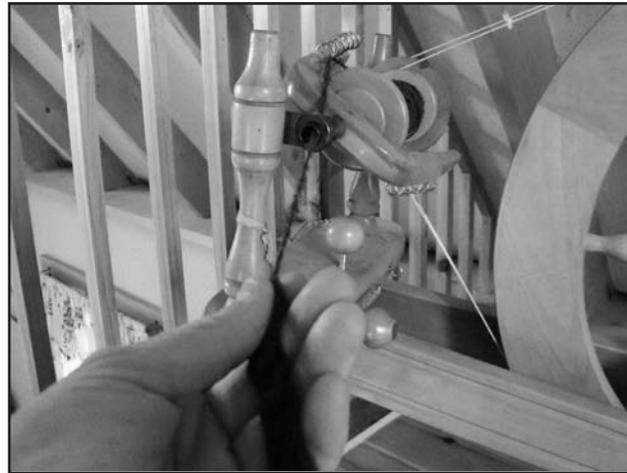
knitting and crochet were also used by busy people who needed to multi-task. Which brings us full circle to why in recent years, busy people have again begun to knit; and the experience of knitting has brought many of them to a renewed interest in spinning.

The amount of work involved in starting from scratch with a fleece - and the knowledge that as a spinner you'll be living with that fleece for a while - adds importance to the choice of wool. As a shop owner specializing in natural fibers, I'm as interested in the farm the wool comes from as the type of wool. Before purchasing a fleece, I'll pick a few random locks and hold them between two hands; first relaxed, to judge the curl or crimp of the wool. Then I'll snap it; pulling my hands apart rapidly. If the wool breaks, the sheep has been stressed by illness, injury or parasites - and I won't want it. Spinners also do something others may consider odd. We always smell the wool. Sheep smells are good; off smells are not.



A traditional Ashford spinning wheel uses a foot pedal and treadle to spin wool. To ply yarn, the spinner reverses the direction of the wheel and gives the fibers an interlocking twist.

Carole and Mark Harth, owners of Bear Farm on the hills above Seneca Lake in Central New York, specialize in Corriedale sheep. This dual purpose sheep produces good meat as well as medium-staple wool. They've got merino in their heritage. Corriedale wool is soft; easy to handle for beginners and more advanced spinners. For the Harths, they meet another significant criterion. Corriedale ewes are good mothers.



With the left hand, a spinner pinches the raw fiber to put the twist in as the wheel pulls the thread in towards the wheel along the hook guides on the spindle where the new spun fiber is wound.

Sources for more information

- 1) Sheep and wool production: Cornell Cooperative Extension.
- 2) Spinners' guilds: find a fiber group in your area via word of mouth, yarn shops, and the internet to make contact with a potential market for "raw" fleece and discover the "flavor du jour" of the fleece market.
- 3) Bear Farms, Carole and Mark Harth, Burdett, NY
<http://www.bearfarmyarns.com>
- 4) Processing your fleece - there may be a local fiber mill in your area; or contact Zeilingers Woolen Mills in Frankenmuth, MI (<http://www.zwool.com> or (989) 652-2920)
- 5) <http://www.bartlettyarns.com/InsideTheMill.cfm> Watch embedded videos demonstrate the carding and spinning process



This swatch of raw fleece from a Corriedale sheep has a lot of "crimp," making the fibers relatively easy to spin.

Photos by Jill Swenson

While their flock is relatively large - up to 325 animals from lambing through midsummer - the Harths are hands-on farmers; handling their animals with affection, attention and care. The result from a spinner's point of view is fleece with luster and strength. This is also important to the Harths. Part of their clip is sent each year to Bartlett Yarns in Maine where it is cleaned, carded and spun into yarn. The size of their flock enables them to receive their own fleece back as yarn. This value-added product is sold to yarn shops, fiber studios, local artisan gift shops and to area visitors who want to take home something that will last longer than a bottle of wine. From a handspinner's point of view, Bear Farms' wool is ideal.

With prices falling between the low wool-pool price (generally less than \$1 per pound) and the custom fleece prices of those who raise sheep primarily for fiber (often upwards of \$8 per pound for raw, skirted fleece), it's straightforward to skirt, wash, dye and card. For those who want to sell unprocessed fleece directly to handspinners, it may be worthwhile to investigate heritage sheep like Hog Island, Shetland, Romney, Karakul, Tunis or Jacob's Sheep. Many spinners like to try wool from different, less-common breeds, for entertainment, self-education and bragging rights.

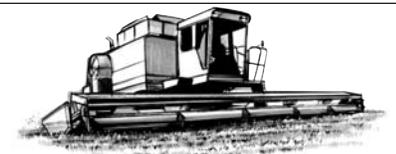
In the Finger Lakes area there are also shepherds who have done well raising more common sheep with attention paid to the quality of their fleece. Some sheep farmers do it so well they keep waiting lists for the clip from particular animals. Even so, there is much debate among handspinners on how to establish the value of a fleece. The general consensus, decided on-line several times every year, is that raising fiber animals for their fleece is more a life-style choice than a savvy financial decision.

I've also purchased fleece from much smaller scale shepherds, like an elderly farmer whose dozen Merino sheep are descendants from his grandfather's 19th century flock. Merino is a fine, soft wool with a high percentage of lanolin. It has a shorter staple and a lot of crimp. Merino wool is greatly valued as a yarn but it poses challenges for hand spinners; particularly before it's washed and carded. High lanolin levels and the dense closely-packed fibers make this a fleece best processed by a mill with equipment calibrated for finer fleece.

Many communities have fiber mills where wool is washed, picked and carded. Some of these can take the fiber all the way to yarn; some cater mostly to handspinners and quilters who want wool comforter batts. Some mills specialize in exotic fibers, like alpaca.

In the 21st century, handspinners have higher expectations than our foremothers. Our spinning is art as much as craft. We want to produce yarn that's unique as well as beautiful and useful. Good tools, good fiber preparation and most important, good animals - are the ingredients for warm woolies of timeless beauty.

Karey Solomon is the owner of Graceful Arts Fiber Studio in Burdett, NY. She spins, knits, crochets, weaves and tatts; creates and writes patterns and teaches these fiber arts internationally.



Combine Salvage
K & J Surplus

60 Dublin Rd.
Lansing, NY 14882

(607) 533-4850 • (607) 279-6232



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

SARE offers sustainable agriculture grants, bulletins, books, an online events calendar and many other resources. Learn more about the Northeast SARE program by visiting www.nesare.org or by contacting Northeast SARE 655 Spear Street University of Vermont, Burlington VT 05405 Phone (802) 656-0471 Fax (802) 656-0500 E-mail: nesare@uvm.edu

All Dressed Up and No Place to Snow: Filling Soil Health Prescriptions with Targeted Cover Crops

By Annie Bass

Can you name fifteen uses for cover crops? Thomas Bjorkman, an associate professor of horticulture at Cornell University, can. And he's using this list of "management goals"—including weed reduction, erosion prevention, soil aggregate stability, increased organic matter, and disease and pest suppression—to diagnose which cover crops will most benefit farmers' productivity levels.

Thomas's online decision tool (www.covercrop.net) helps growers select among fifteen affordable, regional crops, including which management goals each addresses, where to find seeds and how to plant them, avoidable and unavoidable problems, and classic uses. Seed venues, planting dates, and even the crops themselves are tailored to New York State and its soil and climate conditions, promoting reliable procedures and locally obtainable species, which minimize cost and environmental impact.

The online tool summarizes Thomas's research results to date. With the help of a SARE grant in professional development, he is spreading the benefits in multiple ways. Extension staff around the state are being trained to use the new Cornell Soil Health Test to help determine management goals, and to work with farmers to produce tailored recommendations for a cover crop program for their beds. In developing a cohort of farmers who have had their soil tested and are using cover crops in this precise and targeted way, Thomas hopes to put the method and the tools directly into farmers' hands. He hopes farmer-to-farmer learning will be the method's primary means of propagation.

The SARE project was born from previous research about buckwheat as a cover crop for the purpose of weed control. This first project established a network of farmers adopting



Thomas Bjorkman, Cornell University, Andy Leed, organic farmer from Candor, NY and Dan Brainard, horticulture professor at Michigan State University, consult the Cornell Soil Health Manual to identify management goals for which buckwheat is suited. Photos by Thomas Bjorkman



The SARE project is expanding the use of cover crops in the summer. Summer is an excellent time to use cover crops, as seen in this solid three-week-old stand of buckwheat.

cover crop use at various levels, and led Thomas to further investigate the effects of cover crops on soil health. Now, with 43 farmers' soils tested, Thomas expects 24 to adopt the project's recommendations. In some cases the crop is too expensive or labor-intensive for the particular farm, or no crop would

significantly address the management goal. But for the most part, this targeted method addresses a problem that farmers already value, Thomas says. The project is demand-driven, lacking compensation or other standard recruitment techniques, but offering what farmers and extension agents want: free access to the tools and trainings.

The SARE process was an adjustment for Thomas, because coming from an academic background, he wasn't used to outcome funding, where applicants are asked to outline expected social impact and milestones before embarking on the project. But, he notes, SARE cultivates its awardees, even when they are in the applicant phase. He attended a training session as SARE was moving to an outcome-funding model, which helped him make the shift. He has spent the funding on every aspect of the project, including research, outreach, and training—covering costs in labor, transport and supplies, and the crops and soil tests themselves. This grant project was particularly well suited, he says, because all of the interests aligned: the farmers', SARE's, and the researcher's. The research points to clear applications, and does not require going back to the drawing board, which can trip up the funding process. Farmers want their soils to be maximally productive, which is also the goal of the research. And the targeted use of cover crops fits into a larger set of practices, such as reduced tillage, that sustain farmland and conserve agriculture's environmental context.

This article discusses SARE grant ENE09-110. To view the final report, visit <http://sare.org/MySare/ProjectReport.aspx?do=viewProj&pn=ENE09-110>. For more information, contact Thomas Bjorkman at tnb1@cornell.edu.



Improving the crumbliness of the soil is important for vegetable growers, and buckwheat is very effective. These seedling roots are exuding a gluey substance (mucopolysaccharide) that sticks soil particles together to form a good crumb.



Some cover crops can be used in rather short gaps between cash crops. Five weeks after sowing, the buckwheat canopy turns white with flowers, indicating that it is time to till it in.

ADVERTISERS!

Small Farm Quarterly is Your Readers' Information Resource

- Delivered to over 27,000 households from Maine to Pennsylvania
- Long shelf life
- Online readership
- Readers are interested in a wide range of products and services

For advertising information call: Laura Clary, Country Folks, 518-673-0118

Small Farm Quarterly Youth Page

The youth pages are written by and for young people. Many thanks to the 4-H'ers who contributed to this issue. We believe there's a bright future for young farmers in the Northeast. Whether you live on a farm or only wish you did, we'd love to hear from you.

More information about the Cornell Cooperative Extension 4-H Youth Development program can be found at: <http://nys4h.cce.cornell.edu>

What 4-H Means To Me

By Jenna Brokaw, Age 16,
Loon Lake Raiders 4-H Club

I grew up on a small horse and dog farm in Steuben County named Hazel View Farm. My grandparents own this farm, but my parents kept our animals on the farm because we lived on it. Since I was born I have been around horses. My first horse taught me to ride. She was an appaloosa named Cola. She was the best horse a mother could find for her child. A few years later I had two Arabians given to me. The mare's name was Miss T. I showed her and the gelding named Brisk for years in 4-H. 4-H has taught me many things about horses and horsemanship.

