

**Cornell University**  
College of Agriculture and Life Sciences  
Cornell Cooperative Extension

# Small Farm Research & Education Resources



Cornell Small Farms Program  
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Cornell University  
Cooperative Extension

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# About Cornell's Small Farms Program

## Our Mission

The mission of Cornell's Small Farms Program is to foster the sustainability of diverse, thriving small farms that contribute to food security, healthy rural communities, and the environment. We do this by encouraging small farms-focused research and extension programs, and fostering collaboration in support of small farms.

## Program Staff

- Anu Rangarajan, Director ([ar47@cornell.edu](mailto:ar47@cornell.edu), 607-255-1780)
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- Laura Harthan, Student Assistant ([lbh25@cornell.edu](mailto:lbh25@cornell.edu), 607-255-9227)

## Small Farms Leadership Team

- Mike Baker, Animal Science Department ([mjb28@cornell.edu](mailto:mjb28@cornell.edu))
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- Bill Henning, NWN Y CCE Team ([wrh6@cornell.edu](mailto:wrh6@cornell.edu))

## CCE Small Farm Grants Program

The Cornell Cooperative Extension Grants Program for Innovative Small Farm Education offers grants for Cooperative Extension educators. Farmers – if you have a good idea for an educational program, we encourage you to work with your local Cooperative Extension office to put together a proposal. For more information, contact Anu Rangarajan or visit our website.

## *Small Farm Quarterly* magazine

Produced by the Cornell Small Farms Program in cooperation with CCE educators, Country Folks Magazine, farmer-authors and many other partners. Subscriptions only \$5.00 per year. To order, contact Tracy Crouse, 888-596-5329.

## Small Farms WebSite – [www.smallfarms.cornell.edu](http://www.smallfarms.cornell.edu)

A comprehensive web site geared for small-scale farmers and those who work with them. Includes production information, business management

and planning, marketing, beginning farmer info, news and events, grant opportunities, and complete *Small Farm Quarterly* online archives.

### ***Small Farms Update* monthly email newsletter**

The Update summarizes announcements, information resources, opportunities and upcoming events relevant to small farms across New York State. To receive the Update, send an email message to Laura Harthan at [lbh25@cornell.edu](mailto:lbh25@cornell.edu). Include name, farm or business name, complete postal address, and County.

### **Beginning Farmers Project**

We are working with a team of Extension educators to enhance and coordinate training and resources for beginning farmers across the state. For more information contact Erica Frenay at [ejf5@cornell.edu](mailto:ejf5@cornell.edu).

### **Organic Dairy Initiative**

We are working with the newly formed NYS Organic Dairy Task Force to address the needs of this important and growing segment of New York's dairy industry. For more information contact Fay Benson at [afb3@cornell.edu](mailto:afb3@cornell.edu).

### **Small Dairy Value-Added Initiative**

Using distance learning technologies, we are helping small dairy producers explore strategies for adding value to their product. For more information contact Fay Benson at [afb3@cornell.edu](mailto:afb3@cornell.edu).

### **Cornell Small Farms Club**

Student club sponsors an email listserve, farm tours and other educational events. To join send an email to Kate Sartell, Club President, at [kgs22@cornell.edu](mailto:kgs22@cornell.edu).

### **Exploring the Small Farm Dream seminar**

This one-credit seminar offers Cornell students a chance to learn about the opportunities and challenges of starting a small farm business. For information contact Joanna Green at [jg16@cornell.edu](mailto:jg16@cornell.edu).

# About Cornell Cooperative Extension

## CCE -- A Key Local Resource for Your Small Farm

Not sure who to talk to at your local Extension office? Almost all of New York's 57 counties -- and New York City -- now have a designated "Small Farm Contact" who can help you get the information and assistance you need. Give them a call. If they can't answer your questions, they will probably be able to connect you with a regional Extension specialist, farmer, or other resource person in your area.

We encourage all small farm operators in New York to join your local Cornell Cooperative Extension Association. That way you can stay better informed about educational programs, farm tours, Cornell research, and local ag related news. You can also let Extension know what you need, and even serve on a Program Committee to help guide Extension programming in your county.