I am currently a member of the Loon Lake Raiders club. I have been in that club for about 5 years. Through club meetings I have learned many things, like how to show horses and take care of them. Animals are a lot of work, especially horses. They cost so much with all their

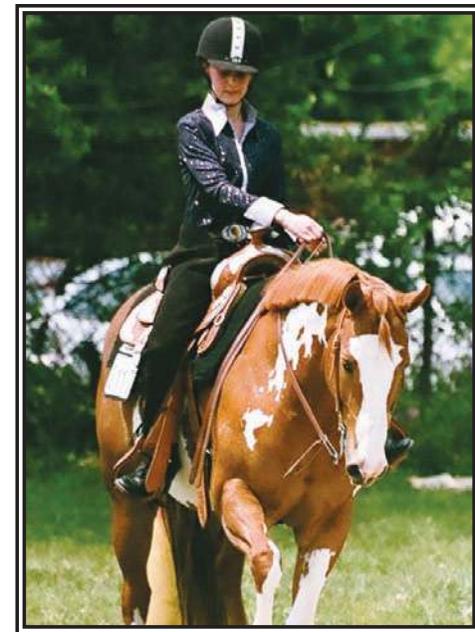
shots, vet calls, and feed. I love them and I have 4-H and my mom to thank for being able to have them.

I have grown up with dogs too. My first dog I had as a pet was an off the track greyhound, named Blitz. I use to dress him up and lay on him since he was so tolerant. At the age of three, I was able to buy my own dog. I picked him out of one of my mom's friend's litter; he was a cattle dog that was beautiful and a perfect example of what the breed should be. His name is Bear and I taught him everything. He was the first dog that I trained. With some help from 4-H and my mom I taught him many things. I took him to the state fair many times. A few years later I got a poodle that I showed in 4-H. Her name was Lexi and I liked to run her Agility in 4-H shows. A few years after that I got a border collie named Tori. She was the second best dog I have ever had since she is so smart. I have won many awards with her. Ever since I got her, I have

shown her in 4-H and went to the state fair and won Grand Champion. Just this year I bought a new puppy. Her name is Brooke and she is also a border collie. I bought her to show 4-H and AKC (American Kennel Club).

Dogs and horses like many animals are a lot of work, but 4-H has taught me how to take care of them properly. It has encouraged me to want to keep showing my horses and dogs, when I graduate from 4-H. I have been showing my dogs in AKC shows and horses in IEA (Interscholastic Equestrian Association) and open shows. I have 4-H and my mom to thank for all that I know about horses and dogs.

For more information about the 4-H Horse Programs please visit <http://www.ansci.cornell.edu/4H/horses/index.html> For more information about the 4-H Dog Programs please visit <http://www.ansci.cornell.edu/4H/dogs/index.html>



Jenna and Her Horse Annie

Brothers Have Fun Raising Rabbits

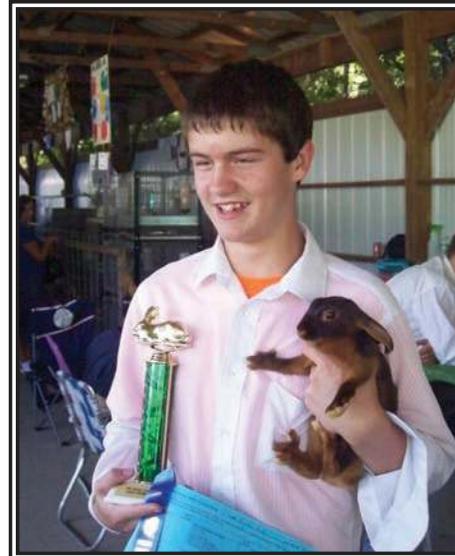
By Brandon Knoll, Age 14, and Blaine Knoll, Age 12,
Country Bunch 4-H Club

We are brothers and we raise, breed, and show rabbits in 4-H and ARBA (American Rabbit Breeders Association) shows. We raise Tans, Jersey Wooleys, Florida Whites, and Californians.

We have learned a lot from raising and showing our rabbits. We have learned responsibility, how to recognize food qualities of a show rabbit and how to teach people about rabbits. Our rabbits need to be taken care of no matter what climate or how we feel. Jersey Wooleys need to be brushed and all breeds' nails need to be trimmed. Rabbits are used for pets, meat, show, wool production, and to do agility and jumping courses. We have had to learn how to make and repair cages, make toys for them to entertain themselves, and make nesting boxes. Listening to the judges and fellow breeders has helped us to know what to breed and look for when we purchase new rabbits. We have both given 4-H public presentations

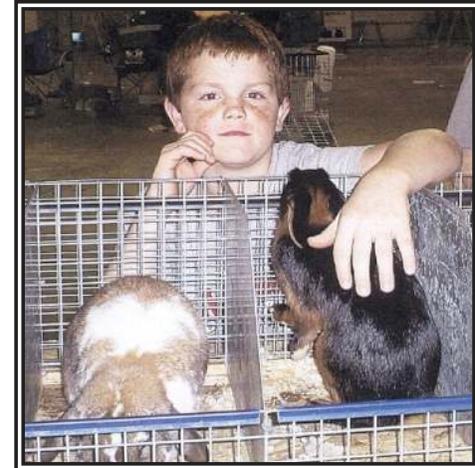
about our rabbits and have been selected to advance to the district level. We have also presented our rabbits to judges for showmanship at 4-H and ARBA shows. At the 2010 Steuben County Fair, Brandon won Jr. Showmanship out of 19 members and after a rare situation of breaking an eight way tie for 1st place. He also won Best meat rabbit at the 2010 Steuben County Fair. Blaine won Best of Breed and Best of Show with my tan at the 2010 Steuben County Fair and Reserve in Show at the 2009 and 2010 NYS Fair 4-H Rabbit Show. We have had many Best of Breed wins in youth, some best in shows, and reserve in shows.

Showing rabbits has allowed us to travel around NY, PA, OH, and in November 2010 we took some of our tans to Minneapolis, MN in which we won Best Opposite Sex of Bred (BOGB) in youth tans. We received plaques for 1st place blue points, 1st place black points, and Highest Overall Points in Youth Tans for 2010. We were able to sell some of our rabbits to pay for this trip.



Brandon wins 1st place in Sr. Showmanship

We have met many people and made lots of friends while showing our rabbits. Raising rabbits has been fun and very educational. It is not easy but worth the work.



Blaine Shows His Rabbits

For more information about the 4-H Rabbit Programs please visit <http://www.ansci.cornell.edu/4H/rabbits/index.html> You may also be interested in viewing the American Rabbit Breeders website at www.arba.net or the New York Rabbit and Cavy Breeders Association website at <http://www.nyrcba.com>

Raised Bed Gardening... With a Little Help from my Friends

By Megan Rosko, Age 18, Outsiders 4-H Club

I have been completing garden projects for about ten years and will be taking my gardening skills to a higher level this year... with raised beds. Eventually, our whole family garden will be raised beds to make it easier for my mom to continue gardening after my brothers and I leave home. So this year, my garden project is the first section that will be done.

I didn't know much about how to garden with raised beds, so I asked for a little help from my friends who already have them. A family friend, Jim Bass, is helping us to actually construct our raised beds. We are recycling treated lumber from our play set as well as boards from Jim's shed. He showed us how to measure out the rows last fall and mark them with posts. When the ground dries out from the spring rains, we will begin the actual construction.

Another friend helping me is Madeleine Gurecki who is also a member of the Outsiders 4-H

Club. She has been teaching me a lot about square foot gardening. Although my plot will have three long rows, each row will be divided into squares four feet by four feet. Madeleine showed me how to divide the squares into grids then plan each grid with finger marking according to what I plant. In row gardening, the rototiller would leave trenches to drop in the seeds. Madeleine explained how to punch a pattern of holes in each grid then plant the seeds. Vines like cucumbers or squash would be planted further apart with one seed per grid but roots like carrots or radishes could be planted closer together with 9-12 seeds in a grid.

Both of my friends have also told me of many advantages of raised beds. First of all raised beds produce more because the smaller area is more manageable.

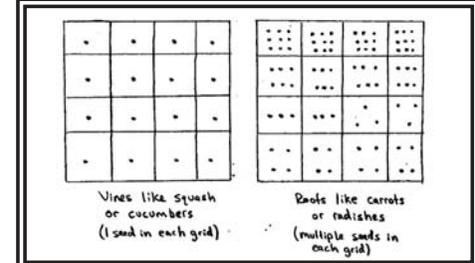
Plants can be spaced closer because you don't need places to step. If you are not stepping in the walkways, you are not packing the soil which makes air circulation better for the plants and



Guerecki and Rosko

allows rainwater to drain better. You can add compost or mulch easier and more efficiently. All of this adds to a longer growing season because beds are more likely to warm up sooner in the spring and continue to produce later in the fall. Most of all since everything is up higher off the ground, there isn't as much bending over to do for weeding and harvesting. My mom likes that advantage the best.

I am looking forward to raised bed gardening this year with this new plan and hope every-



Raised Bed Gardening Graph

thing grows well. Then I will have Jim and Madeleine visit to see what I accomplished... with a little help from my friends.

For more information visit <http://www.gardening.cornell.edu/vegetables/> which includes vegetable fact sheets including one on raised bed gardening and the latest list of vegetables that are well-adapted for home gardens in New York. Also visit <http://hort.cals.cornell.edu/> including specific pages full of resources for growers and home gardeners.

NON DAIRY LIVESTOCK

Heritage Breeds: Ort's Barnyard Menagerie

By Lindsay Debach

Sheep with four horns, ducks with red fleshy heads, and pigs that look like cows? This isn't a scene from 'Through the Looking Glass', but a description of the barnyard menagerie found on the Ort Family Farm near Bradford, NY, home to multi-species of Heritage livestock and poultry.

Roger Ort and his wife Maria, along with their four children, have been farming in New York State since 1999 after moving to the area from central Pennsylvania. "We came here with the intent to live off the land and provide for our children," says Maria. "And to live a more peaceful life than the rat race that we had lived in before." Today, the curiosities seen around their yard comprise their heritage breed farm, where they raise cattle, pigs, sheep, goats, rabbits and poultry for meat and eggs.

Heritage livestock and poultry breeds are by definition endangered. According to the American Livestock Breeds Conservancy (ALBC), heritage livestock breeds are "traditional species of livestock: asses, cattle, goats, horses, pigs, rabbits, and sheep". The breeds must also meet certain population criteria before being classified in the Critical (less than 2,000 globally for livestock), Threatened, Watch, Recovering or Study categories.

Heritage breeds are simply farm animals that were left behind as agriculture in the United States moved in a direction of becoming highly specialized, favoring only one or two genetic species for uniformity and efficiency. Farm animals not favored by commercial agriculture became increasingly rare, to the point of being at risk of extinction. The dairy industry holds a prime example: as Holstein cow populations grew, lesser-used breeds of dairy cows (i.e. Guernseys, Ayrshires) diminished in number. As a result of similar specialization, many breeds of poultry, cattle, sheep, and hogs face critically low numbers and extinction.

Maria Ort and her family started with heritage cattle, and then added on heritage pigs. Two rabbits given to their kids for 4-H started their multi-species rabbitry, where the Orts now raise Crème D'argent (a breed developed in France), Lop and Chinchilla rabbit breeds. Little by little, their heritage collection grew. "We've always been interested in the unusual," jokes Maria.

One trip around the farm proves this to be true. Grazing on open pasture are their multi-horned Jacob Sheep. A breed that derives its name from its reference in the Old Testament, the males can have up to 6 horns, while the females can have up to four. Next door, grazing happily in mud, are their two Hereford hogs (with babies on the way), a breed developed in the 1920's to have the same red and white coloring as the sturdy Hereford Cattle. Reddish brown and white Belted Galloway cattle roam in pas-



The Guinea fowl, native to Africa, freely wander around the Ort farm yard. They eat a variety of insects and aid in controlling parasites and ticks.

tures behind the farm house. With thick, curly coats, these belted beef animals are reminiscent of black and white buffalo and sought after for their lean meat.

Wandering in the Ort's poultry pen are hawk-billed Russian Orloff chickens (originating in Iran), Malays (standing over two feet tall), in addition to Delaware and Americana breeds (all in the Watch or Endangered category). Free-roaming around the yard are speckled guinea fowl and muscovy ducks with a crimson, fleshy head. (The latter, though not endangered, offer meat that is 98% lean). Indian Runner ducks (a breed that stands completely upright) quack in a line around their yard, while the protective American Buff geese honk away intruders as they guard their nests.

Though the farmyard may look like a random collection of circus oddities, the Orts chose each species very carefully. Limited infrastructure and a harsh winter climate makes it necessary for them to keep animals that can thrive outdoors.

"It was a matter of finding something that's really self-sufficient because we have the terrible winds and it's cold," notes Maria. "We wanted to have things that could survive, that are adapted to conditions we have."

There is also an issue of limited space, so animals that can survive in smaller pastures were important too. "We chose [Jacob Sheep] because they're a smaller breed for the space that we have" explains Maria. "They're not as demanding on pasture. They still produce about a 35-40 lb. carcass at 9 months." The Jacob sheep is also resilient in the damp spring climate of upstate New York, resistant to foot rot and other ailments experienced by less heartier breeds. "A normal sheep in this wet a pasture would have all kinds of foot problems," says Roger, "but they're not having anything!"

Finding the right breeds for their colorful barnyard was not easy. "We've had a lot of trial and error" stresses Maria. Before establishing their herd of Belted Galloways the Orts mistakenly purchased Dutch-belted cattle, a black and white short-haired dairy breed. "They stood there and shivered the whole winter," laughs Roger. "We realized that we got the wrong belted cow...it was a learning curve!"

The Orts also experimented with breeds of Turkeys, experiencing several losses of commercial Turkey varieties before switching to a heritage breed. "They [white turkeys] tend to get sick real easy," says Roger. "When we switched over to the Bourbon reds we didn't have nearly the losses like we did with the white ones." Roger observes that because of the mistakes they made initially with commercial animals, he and Maria were better



Indian runner ducks, standing completely upright, are a heritage egg-producing breed.

equipped to raise the more costly and endangered, heritage breeds. "Sometimes it does help to do the commercial ones at first. You don't really want to be making a lot of mistakes with a breed that only has 100 left."

The fact that the Orts are stewards of several endangered species of livestock and poultry encourages them through the difficult times on the farm. "Each one is a link to the whole chain and when they're gone, they're gone," notes Roger who observes that each heritage breed has distinctive traits important for the welfare of its species. "Let's say there's a disease," he explains "and one of them could have exhibited disease resistance, but it's gone. You can never breed it back in."

In addition to the unique traits possessed by the heritage breeds, the Orts also like them as a way of promoting bio-diversity. "We don't just raise cows, we don't just raise pigs," Maria explains. "We recognize that all the different types of livestock can work together and that they're all important parts of a farm, rather than having one crop." By raising multiple species and



Jacob Sheep, a hearty heritage breed, derives its name from the old testament reference. Males can have up to 6 horns, and females up to 4.

Photos by Lindsay Debach

breeds, the Orts enable these animals to work together with the land to encourage a healthy, functioning ecosystem.

The variety of their crops and animals has helped the Orts to create a niche local market for selling their products. "We pretty much sell everything we raise," Maria said. "We're sold out of beef for a year. We're sold out of pork 'til next year. The lambs are 60% committed already." Able to provide everything from beef to rabbit to heirloom vegetables, they have developed a loyal customer base selling out of their farm store and at regional meat shows.

Moving forward, the Orts remain committed to providing naturally-raised heritage meats and eggs to their customers. They are also working toward their goal of one day becoming a teaching farm. "We think it would be a neat thing to teach kids about heritage breeds that they don't [normally] see," says Roger. He would also like to demonstrate how on their bio-diverse farm the animals and the land work together to create a healthy, diverse ecosystem. "The sheep will eat down further than the cows, and then the turkey's will clean up all the manure from both of them...That's just all part of what we want to teach in the future. Look, this is what you can grow. This is how it all works together," adds Maria.

Throughout their years on this out-of-the ordinary farm, the Ort family has experienced its challenges. But in spite of the hardships, they move forward with an important goal in mind. "We feel our calling is to feed people," reflects Maria. "We try to keep that vision in whatever we endeavor to do in our lives."

For more information on the Ort Family Farm, including purchase information of heritage meats, visit their listing on Local Harvest at: <http://www.localharvest.org/ort-family-farm-M42147>

To learn more about Heritage Breeds, visit the American Livestock Breeds Conservancy at <http://albc-usa.org/>

Lindsay Debach is a freelance correspondent for Small Farm Quarterly and Lancaster Farming newspaper.



The Agri-Mark dairy cooperative works year-round for higher farm milk prices, better markets and effective dairy legislation on behalf of our Northeast dairy farm families. For more information on working with other farm families for higher on-farm milk prices, contact our Membership Department toll-free at **1-800-225-0532.**



BECKET FALL FOLIAGE SALE

Sat., Oct. 1, 2011, 12 Noon
Pike, New Hampshire

Selling: Some of the finest Registered Miniature and Classic Herefords in the Northeast

75 HEAD
Cows, bred heifers, bulls, some cow/calf pairs

Becket Farms
P.O. Box 299
Pike, NH 03780
603-712-5064 days,
603-989-5130 evenings and weekends

Information on our blog
becketfarmsminiatureherefords.wordpress.com
Email: pat.underhill@becket.org

NEW FARMERS

Greenhorns: A Growing Network

By Severine von Tscharnher Fleming

Young Farmers are everywhere. I'm writing this from the South. I'm on the road with Greenhorns, a documentary I made about young farmers in America-- we are screening it at the University of Virginia, Charlottesville, Appalachian State University in Boone, NC and at the Contemporary Art Museum in Winston Salem, NC. This is the start of our campus outreach tour with the message of recruitment. As a young farmer, I'm down here, despite springtime farming pressures, in order to spread the message of what's going on across this country. It's going on in the cities, but also in the suburbs, in small towns and out on dirt roads. It's a movement of young farmers motivated to rejoin a very traditional profession, and doing so in quite surprising ways. I'm interested to speak particularly with young people who are fresh from their educations and making up their minds about what to do with it.

American farming, even now, is seen by increasing numbers of us as a sector for growth, opportunity, and sustainable economic development for rural places. Though many of us are over-educated for the economy in which we now find ourselves, the tangibility of farming seems to cut to the chase. That society at large doesn't value farming is a fact we choose to ignore. That the feed stores are out of business, the suburbs have squandered valuable land, or that the soil is contaminated with the ruins of an industrial pastlife-- this is unfortunate, a barrier, but can be overcome. What matters is moving forward, starting from where we are and figuring out the way to a country we can be proud of.

What a pleasure to see the telescoping of this movement. Many schools are now offering practical training programs for their students in response to direct, practical, pertinent questions about the logistics of starting a career in farming, making it work, and doing it sustainably. At each Greenhorns screening dozens of hands pop up, strong confident voices pipe up, and earnest and thoughtful analysis comes from both graduating seniors and underclassmen. It seems like for every young farmer age 30, tenfold are aspiring young farmers age 20.

This is needed, this is happening, whether we are ready or not. The only question now is: will our elders and policymakers make this any easier for us? Will they address the hurdles of land access, availability of credit, provision of farmer services + extension? Will they stop conflating the interests of big business, agri-chemical companies and the mega-supermarkets with the interests of agriculture, of farmers and small business entrepreneurs? Can our next Farm Bill reframe the conditions

Get Connected!

Find your local Cooperative Extension office

CT: UConn Cooperative Extension
860-486-9228

ME: UME Cooperative Extension
800-287-0274

MA: UMass Cooperative Extension
413-545-4800

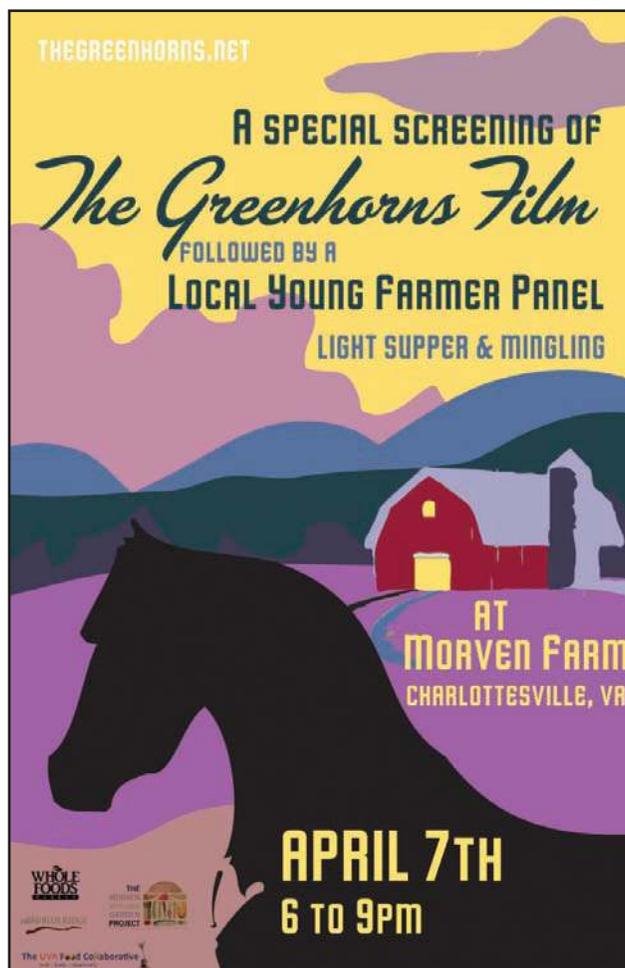
NH: UNH Cooperative Extension
603-862-1520

NY: Cornell Cooperative Extension
607-255-2237

PA: Penn State Cooperative Extension
814-865-4028

RI: URI Cooperative Extension
401-874-2900

VT: UVM Cooperative Extension
866-622-2990



Flier for Greenhorns movie screening at Morven Farm

Photos by Patrick Kiley



Enjoying some food & in-depth discussions at a Greenhorns mixer

within which we will start our farms, and raise our families, and keep improving our stewardship of this wonderful land?

America desperately needs bright young minds, bodies and businesses in our productive economy, the real economy. Bright young minds want to start fixing American agriculture. Please, get involved in the National Young Farmers' Coalition, join in the action, become informed about these issues, and figure out how to ensure that this movement continues to expand.

www.youngfarmers.org

Severine v T Fleming is the director of Greenhorns, a grass-roots non-profit organization working nationally to promote, recruit and support young farmers. The Greenhorns is a tremendous, very online, collaboration-driven collective that produces publications, new media, blog, radio, video, and many hands-on-in-person workshops, mixers, wildcraftings and skilshares. Join us.



Severine von Tscharnher Fleming enjoys creating awareness of the National Young Farmer Coalition

Resource Spotlight

Greenhorns Tips for Organizing Young Farmer Events

The follow is an excerpt. To access the full Guide, contact the Greenhorns at farmer@thegreenhorns.net

Posture & Manners: A good organizer can create an atmosphere of kindness and delight. A good organizer will be able to infuse even the dull parts of event prep (scrubbing the toilet, stapling up flyers) with purposeful spunk. A good organizer creates a whirlwind of improvisation and finesse.

Pay-Dirt Preparation: Getting everyone to come to your party, particularly if you are in a bit of a spread out cluster of young farmers can be quite a challenge. One way we've found better success is by making the rounds early in the week before the party to order produce/milk/meat/flowers that we'll need at the event and asking the farmer to bring it with them. Or else we just buy it then and invite them to come. Frankly, if the programming isn't really that relevant, no matter how nice you are they won't come, there is just too much to do during the growing season. So be relevant, and if you fail...that's a good lesson too.

Convening Conversations: Conversations are so important to keep things moving forward, to maintain consensus. But often, we are all very busy and don't make time for important, contemplative conversations. That is why it is important to revere the conversation, make a lot of hustle bustle around it, and convene a space where it can unfold. Some conversations are simple like: "Look how cool that spit-roasted lamb leg looks, gee I want to cook more meat with the bone in." "He says that that lamb is a rare breed hogget!" "What a taste, I wonder if I can split a whole animal with my friends in my freezer!" Build institutional literacy, and do it by talking more.

Donations: We love our consistent corporate sponsors, they have been so helpful in throwing these events and setting a good example. But make an effort to not choose all corporate organic sponsors from out of town; make an effort to source and connect with local growers and local people in the lead up. Obviously seasonal is cheaper if you are buying from farmers, and don't hit them up for early tomatoes if you want to keep any friends. Keep a list of donors, thank them well with paraphernalia, invite them to all events, give them back their crates/cardboard boxes. Always do lots of outreach to young-farmer-serving organizations, they can so easily feel alienated! And don't forget your cups, cutlery & napkins...ask participants to bring their own or get donations from a local grocery store.

Policy Makers: Politicos can be our friends. Make sure to tell your representatives that a large group of young voters with policy opinions are getting together in one place! Call their press secretary, invite them to join in, or just alert them to the vital details of what you are doing. Sometimes our goal is just to poke them and say hey, we're here and we count and we're a big constituency!

Clean: Venue should be left spic and span, preferably with a case of leftover wine/beer or goodies of some kind. Helpers and schleppers should be given things that are extra. Clean-up volunteers should be identified early, and connected with throughout the party to confirm their commitment.

Conclude & Compost: Rest & reflect afterwards - assess what went wrong and what went right. Process your thoughts and disseminate them to your cohorts and to us.

DAIRY

Why Consider Off-Farm Dairy Processing?

By Fay Benson

The purpose of this article is to help dairies that are interested in having their milk processed into salable dairy products. Off-farm processing will alleviate the considerable time, effort, and expense of creating a farmstead cheese house. This alternative method of dairy processing can have benefits such as:

1. Off farm processing reduces capital to enter a niche market
2. Centralized processing reduces labor by New York State Inspection Personnel, which in turn could increase food safety.
3. Spend more time marketing and less experimenting
4. If the new venture does not fit with the farms' goals, it's easier to quit the venture before large amounts of capitol and time are expended.

The following are issues, regulations, and suggestions to get raw milk from farm to a processor and back to farms for retail. Following the article is a budget to help figure a business plan for the processing of raw milk into dairy product, which can be sold direct to consumers. More information and application for licenses can be found at: <http://www.agmkt.state.ny.us/DI/DIBusiness.html#0>

Involving the staff at NY Ag&Mkts Milk Control Division can save the farmer much time and frustration in this endeavor.

Choosing a Processor:

If you are interested in diversifying your dairy's income, selling dairy products directly to consumers is a possibility. The potential to take 10 lbs of your milk which is worth \$0.20/lbs when milk prices are at \$20/cwt, and sell that 10 lbs as 1 lbs of cheese for \$10 to \$20, you are left with a gross margin of \$8 to \$18 for every 10 lbs of milk. Like any change in a farm's business structure, planning is crucial to limiting risk to the existing structure. Conversations with farmstead cheese producers have highlighted certain pitfalls that can be avoided by breaking the change into components or "small steps". These steps include:

1. Producing high quality milk. The old adage "Garbage in, garbage out" is especially true with dairy processing. Any farm considering selling a product made from a sole source of milk needs to first assure the quality of that milk.

2. Choosing a Cheese maker. After milk quality, the cheese maker has the most influence on the outcome of a quality product. It stands to reason that every cheese maker has to make a certain amount of bad batches.

Choosing a cheese maker should involve tasting their cheese over time to see if they can repeat quality every batch. An exceptional

cheese maker can tell which dairy products would fit the "nature" of a farm's milk. There are more nuances to a milk's structure due to



Jeremy Sherman and Aaron Snow talking to Washington County Cheese Maker, Marge Randles
Photo by Fay Benson

the animal's diet than can be measured just by its makeup of protein, fat, and quality. This is referred to as the milk's "gout de terroir" or taste of the soil. Research completed by Cornell's Peter Van Soest looking at grazing dairy cows in Italy showed that plants grazed by a milking cow had profound effect on cheese flavor. Other questions which need to be addressed:

- Is their cooler large enough to store your product?
- Is their aging facility large enough to handle your product?
- How will you identify each individual cheese?
- There are more questions then can be listed but these will give you a start

3. Retailing the product. Many farmstead cheese producers comment on the amount of time it takes to retail their product. Packaging is a component of retail and there is much time invested in designing logos and containers. In addition any package decisions have to be approved by governmental agencies. Once the products are packaged the least time consuming method is to sell direct at the farm but many producers also sell through: Farmers Markets, wholesale through regional marketers, CSAs, and other marketing avenues.

The Reasoning behind Off-Farm Processing

If you decide to sell your milk directly to consumers, a logical way to get started is to elimi-

nate the processing step outlined in #2 above. This would allow you to focus on steps one and three; the first step of producing quality

milk is one you are already involved with and will only take a limited amount of time and investment to bring to the level required for direct sales to consumers. Step three, or retailing will be your new job and will take a considerable amount of preliminary time and investment to accomplish. It is also the area where there can be the most profit return for time invested. The demand by consumers for farmstead cheese is increasing but so is the supply. From a conversation with a NY State Milk Inspector I learned that this year alone we will see 50 new farmstead cheese operations being licensed. In other words the novelty of farmstead cheese isn't as novel as it once was. Retailing your product will become critical. The information on the number of new operations also shows the workload being

Transporting the raw milk to the processing site:

- **Milk Dealers License** is not needed if each farm is moving less than 3000 lbs per month.
- **Drug Testing**, as long as milk is not co-mingled with another farm, there is no need for drug testing
- **Transporting Milk** - talk to the Certified Milk Inspector (CMI) through NY Ag&Mkts about the container you use for transporting the raw milk from the dairy to the dairy processing site, the tank needs to conform to road regulations as well as contain milk transfer pump and an approved cleaning procedure.
- **Milk Samples** are required to be taken and the time of pick up by a "licensed receiver" This license is relatively easy to get.
- **Milk Samples** - it is suggested that the samples should be kept refrigerated until the milk is processed. It is recommended that the samples should not be tested, but if there is a problem with processing the samples can be used to help isolate the problem.
- **If samples are analyzed** for instance at Dairy One, the results need to be shared with farm's CMI (certified milk inspector).
- **Regulations and Inspections during milk processing** are all handled under the license of the processing plant.

After the milk is processed there are two levels of licensing required by the NY State Department of Agriculture for the sale of processed dairy products. First there is the license and regulations for display of the dairy product and the other is to age, cut and wrap and display of the product.

- The simplest method to go from newly processed products to direct sales would have transport, cheese cave, and cut and wrap area are all covered by the cheese house permit.
- If dairies want to cut and wrap and do retail at their farm they need to contact Div, of Food Safety & Inspection: Evelyn Miles (585) 427-2273 900 Jefferson Road Suite 1200 Rochester, NY 14623
- She explained that there are two different licenses for the retail portion.
 - o First the Display License (article 28), which allows the on-farm store to keep wrapped or packaged products in a refrigerated display case for retail sales. The cost is \$150/year.
 - o Second is article 20-C, for cut and wrapping or any minor food processing such as cooking hot dogs or heating a pretzel. Cost \$400/year In addition there is a requirement for:
 - A hand washing sink,
 - 2-3 bay sink for utensil washing
 - Annual Nitrate Water Test
 - One-time Nitrite Water Test
 - Quarterly Bacteria Water Test

absorbed by NY Department of Ag's inspectors. Off-farm processing would reduce the number of cheese houses needing inspection.

By sidestepping doing your own dairy processing, you will be able to try your hand at retailing without investing: The capital required to build a cheese house with equipment including a pasteurizer is in the neighborhood of \$100,000. You'll save the time it takes to learn how to make hard cheese, soft cheese, yogurt, quark, shmier, or any of the other numerous possibilities of products. The time factor is one that many don't take into account; it takes a considerable amount of time for experimenting with different enzymes, molds and processes to make the different products. Many farmers don't count this time since it is fun. Finally, you avoid the dilemma of assessing the quality of your own cheese. Saying a cheese has a delightful after taste may in reality be just bad cheese. A beginning cheese maker or their spouse, who is trying to support the new venture, would not be the best judges of cheese.

By choosing an experienced cheese house to process the cheese, you can avoid much of the time and investment of processing and see if direct sales is the right fit for your farm. If after a period of time you feel you have the quality milk, the ability, and the avenues to market, then you can decide if a cheese house is a good investment. The other benefit of off-farm processing is avoiding food safety inspections and permits which are required for farmstead cheese processing.

As stated earlier there is a customer base in New York to support increased sales of dairy products, but the farmstead cheese market needs to start focusing in on the quality of product. The key to that movement is to educate and allow cheese makers to become experienced in their craft. This is another benefit to promoting off-farm processing: it allows the farmer to make the best quality of milk unique to their surroundings and allows the cheese makers to focus on raising the quality of cheese production to that which is seen in other countries.

Fay Benson is a small dairy educator with Cornell Cooperative Extension of Cortland County. He may be reached at 607-753-5077 or afb3@cornell.edu.

Approximate Cost of Production for Hard Cheeses

Based on information from Marge Randles - Argyle Cheese, Argyle NY

All figures based on starting with 3000 lbs of raw milk, which will produce approximately 300 lbs of hard cheese. There was no charge for cost of milk only production costs.

Labor:		
Cheese Production, collecting, forming, and cleaning	15 hours @ \$20/hr	\$300
Turning Cheese in Storage for 60 days	8hrs @ \$20	\$160
Transport of raw milk to cheese house:		approx. \$ 80
Ingredients:		\$25
Utilities:		
@ \$20 / month X 2 months		\$40
Misc.		\$10
Return on Cheese House investment:		
@ \$3.00/ cwt X 30 cwt		<u>\$90</u>
Total to produce 300lbs hard cheese		\$705
Or \$2.35/ lbs of hard cheese		

HOME AND FAMILY**Neighbors Growing Winter Greens**

By Lisa M. Dellwo

Living in the Hudson Valley provides ample opportunities to "eat local." On any given summer weekend, a visit to the farmers market can provide the makings for an entire meal or meals: produce, meats, breads, eggs, milk and cream, herbs, baked goods, and sometimes even a bottle of wine and flowers for the table.

We also have the option to buy directly from farms or to visit local markets that specialize in regional goods.

It is more expensive than a traditional supermarket, but many people find it worthwhile for health, ethical, or environmental reasons. Much of the food is grown using organic methods, animals are in general raised humanely, and because the food hasn't traveled across the country, it is fresh and delicious. Many of us also like the idea of keeping our money in the local economy.

The problem with this system is seasonal. By the end of November, harvest is over and most of the farmers markets have closed up shop. Unless we have "put up" food, we are facing a long winter of eating produce shipped from warmer parts of the world. Even crops that we know grow well in cold weather, like kale, are limp and unappealing by the time they reach our tables.

In 2010, a group of four households in Dutchess County joined together in a venture we called the Winter Bounty Project. We were inspired by the work of Eliot Coleman, who grows produce



Harvesting in mid-December

Operation Costs

The two largest expenses were the greenhouse (hoop house) and irrigation. Our Rolling Thunder greenhouse from Rimol was \$6431.53, plus \$175 for various modifications including a storm door. The greenhouse is designed to roll back and forth over two plots, allowing for ease of crop rotation and to take advantage of seasonal rainy days.

Because of the location of the greenhouse, away from other structures, we needed to drill a well. The cost of drilling, plus a pump powered by solar photovoltaics, storage barrels, and drip irrigation, amounted to approximately \$7,000.

Some additional funds were spent on soil preparation and seeds.

Many of these costs were incurred because in the summer of 2010 we were determined to get the project going promptly rather than wait another year. Anyone considering a similar project could shave these costs considerably by finding a used greenhouse, planting near an existing well, and using volunteer or bartered labor for plowing.

Anyone considering such a project would do well to purchase a copy of *The Winter Harvest Handbook: Year Round Vegetable Production Using Deep Organic Techniques and Unheated Greenhouses*, by Eliot Coleman.

all winter in unheated or minimally heated greenhouses in Maine. We are not professional farmers, but our group includes three dedicated backyard gardeners and several complete novices who provide unskilled labor and moral support.

Following the guidance Coleman provides in his book, *The Winter Harvest Handbook*, we transformed part of a field in Stanfordville into an agricultural oasis with a microclimate similar to that of Gainesville, Florida. This was accomplished by growing plants under an unheated 22- by 48-foot greenhouse and adding an extra layer of protection in the form of fabric row covers during the coldest weather.

As a result of careful planning and hard work, our four households were able to supply ourselves with fresh salad and cooking greens and some root vegetables during the entire frigid winter of 2010-2011. Our winter menus featured a Thanksgiving dish of chard braised with cranberries, a huge salad for the Super Bowl party in February, and many soups, stews, and pasta dishes featuring fresh kale, chard, collards, and arugula. There was one memorable moment, on New Years eve, when we passed around a baby carrot fresh from the soil and each took a bite of the sweetest carrot we'd ever eaten.

The careful planning included following Coleman's advice on



The Winter Bounty greenhouse in late January.

what to plant and when. The winter crop was heavy on greens: chard, kale, collards, rabe, mizuna, cabbage, lettuces. We also planted leeks, scallions, carrots, asian turnips, radishes, and beets. No warm-weather crops like tomatoes or cucumbers.

Most of the seeds or seedlings went into the ground in August or September. That's really too late for some of the slower-growing foods like leeks, because everything pretty much stopped growing when the days get short. At that point, the greenhouse to some extent became a cold-storage facility. Plants that had grown riotously during the fall months went dormant in December, as expected, but, except for some arugula and broccoli rabe that succumbed to some form of rot, we didn't lose anything during the cold months.

After a flurry of planting, thinning, weeding, and watering from August to November, the garden didn't require much maintenance. There were cold, blustery days when it was as cold inside the greenhouse as outside-sometimes below freezing-and harvesting plants invited frozen fingers. But on some sunny days, the inside temperature of the greenhouse would be at least 20 degrees warmer than outside, and we would pull the fabric row covers back to give the plants some extra sun. That became almost an everyday event starting in February, and in late March, the row covers came off for good. Soon after, we needed to begin irrigating. Plants that had been dormant all winter started growing again in February when the days got longer, and we enjoyed a second harvest of some varieties. Amazingly, in May 2011, we were still eating spinach that had been planted the previous September.

We launched the Winter Bounty Project in what turned out to be one of the most extreme winters in recent memory. By mid-February, we'd had eleven snowstorms and a total of 63 inches of snow, according to Vicky Kelly at the Cary Institute of Ecosystem Studies. There were very few winter rains or thaws to melt the snow cover.

While the weather sometimes made it a challenge to travel to and work in the greenhouse, it didn't seem to affect the plants. In fact, we all noticed how remarkably sweet everything tasted. Another Cary Institute scientist, Peter Groffman, told us that the excessive snow piled up outside the greenhouse could possibly have had a positive, insulating effect on our plants.

We are not a commercial operation; our project feeds our four households and some visitors. An accountant running a cost-benefit analysis would deem the project unviable, but it's harder to quantify the environmental impact of eating less-traveled food and the health benefits of eating fresh, organically grown produce. Those benefits, we anticipated. What we didn't foresee



Inside the Winter Bounty greenhouse in mid-November. The door has not yet been installed. Photos by Lisa M. Dellwo

was the absolute pleasure of walking through a field of snow and stripping off layers of coats and sweaters to work and chat for a while in our little oasis of warmth.

That said, there are ways to mitigate the financial impact of a project like ours. It is likely that a farmer would have lower costs because s/he might have some of the equipment in hand, including the actual greenhouse and irrigation equipment, and could provide much of the labor.

Also, used greenhouses are often for sale on Craigslist or elsewhere, and even a cold frame could be used to protect a bed of hardy greens like kale or chard all winter.

When we look back on our first winter of operations, we are proud of our successes, but what we are most proud of is the number of people who have heard about our project and said "I want to do that too." It is possible to eat freshly grown produce in the winter in Zone 5, and we hope others will follow suit in the coming years.

Lisa M. Dellwo is a writer and photographer in the Hudson Valley and one of the unskilled novices referred to in the article. She and the other members of the Winter Bounty Project can be contacted via the Winter Bounty Project's blog at <http://win->



Butterhead lettuce planted in August was thriving in October.

**GROWER'S
DISCOUNT LABELS**

- up to 25% off
- custom-designed labels
- free shipping*

Labels for all value-added and direct-marketed products.
Specialty dairy and meat labels.

*for labels on rolls

free catalog/info 800-693-1572
See Label Gallery online:
www.growersdiscountlabels.com

STEWARDSHIP AND NATURE**The Wonder of Life**

By Bill Duesing

This will be the fifth and last in a series of essays penned by Bill Duesing and edited by Suzanne Duesing from the book *Living on the Earth: Eclectic Essays for a Sustainable and Joyful Future*. It is fitting that we have looped around from one year to the next and have begun another as Bill mentions 'the cycle of life' in this final essay.

This essay, "The Wonder of Life," focuses on a key theme of the Stewardship and Nature section of the Quarterly, that is, "fitting in with nature as we farm and live on the landscape." I want to thank Bill for allowing the SFQ to reprint his writings and hope you as readers have enjoyed them as much as we have at the Quarterly.

The Wonder of Life

The wonder of it, of the season, is life.
A birth, any birth, is into life -

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 Violet Stone,
Cornell Small Farms Program,
15A Plant Science Building,
Cornell University,
Ithaca, NY 14853
vws7@cornell.edu

the fantastic variety of life that covers our planet and nowhere else we know - children and wise women, sheep and hollies, blue-green algae and maples, rhodeoendrom and catfish, It is life - grandparents and spruce trees - the bacteria in our mouths and the whales in the oceans - It is all life.

Complex, interdependent relationships covering the Earth, connecting the nearly invisible with the enormous, each living thing providing an environment for millions of other living things: The mychorrhiza on the roots of beech trees and the flora in our intestines.

Earthworms, cows, cousins, nematodes, oaks and mushrooms, each occupying a niche, each dependent on others.

An unbroken chain of evolving genetic information passed down for a billion years, connecting all living things to a common past - as surely as all species are connected to all others through the atmosphere which is inside everybody and every green leaf.

We all get our food and get rid of our wastes on the same planet.

The cycle of life is birth-growth-death and decomposition for recycling - making way for more life, releasing stored nutrients for the good of life.

This continual cycling takes place in the energy flow of the sun.

Dandelions, plankton, wolves, eagles, pines, raccoons and honeybees - It is all life.

An incredible profusion of living things working together to make the Earth habitable. Just like the bacteria which inhabit the surfaces of our bodies and the lichen which decompose rocks, life changes and regulates its environment. The rain forests and the algae on the ocean surface regulate the climate. The air, the soil, water and rocks are created or modified by life. The composition of the atmosphere has co-evolved slowly, over a billion years with life on Earth.

In a very tiny fraction of the Earth's history, we have used our mechanical prowess to change its composition very rapidly. Our fossil fuel, beef and forest clear-cut habits are reversing the evolution of the atmosphere - adding methane and carbon dioxide that were removed millions of years ago as the environment evolved to one where we could live.

With our high-energy lifestyles and our mechanical thinking (produce and consume) we are rapidly changing the environment into one where we won't be able to live.



We all get our food and get rid of our wastes on the same planet. Photo courtesy of NASA

Carbon dioxide (from our smokestacks and tailpipes) and methane (given off by colonies of termites in the tropics, as well as by the colonies that bacteria have established in the bellies of cows) are both greenhouse gases. We know the probable effect of our waste gases and should be wise enough to make intelligent choices. Termite mounds participate in the birth-growth-death and decomposition cycle in a way that smokestacks and tail pipes do not.

Turkeys, oysters, fine cheeses and wines, breads and broccoli, It is all life.

Yeasts, green plants and animals, nourishing us as we nourish them - passing down their genetic information with our culture.

We know the enemies of life: war, pesticides, high energy radiation, clear-cut forestry; asphalt and lives lived as if disconnected from their environment.

We have the capacity for the wisdom to make sensible decisions. We should design a world which puts priority on important and doable things: feeding, clothing, housing, educating, healing and loving.

The miracle and wonder of a birth are reflections of the miracle and wonder of life.

We need to cherish the whole interconnected web of life on Earth in the same way we cherish our family and friends this season.

Reprint Permission: 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 Solar Farm in Oxford, CT where they produce organic vegetables, fruits and poultry. The book is currently out of print, but may be available in other formats from Solar Farm Education, Box 135, Stevenson, CT 06491.

Black Queen Angus Farm, LLC**Beral of Wye UMF 9288**

• 3.8 Frame • 6.35% IMF yearling • 37 cm scr yearling • Highly prepotent

By Alap and tightly bred to Leonid of Wye on the bottom side. Maternal Efficiency and quality Grass-Fed beef are bred into Beral.

He passes it on! Semen available!

Morgan Hartman



Black Queen Angus Farm, LLC Sustainable Genetics, LLC
P.O. Box 220 Berlin, NY 12022 (518) 658-0718 (413) 358-8435 mobile
www.sustainablegenetics.com

**LAKEVIEW ORGANIC GRAIN**

Box 361, 119 Hamilton Place
Penn Yan, NY 14527
315-531-1038

Certified Organic Feed, Seed & Livestock Products
❖ From Northeast organic farmers for Northeast organic farmers ❖
www.lakevieworganicgrain.com

NEW! BOB-WHITE SYSTEMS

IS NOW VERMONT'S OWN and EXCLUSIVE SOURCE FOR

CHEESEMAKING EQUIPMENT and SUPPLIES

Serving Hobbyists to Commercial Farmsteads and Everyone in Between with Cultures, Rennet, Moulds...Pasteurizers, Cheese Cloth, Curd Knives and More!
We also stock 40-, 50-, and 66-gallon free-standing bulk tanks.

Visit us online or at our storefront on the Green in South Royalton:
228 Chelsea Street (next to the SoRo Market)

www.bobwhitesystems.com
www.facebook.com/FarmsteadDairy

(802) 763-2777

BUSINESS MANAGEMENT

Farm Profit: Making a Life and a Living from Your Farm

By Erica Frenay

My husband and I started Shelterbelt Farm in Caroline, NY last year, joining the ranks of new farmers across the country capitalizing on direct marketing opportunities and the demand for local food. Like most beginning farmers, I'm coming into a farming career from outside the production agriculture sector. I have been working on food and farming education for 14 years, but my experience running a farm business was nearly non-existent.

So I had a lot of the same questions as the new farmers who contact me in my role as coordinator of the Northeast Beginning Farmer Project. One of the first questions these new farmers typically ask is "How much profit can I expect my farm to generate?" What they're really asking is "Will I be able to support myself and my family from my farm income? Would I be able to quit my office job if I chose to?"

I've learned from dozens of conversations with farmers that the short answer is maybe. No one will be able to give you a magic formula with a list of crops to grow for the best bottom line. It depends on your scale, location, soil, skills, efficiency, and markets. Ten different farms all growing a similar mix of crops will likely have vastly differing levels of profitability. This was well illustrated in the Grower to Grower: Creating a Livelihood on a Fresh Market Vegetable Farm study published by the University of Wisconsin in 2006, which followed 19 diversified vegetable farmers over the course of two years, and documented profitability in the form of hourly wages paid to the farm owners. The wages of the farmers studied ranged from \$2.26/hr to \$14.90/hr for their work. You can find this study online at: <http://www.cias.wisc.edu/crops-and-livestock/report-helps-fresh-market-vegetable-growers-understand-and-share-finances/>

Your profit potential also depends on what you mean by "profit", and on your goals.

Three Takes on Profit

For such a simple concept, profit is a surprisingly slippery term.

Most people know that $\text{Income} - \text{Expenses} = \text{Profit}$. The problem lies in how people use the term. Let's consider three examples that are laid out as black-and-white; in real life there are more nuances and combinations:

Farmer A doesn't include his own labor as an expense, and may also not include overhead costs, so when he subtracts his expenses from his income, the results for his chicken and strawberry enterprises each look pretty fantastic. He uses these figures to calculate his price, which is significantly lower than his full-time farming neighbors charge for a similar product. He has an off-farm income source with no aspirations to terminate this arrangement. He refers to his farm as being profitable, but his operation wouldn't stand on its own financially without significant price increases.

Farmer B also doesn't include her labor as an expense, but she keeps track of her hours invested in each enterprise.



Beautiful capped brood - new baby bees on the way!

Photo by Carol Frenay



Happy pigs enjoying sunshine and good green forage

Photo by Erica Frenay

Then, when she subtracts expenses from her income, she takes the "profit" that's left and divides it by the number of hours she put into that enterprise, coming out with an hourly wage for herself. She bases her product prices on the hourly wage she wants to have, and divides her overhead expenses among her mix of enterprises. She culls enterprises that don't pay her well enough for her time, and is able to support herself full-time on her farm.

Farmer C tracks all his labor and includes a \$13/hr wage for himself as part of his expenses (\$10/hr + taxes and social security). When planning for profit for any one of his crops, he subtracts all expenses (including his labor and a portion of the farm overhead), and still expects there to be money remaining as profit, which he can use for retirement savings, kids' college, reinvestment into the farm, or any other purpose. This method of calculating profit reduces the farmer's risk by ensuring that he could pay someone to take his place should he break a leg or get sick.



Movable poultry pens each hold up to 50 birds

Photo by Erica Frenay

None of the examples above is "right" or "wrong"; they can each work for different people. And in fact there is a lot of gray area here: examples B and C overlap in real life. The point is to make sure you understand which type of profit a farmer means when they say "The profit margin on culinary herbs is fantastic" or "We were profitable in our first year." Most farmers will tell you that it takes 5-9 years to achieve true profitability, though it is possible sooner if you have very low overhead and advanced production skills. And make sure you understand which method of calculating profitability best fits with your farming aspirations.

Farm Goals

Profit doesn't just happen; you need to plan for it and make it happen. Most farms in the US, regardless of size, have some source of off-farm income, whether by choice or necessity. How your farm fits into your lifestyle and your livelihood-and how much profit it generates to support your family--is up to you.

Like many small farmers, my husband and I started out homesteading, with a desire to produce as much of our family's food as possible. Now that we are growing into a commercial operation, feeding our family is still a high priority. We know that our farm will need to be profitable-using the Farmer B meaning here-but profit is secondary to our quality of life, like having free time in the winter, eating really good food, working outdoors, and being our own bosses. We will probably always

have an off-farm income source, by choice, as my husband loves his carpentry work, so there are some things (like health insurance and retirement savings) that we don't necessarily expect the farm to provide.

Other farmers meticulously plan their operations to generate the greatest possible profit. Richard Wiswall points out in *The Organic Farmer's Business Handbook* that it is entirely possible to make a living on a small farm that is competitive with doctors' or lawyers' salaries. You can earn enough to fund your retirement and to put your kids through college. You can do this and also still have some of the quality of life benefits mentioned above. But you must be devoted to the focus on profit; persistently culling crops or animals that don't meet your profit goals, gaining efficiencies and cutting costs that aren't essential. If you are not willing to put in that kind of intensive management work and focus on return-on-investment, you can still make a living on your farm, but you'll likely still need some off-farm income.

Conclusion

Despite popular thinking, farming can be enormously profitable. Why shouldn't it be? Producing food for people is a critical community service that requires no less skill than doctors or computer programmers possess.

Still, an important role for an ag service provider is to ensure that first-generation beginning farmers don't enter this profession too starry-eyed. It's especially important for a new farmer to understand that just because she saw local organic chicken fetching \$6/lb or meslun mix at \$18/lb at the farmers market doesn't mean that those farmers are getting rich. More likely it means that they have done a full accounting of their farming costs and have set prices that will cover these costs and also pay themselves a "livable" wage (which may still be quite low).

Be clear on your goals, have a good understanding of your costs, and set your prices accordingly. With a bit of skill and luck, you'll be able to achieve your farm profit goals and make a good life on the farm for you and your family.

Erica Frenay is co-coordinator of the Northeast Beginning Farmer Project, www.nebeginningfarmers.org, housed at the Cornell Small Farms Program. She is also co-owner and operator of Shelterbelt Farm in Caroline, NY, www.shelterbeltfarm.com. She can be reached at ejf5@cornell.edu or 607-255-9911.

Starting a Farm?

Visit the Northeast Beginning Farmers Project online at <http://nebeginningfarmers.org/>

**NYS AGRICULTURAL MEDIATION PROGRAM**

STRAIGHT TALK • FAIR SOLUTIONS

Problems with suppliers, creditors, neighbors, USDA appeals, family or business conflicts?

Let's talk.

Call toll free
866-669-7267

or visit

www.nysamp.com

Free, convenient
and confidential

HORTICULTURE

Late Blight of Tomato and Potato in 2011: Watch for It and Participate in the New National Reporting System

By Meg McGrath

Two unexpected finds of late blight on tomato in greenhouses in the northeast during April plus detections in seed potatoes expose an unfortunate but important fact - everyone growing tomatoes and potatoes in 2011 needs to expect and thus prepare for late blight occurrence in their plants. Preparation is critical since late blight is a top contender for most difficult disease to manage once it has started.

The unsolved nature of the outbreaks this spring, as well as some outbreaks in 2010, reveals there is clearly a need to obtain a better understanding of the sources of the pathogen, especially for early season outbreaks. Knowledge of the sources will lead to targeted management practices and minimize the potential for growers being caught off guard. This can be accomplished through growers and researchers investigating occurrences together. Fortunately, there is now a team of researchers at 17 institutions, including Cornell, working as part of a national project with funding from the USDA. This project will address aspects of late blight and its management during the next five years. Activities will integrate extension, research, and education to help control the disease. These include systems for helping growers make management decisions, methods for identifying pathogen strains and their traits, and plant varieties that are more resistant.

There is also a need to know where late blight occurs throughout the growing season in order to study movement of the pathogen and develop a predictive system to enable growers to be more informed about potential outbreaks in the future. Thus it is important to report all occurrences. Success of this reporting system is dependent on growers participating in the National Reporting System.

Here's how you can help! Routinely inspect plants for symptoms beginning at the start of production. Plants in high tunnels and greenhouses are now recognized to be vulnerable rather than fully protected. If you think you may have late blight, contact your local Extension office for verification of the diagnosis and submission of a sample to the national research team, which will initiate study of your outbreak. Information on how to sam-



A young late blight lesion on a tomato leaf

Photos by Meg McGrath



Progression of the disease symptoms on tomato foliage



The effect of late blight infestation on tomato fruit

ple is under 'Reporting Outbreaks' at the project web site (<http://usablight.org/>). Samples are needed to determine the genotype of the pathogen responsible for the outbreak. You can stay informed about occurrences of late blight to gauge the potential threat to your crop by checking reports at the project web site, too. Information about late blight and its management is also being posted there.

Some early-season outbreaks of late blight in tomato have raised concern that the new pathogen genotypes may have another means to survive between crops over winter in the north other than the only known means, which is in potato tubers. This concern was heightened following a recent report of late blight on volunteer tomatoes in a greenhouse with no apparent potatoes in the vicinity. This might reflect the fact a tomato genotype of the late blight pathogen being less aggressive on potato consequently does not produce as distinctive symptoms characteristic of a tuber infection. Without knowledge of the sources for the early-season outbreaks of late blight in tomato, there is concern that they will continue to occur, as we cannot effectively manage what we do not understand.

For more information on Late blight, check the LIHREC website. To contact Dr. McGrath, call her at (631) 727-3595 or email her at mtm3@cornell.edu.

Resource Spotlight Understanding the Enemy - Phytophthora infestans, the causal agent of late blight in tomato and potato

* Identifying the disease - symptoms and pathogen life cycle
<http://usablight.org/?q=node/29>
http://www.longislandhort.cornell.edu/vegpath/photos/lateblight_tomato.htm

* To report an outbreak of late blight and submit samples, go to: <http://usablight.org> Your sample is important for a national project tracking and studying this important disease.

* Need to know where your local Cooperative Extension Office is to report an outbreak or get help with identification and sample submission?

In NY:
http://cce.cornell.edu/learnabout/pages/local_offices.aspx
Other states: <http://www.npdn.org/>

* Maps of current late blight outbreaks and a late blight forecasting model
<http://usablight.org/?q=map>
http://uspest.org/risk/tom_pot_map

* Information on test kits for Phytophthora is available at <https://orders.agdia.com> The test is recommended for use as a preliminary screening tool for Phytophthora species. Plant sap is placed on an indicator strip. If the sample is identified as late blight, please also submit plant samples to <http://usablight.org/>

* Late blight decision support tools
<http://usablight.org/?q=dss> - Cornell University
<http://usablight.org/?q=node/32> - Michigan State (potato)

* Resources available from Cornell University Long Island Horticultural Research and Extension Center website
http://www.longislandhort.cornell.edu/vegpath/photos/lateblight_tomato.htm

- o A photo gallery of late blight images and late blight 'imitators'
- o Late blight webinars for gardeners from Rutgers University
- o Managing Late Blight in Tomato and Potato - An Essential Part of Gardening
- o Late blight FAQs and corrections of misinformation
- o Fungicide information for home gardeners

* Other fact sheets
Vegetable MD On-line Fact Sheet on Late Blight of Tomatoes and Potatoes
Cornell University Department of Plant Pathology
http://vegetablemdonline.ppath.cornell.edu/factsheets/Potato_LateBlit.htm

Late Blight: A Serious Disease of Potatoes and Tomatoes
NYS IPM Fact Sheet
<http://www.nysipm.cornell.edu/publications/blight/>

Late Blight on Potatoes Factsheet
Cornell University Department of Plant Pathology
<http://plantclinic.cornell.edu/factsheets/lateblight/late.htm>
includes information on fungicides* and resistant cultivars

Late Blight of Tomato and Potato - 2010 Information Clearinghouse Farmers and Gardeners in Massachusetts and New England
University of Massachusetts Fact Sheet
<http://www.umassvegetable.org/LateBlightAlertforTomatoandPotato.html>

Managing Late Blight in Tomatoes
University of Wisconsin
<http://ipcm.wisc.edu/WCMNews/tabid/53/EntryId/875/Managing-Late-Blight-in-Tomatoes.aspx> Includes fungicide information for organic and conventional production and a list of resistant or tolerant cultivars

Myers Poultry Farm
966 Ragers Hill RD South Fork, PA 15956
FREE Catalog
Cornish
Cross Broilers & Colored Broilers
(7 Meat Varieties)
Extremely hearty & perfect for free range
Layer Chicks, Turkeys
Ducklings, Guineas, Much More
(814) 539-7026
www.myerspoultry.com

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

THANK YOU

DAIRY FARMS ARE THE ROOTS OF THIS NATION!!

Don's DAIRY SUPPLY, INC.

349 Roses Brook, South Kortright, NY 13842 (607) 538 9464
www.donsdairysupply.com

Aic, Slo-Gate, BioWay, BOUMATIC, MOOZ, Patz, HOOFMAX, HOULE, H&S, MIRACO

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

COMMUNITY/WORLD**Ghana: Putting A Face On 7 Billion People**

By A. Fay Benson

How to feed the approaching world population of 7 Billion people has been a compelling question for me as I talk to farmers and educators in my work with Cornell Extension. There are many graphs and tables stating where the population is growing and rate that it is growing. Until recently, I assumed the general solution was that the world needs to produce more food. This solution was supported by presentations on how new genetics and technology were increasing food production per acre.

During a return visit to the country of Ghana this past December, the question became less rhetorical and more urgent and personal for me. I had spent 2 years in Ghana from 1974 through 1976 in the Peace Corps. The changes that had occurred in the interim 34 years that I observed during this visit helped me put a face to the challenges of a growing population and speculate different answers to the question of feeding the world. It's obvious we need to produce more food, but the more pertinent question is: who is going to increase their production?

My two year Peace Corps experience was definitely a character building period in my life. I worked as a Manager for the construction and machinery repairs on a 10,000 acre cattle cooperative. I learned more about my culture from having the opportunity to compare my known culture to a different one. I also learned that it doesn't take material things to make people happy, and the people of Ghana were the most welcoming and generous people I had ever met. When I left, I didn't know if I would ever return.

Today's Ghana

My plane touched down in Accra, the capitol of Ghana, in the middle of the night. The first difference I noticed was right from the plane. I could see the expanse of lighted areas around the capitol stretched out far beyond what I remembered. The car trip to my accommodations took me down rough roads or what I learned later were planned roads which hadn't yet been built. The capitol was growing so fast, houses were being built before the roads. The traffic was bumper to bumper with little traffic control at intersections. What seemed like chaos to me didn't surprise me since I remembered the Ghanaians to be very resourceful and determined.

During my travels across Ghana, the first startling discovery was that the present day population of Ghana was 28 million people; the population when I lived there was around 9 million people, an increase of 300%. It appeared that this growth happened totally around the urban areas. In the rural areas the scenes and the population seemed similar to what I remembered in the 1970's. As a farmer, I took this to mean that there were many more people to feed, but no comparable growth in farmers to work the land to produce the food. The food was the other big change. When I lived in Ghana, the staples in the south were tuberous root crops such as Yams, Cassava, and sometimes Plantain. They were boiled and pounded into "FuFu" a dough-like concoction that was swallowed, not chewed, with a spicy tomato based soup. Meat was sparse and of questionable source. Today, many Ghanaians consider FuFu their traditional dish, but in the street "Chop Bars", chicken and fish are now available to accompany these foods, in addition to rice and pasta. Rice

does grow in Ghana, but not the wheat for the pasta. Calculating the rough math brings Ghana's future food challenges into perspective. Take a 300% increase in population growth and multiply by an improved diet. Consider that Ghana is just a small sample of the quickly developing nations of the world. And consider that this equation just looks at food production and doesn't take into account the increased petroleum usage that is happening in much the same manner.

Despite the challenges that lay ahead for Ghana, I felt their lives had improved since my last visit. The Ghanaian Government is very flexible and works well with diverse organizations to improve the lives of its people. Education

was an emotional connection to my past.

The Role of Small Farms

It was the rapidly expanding requirement for food that had the biggest impact on me. When I ponder the feeding the world question now, I have a more focused view on the situation across the world. I no longer see the push at technology and production increase here in the US as the only way to address growing demand. It would make more sense for countries to produce their own foods. From my own experience at the very large cattle ranch, which failed shortly after Peace Corps involvements ended, I can now see that smaller family owned farms are much more secure. I feel family operated farms that depend on family labor and community support for added labor and markets would be a good fit for Ghana. This model would work well in Ghana because their culture is much more focused on family and regional/tribal connections than in the US or Europe.



Women form the Tuna Cooperative train with new Bee Keeping Equipment



Carolynn Darling, Lucilla Dayuori, and two other members shuck corn for the coming weeks meal.

through primary and secondary schools has always been strong in Ghana, a remnant of the British, and access to health care has improved since the 1970's. This past year, Ghana introduced a National Health Card which allows the holder access to Doctor visits for 14 Cedis a year (US\$10). Connection to the electrical grid had expanded during the time period. The Akosombo Dam was built in the 1960's. Its generators are able to supply electricity to all of Ghana and also to Ivory Coast and Togo. The reach of the transmission lines had continued to grow in the North and now many areas have accessible electricity. Quirkiest of all the changes I saw was the use of cell phones. More than half the people we met had a cell phone and some even had two. During my Peace Corps time it was common to listen to the Talking Drums at night with one village communicating with another, so to now see the farmers in the bush using cell phones was a bit of a shock. It was through the use of cell phones that I was able to get in touch with the Ghanaian who had cooked and shopped for me during my two years there. It was so good to see Isaac, who is now a grandfather. Talking with him and also visiting Juapong, the former village I lived in

My opinion is the Ghanaian Farmers would benefit from agricultural education on soil, plant, and livestock production techniques designed to fit Ghana's culture, environment, and needs. The education needs to be on the order of organic production techniques due to the lack of capital for Ag inputs, and the unreliability of getting these inputs at the time they are needed.

Preventing diseases in soil and animals, as well as providing soil nutrients through management and labor would fit the culture and their resources.

I am becoming aware of organizations such as the Cornell International Institute for Food, Agriculture, and Development (CIIFAD), some projects of USAID, and others which work to help in-country farmers to build their capacity to feed their countries.

Fay Benson is a small dairy educator with Cornell Cooperative Extension of Cortland County. He may be reached at 607-753-5077 or afb3@cornell.edu.



**Happy 4th
of July!**

Small Farms Program Is Now On Facebook!

Visit Cornell Small Farms Program on Facebook and click the "Like" button to see news and resources appear in your newsfeed.

STEWARDSHIP & NATURE

Farm Ponds: Strategies for Multiple Functions

By Ben Falk

Ponds have been a part of the working landscape since agriculture emerged. Since water is the basis of productive biological systems, retaining and distributing this storehouse of fertility and life within a landscape is key to the success of any operation. The climate, topography, soils, and access to machinery and cheap energy (for now) in the Northeastern U.S. offer us particularly timely opportunities to capture, store and distribute water via ponds on farms.

Uses

Ponds in this climate can be cropped for a variety of outputs, most established of which are fish - especially trout. However, many other fish can be cultivated in this climate at least in a modest scale including perch, bluegill, bass and others. Shallow-water systems such as paddies, of course, have their own unique uses including for brown rice and likely a host of other crops that will emerge with continued innovation in the coming decades.

Ponds have many uses beyond what can actually be produced inside of them, however, and it is these uses that make them an especially attractive working landscape feature.

These include:

- **Microclimate enhancement:** water bodies capture and store solar energy and release this heat slowly, especially in the autumn, to the adjacent area. In our testing on the Whole Systems Design Research Farm in Vermont, this affect varies from year to year with the severity of the fall's first frost. Our three ponds will often not buffer against frost if the first freeze is about 27 degrees F or less, yet will extend the growing season by weeks if the first frost in the fall is a mild one, which is usually the case.

- **Wildlife:** There's perhaps nothing we can do to more quickly enhance the biodiversity of species in our landscapes than by creating water bodies. In addition, amphibians are in need of particularly strong support given the decline in health of their populations in recent years. Ponds with large wetland edges are ideal - and often rarely-found habitats - in many areas of the Northeast. Each time we've built a pond at least three species of frog and two species of salamander arrive on site within weeks. The values ponds offer for beneficial insects, birds and mammals can also be observed in short order.

- **Storage for Distribution:** Large water storage is invaluable for fire control and irrigation as well as for drought-proofing a landscape over time. It takes two to three days or less to make a pond that can hold 100,000 gallons or more making it the most economical means of storing large quantities of water. Farms with a need for irrigation often recognize the opportunity to gravity feed such water via a supply located high in the landscape such that its water can be fed to the entire farm. without pumps or electricity. Capturing surface water from as many acres as possible is important for farms wishing to be adaptive to shifting climate conditions and the adverse affects of drought punctuated by intense rain events. A well-sited and properly integrated pond can be the most crucial "shock absorber" farms have to large precipitation fluctuations. Ponds in this capacity serve like batteries, storing excess energy (water) when it is abundant such that it can be distributed slowly over long period of time (drought).

- **Other:** Recreation, food storage, and increasing radiative light for crops and building interiors are several other important side benefits of well-integrated ponds which demand more space than possible here to discuss but are worth mentioning.

Siting and Connectivity

In my site design and land development work I see poorly located ponds across the Northeast - an all too common, expensive, destructive, but avoidable mistakes. Often ponds are located too high for them to capture enough water or are not properly integrated with surrounding (uphill) landscape via swales and ditches to actually perform the work of capturing water from as many acres as possible in a given location.

Other commons mistakes are ponds built on ledge (that often leak into the bedrock) and pond berms that are too steep to be stable (berms need to be 1:3 or less in slope). The most important step in determining pond site feasibility aside from locating and topographical/grade assessment is the digging of a test pit to at least 7' of depth, ideally deeper, to determine water table depth and native material composition. A high water table with a high clay-content soil is ideal. While not always possible, it is

optimal to observe the test hole for a year to understand the water table fluctuations across the seasons to understand how the pond will behave.

Ponds can be made on well-drained soil locations but they are expensive due to importing clay or a poly-based liner. We have constructed ponds on sandy soil using both liners and clay with success, but this adds 25-40% of cost to the construction.

Recommended liner types are EPDM (rubber-based) for small ponds and polyethylene for larger ponds. If using clay to line a pond it must be put down in "runs" of no more than 6" and at a proper moisture content with the cleanup bucket of an excavator, and compacted carefully while building up the clay blanket to a depth of about 12" or more for a pond depth of 10 feet.

Form and Management

A multifunctional pond can only perform as such by providing its inhabitants with the resources they need via the structure of the pond, physically, and the food provided ecologically. In other words, we want to develop an ecosystem that can feed itself, where the highest members (fish, birds and people) of the food chain are naturally fed by the lower trophic levels which are supported by the ponds features, from boulders to its shape below waterline. The most direct ways to do this are by creating significant edge via boulder placements and a scalloped perimeter and by ensuring large areas of shallow water at the edge. These wetland edges and "planting shelves" are the biological engine of a pond and also greatly aid water quality by providing aeration via plants. They are also crucial nursery zones for fish. While making ponds with such features adds time and cost to construction, the values of such design make the pond more economical in the long run, not to mention more beautiful. Avoiding the temptation to push boulders over the nearest bank and instead place them at the waterline and just below, along with avoiding the bathtub/steep walls on all sides approach are the two most oft-made mistakes we address with excavators and landowners before construction.

Management

To become valuable ecological habitats as quickly as possible, ponds need to be seeded with a wide diversity of both deep-water, marginal (wetland) and terrestrial plants immediately after construction and at least once, during the spring, in the years following construction.

We have found it most effective to buy a bulk supply of wetland seed mix (or collect seed from local wetlands and ponds), mix this seed with lime or sand as a carrier and then broadcast as the machines are leaving the site. Often this mix should be raked into the soil and then mulched with hay or straw for protection against rain events and to enhance germination rates.

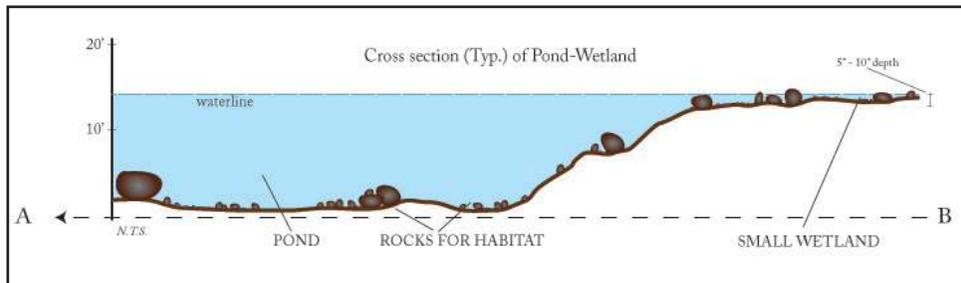
The area above waterline and especially on the pond berm favor annual rye for quick stabilization in constructions happening after mid June, while earlier projects are preferred in that the soil can be "set" with cool season grasses and legumes such as red, white and alsike clover, all of which are especially valuable soil-builders, for bee-fodder and as slope stabilizers.

Management over time is more involved than the scope of this article permits but the following guidelines are basic ground rules for ecologically-enhancing multipurpose ponds:

- Don't mow to the water's edge. That's the best way to wreck the most abundant wildlife habitat a pond offers. If you must make access via a mower do so in limited areas along its perimeter.
- Seed any bare areas that are not greened up every spring through early summer until there are none left - this can take 2-3 years or more depending on vigilance and weather.
- Keep a watchful eye on overflow spillways (recommended) and drainage fixtures/piped (not recommended) to prevent clogging and waterline rising to a dangerous point.

Ponds are one of the most important features we can install today to ensure a more productive, multifunctional and resilient landscape tomorrow. Well designed and constructed ponds can help farms become more fit for a future that is likely to bring with it adverse conditions including drought, flood, increased pest pressures, increased costs of inputs and other stresses which only highly resilient, low-input farms will handle successfully.

Ben Falk is the Design Director at Whole Systems Design based in Moretown, VT. He may be reached at 802-496-3128 or ben@wholesystemsdesign.com



Structural diversity begets biological diversity - especially in aquatic environments: an ideal pond contains numerous habitat opportunities created by rocks and changes in grade



And of the images above - let's use the one attached and here's a description: Paddy, pond, field and forest working land uses integrated on one site at the Whole Systems Research Farm in Vermont's Mad River Valley.

Photo by Ben Falk

FARMING COOPERATIVELY

Farmstock: For Farmers, By Farmers!

A group of farmers in Sullivan County, NY, take a pro-active approach to rural economic development

By Sonja Hedlund

In spring of 2009, I was one of five farmers in Sullivan County, NY that came together to create an agri tourism program. We are in WOODSTOCK country, the site of the famous peace and music festival held in 1969, so we chose a psychedelic cow and called our program FARMSTOCK. Our joint effort eventually became the Sullivan County Farm Network.

Our farms were different: dairy, raw milk, sheep, goats, maple syrup, honey, hay, and renewable energy. Yet, most of us had experience working together, either running for town office, developing town farmland protection plans, or serving in community organizations. We were all apprehensive about the future of farming in our community. Rather than wait for things to happen, we decided to work together to expand farming of all kinds in Sullivan County. Wasn't that the most promising approach to rural economic development?

In our first year, FARMSTOCK invited the public to visit our farms. About 250 people came to see cows milked, learn to make cheese, take a wagon ride, and see a farm's solar panels. We received a \$1,000 grant from PURE CATSKILLS/NYC Watershed Agricultural Council, a local non-profit, which we used for seed money such as printing flyers and advertising. Now in our third year and without any additional funding, eleven farms will participate in 12 weekend programs.

As FARMSTOCK evolved, so did a core group of leaders and a clear focus of work. We had our first Network public meeting in March 2010: about 50 people attended. We explained our purpose:

to increase farming activities in Sullivan County and to strengthen communication between those who grow food and those who eat it.

At that meeting, we also summarized opportunities for farming: the proposed red meat plant, the possibility of a local creamery and a grass pellet business, and ways to get help to reduce farm energy costs. Farmers told their own stories: Richard Dire shared progress on his year long work to get a raw milk license. Mary Tonges talked about expanding their dairy farm to cheese making and selling to local supermarkets and at the Green Market in New York City. Alice Diehl informed us about her maple and honey production; and Cindy Gieger talked about solar energy production on their dairy farm.

This grass roots Network is now a year and a half old. We have a database of contacts, a web site (Sullivanfarmnetwork.org), a face book page, a first newsletter done and the second being prepared. We have even received an unsolicited grant in the amount of \$1,000 from a local not-for-profit group that promotes responsible agricultural development.

Our leadership team now is 6 women. Cindy Geiger and Alice Diehl are full time dairy farmers; Alice also processes maple syrup and honey. Amy Erlwein milked cows for many years; now she raises heifers and sells hay. She will soon begin a new business making compost. Sonja Hedlund raises goats and sheep, and has a year around educational program on small-scale farming, cheese making and renewable energy. Jen Diehl operates a farm market in summer and is moving to expand her own production of produce. Elinor Young runs a horse stable, boards and trains horses. She and Jen have years of experience in marketing and using the Internet. They take care of outreach and our contact list and work with the media. Amy has years of experience as a farm store staffer, buying and selling food and understands how to get local products to market.

And there has been much help from our friends. Daniel Branch developed our web page and is our technical advisor. Cheyenne Miller, a farm intern, manages our contact list and posts on the face book page. Sarah Sills, a Brooklyn free-lance designer, creates our flyers. The Sullivan Alliance for Sustainable Development is our not-for-profit sponsor until we have our own



A salad of wild edibles at a Farmstock meeting hosted by Apple Pond Farm Photo by Sonja Hedlund

501c3 status. Challey Comer of PURE CATSKILLS keeps us informed of regional developments in agriculture.

Our work has three tracks: speaking out to support farming at public meetings on economic development, informing existing and potential farmers of opportunities to develop farming, and enlarging our contact list.

We regularly attend county monthly meetings on economic development. One of our team is our liaison to the Sullivan County Cooperative Extension and another to the local Farm Bureau chapter. We always ask questions and often make suggestions. For instance, the group is offering suggestions to our county for how to spend a pot of \$300,000 from millennium pipeline companies. We proposed small grants to farmers and small businesses for specific business expansion. We have learned that a farmer at a meeting of government officials draws attention; we are never afraid to speak out.

The Network seeks to inform existing farmers and those wanting to farm of agricultural opportunities. Sullivan County farmers have valuable experience in farming. They are dedicated professionals, hard working people who have survived many ups and downs in the marketplace. But farming in 2011 is not the same as it was in 1990.

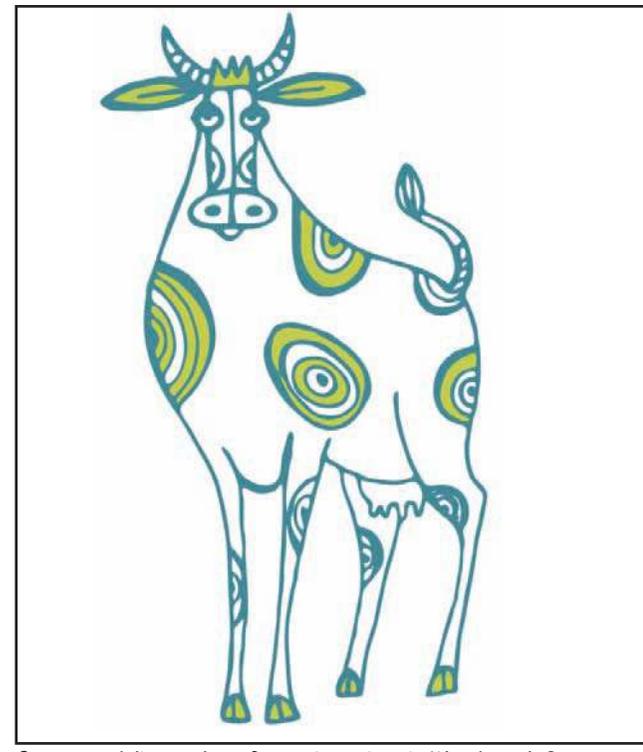


Frank Kipe tells Sullivan County farmers how his micro creamery system works Photo by Sonja Hedlund

With experts as presenters, we organized sessions on how to set up a micro creamery, how grass pellets work, on opportunities to sell a portion of one's fluid milk to a new creamery targeting metro New York City customers. We have organized trips to see a local micro creamery and to attend a program in a neighboring county on how to market products. We will soon have visited every dairy farm in the county. We were a major player in the creation of the first winter indoor farmers market. We interviewed shoppers on three separate occasions to learn their reasons for attending, the amount of money they spent and weather they shopped at town stores after the farm market. With new farmers in the area and many farm interns too, we joined with PURE CATSKILL and developed a Collaborative Regional Alliance for Farmer Training chapter here. C.R.A.F.T (www.craffarmapprentice.com) connects experienced farmers with aspiring ones.

We do not focus on signing up members nor do we say that we 'represent' farmers. Instead we present ourselves as advocates for expanding agriculture as the best road to rural economic development.

We have almost 200 people in our Excel contact spreadsheet; people who have attended our meetings, others we know to be interested in agriculture. We use e-mail notes and a quarterly newsletter to reach people. However, in this rural county high



Our psychedelic cow logo for agri tourism in Woodstock County

speed connections are expensive, and many on our contact list are not connected. We have to mail our newsletter out; the printing and postage of each mailing is about \$200.00. Money well spent.

The leadership team meets about twice a month, in someone's house. We share news, concerns and make plans. One member frantically takes notes of topics discussed, decisions made and who is doing what. In it all, there is a great deal of laughter and joy. Farming is worth the struggle, and we enjoy ourselves through it all!

Sonja Hedlund is the co-owner of Apple Pond Farm and Renewable Energy Center. She may be reached at 845-482-4764 or Sonja@applepondfarm.com



In 2012, eleven farms will participate in 12 weekend programs. Subtitle: A group of farmers in Sullivan County take a pro-active approach to rural economic development

Up North Plastic Inc.  **Up North Plastics**

Introduces "Siloshield"

- ★ A 2 Step Oxygen Barrier Film For Bunk Silos ★
- ★ •Clear 2mil. film stops oxygen transmission 20x better than 5mil b/w ★
- ★ •2 sizes, (50'x200')(50'x1000') ★
- ★ •Stronger, more puncture resistant than competition ★
- ★ •Reduce dry matter loss ★
- ★ •No spoilage to pitch ★
- ★ • Made in the USA ★

Contact Leray Sealed Storage
315-783-1856

Worcester Creameries

- Do you know there is still one milk market that is family owned and would like to buy your milk?
- The following are benefits that could be yours.

Competitive Market Premiums	Quality Field Service
Quality Premiums	Caring Service
Volume Premiums	Health Insurance

For more information please call.
607-397-8791
Toll Free...
800-705-6455