## CCE SMALL FARMS CONTACTS

**Albany County**  
Tom Gallagher  
518-765-3500

**Allegany County**  
Joan Petzen  
716-699-2377

**Broome County**  
Laura Wollin-Wood  
607-584-5007

**Cattaraugus**  
Joan Petzen  
716-699-2377

**Cayuga County**  
Chanda Lindsay  
315-255-1183

**Chautauqua**  
Lisa Kempisty  
716-664-9502

**Chemung County**  
Walt Nelson  
607-734-4453

**Chenango County**  
Keith Severson

607-334-5841 ext 19

**Clinton County**  
Julie Ann Viveiros  
518-561-7450

**Columbia County**  
Steve Hadcock  
518-828-3346

**Cortland County**  
Heather Birdsall  
607-753-5077

**Delaware County**  
Mariane Kiraly  
607-865-6531

**Dutchess County**  
Les Hulcoop  
845-677-8223 ext  
130

**Erie County**  
Tammi Kron  
716-652-5400

**Essex County**  
Anita Deming  
518-962-4810

**Franklin County**  
Bernadette Logozar  
518-483-7403

**Fulton County**  
Marilyn J. Smith  
518-762-3909

**Genesee County**  
Pat LaPoint  
585-343-3040

**Greene County**  
Mick Bessire  
518-622-9820

**Hamilton County**  
No Small Farm  
Contact

**Herkimer County**  
Bernard Armata  
518-622-9820

**Jefferson County**  
Mike Hunter  
315-788-8450 ext  
266

**Lewis County**

Frans Vokey  
315-376-5270

**Livingston County**

David Thorp  
716-658-3250

**Madison County**

Karen Baase  
315-684-3001

**Monroe County**

Bob King  
716-461-1000

**Montgomery**

Marilyn J. Smith  
518-762-3909

**Nassau County**

No Small Farm  
Contact

**New York City**

John Ameroso  
212-340-2946

**Niagara County**

Paul Lehman  
716-433-2651

**Oneida County**

Heather Sweeney  
315-736-3394

**Onondaga County**

Roberta Harrison  
315-673-9927

**Ontario County**

Brad Beck  
585-394-0377 x30

**Orange County**

Lucy Joyce  
845-344-1234

**Orleans County**

Deb Roberts  
585-589-5561

**Oswego County**

Jan Vanderheide  
315-963-7286

**Otsego County**

David Cox  
607-547-2536

**Putnam County**

Dianne Olsen  
845-278-6738

**Rensselaer County**

Tom Kilcer  
518-272-4210

**Rockland County**

Mark Russo  
845-429-7085

**St. Lawrence  
County**

Bill Van Loo  
315-379-9192

**Saratoga County**

Paula Schafer  
518-885-8995

**Schenectady**

Tom Gallagher  
518-765-3500

**Schoharie County**

JJ Schell  
518-234-4303

**Schuyler County**

Jim Ochterski  
607-535-7161

**Seneca County**

Mike Dennis  
315-539-9251

**Steuben County**

Jim Grace  
607-664-2316

**Suffolk County**

Dale Moyer  
631-727-7850

**Sullivan County**

Joe Walsh  
845-292-6180

**Tioga County**

Molly Shaw  
607-687-4020

**Tompkins County**

Monika Roth  
607-272-2292

**Ulster County**

Teresa Rusinek  
845-340-3990

**Warren County**

Laurel Gailor  
518-623-3291

**Washington**

Aaron Gabriel  
518-746-2560

**Wayne County**

Elizabeth Claypoole  
315-331-8415

**Westchester**

James Lee  
914-285-4620

**Wyoming County**

Bruce Tillapaugh  
585-786-2251

**Yates County**

Peter Landry  
315-536-5123

# Horticulture

## Horticulture Research

The following is a sampling of many horticulture research projects relevant to small farms. If you have a specific interest that is not addressed here, contact Marvin Pritts, Chair, Department of Horticulture, 134A Plant Science Building, Cornell University, Ithaca, NY, 14853. 607-255-1778, [mpp3@cornell.edu](mailto:mpp3@cornell.edu).

### **Improvement of Strawberry and Raspberry Cultivars**

Project leader: Dr. Courtney Weber, 630 W. North St.-NYSAES, Horticultural Sciences, Geneva, NY 14456. (315) 787-2395, [caw34@nysaes.cornell.edu](mailto:caw34@nysaes.cornell.edu).

Project Partners: Dr. Greg Loeb, Plant Pathology, NYSAES, Geneva, Dr. Wayne Wilcox, Plant Pathology, NYSAES, Geneva, Dr. Kim Lewers, USDA-ARS, Beltsville, MD, Dr. Marvin Pritts, Horticulture, Ithaca.

The development of improved strawberry and raspberry cultivars through the integration of traditional breeding and biotechnology is the ultimate goal of this project. The main focus is New York State and the northeastern U.S. with possible testing in other regions. Fruit quality characters being evaluated include size, firmness, color, flavor, texture, and overall appeal. Yield components include overall tonnage and harvest efficiency and is a combination of fruit size and numbers and uniformity of maturity. Pest resistance includes resistance to microbial pathogens and arthropod pests.

Trials of new varieties are an integral part of the program to provide accurate comparisons to the industry standards. New, high quality strawberry and raspberry cultivars adapted to the NY climate are key to the continued viability of the NY small fruits industry. Varieties developed in the local climate will perform better and require fewer inputs making them more profitable to local growers. Compared to mass market varieties from California or Florida, Cornell varieties maintain a better flavor and eating quality that the local consumer demands when buying locally.

Funding sources: Federal Formula Funds/Hatch Funds; Royalties on patented strawberry and raspberry varieties collected from plant sales.

Project period: Ongoing

### **Developing Black Raspberry for Diversified and Sustainable Agriculture Systems in the Northeast**

Project leader: Dr. Courtney Weber, 630 W. North St.-NYSAES, Horticultural Sciences, Geneva, NY 14456. (315) 787-2395, [caw34@nysaes.cornell.edu](mailto:caw34@nysaes.cornell.edu)

Project partner: Dr. Greg Loeb, Plant Pathology, NYSAES, Geneva

This project will reintroduce eastern growers to this crop and provide practical knowledge about cultivar use based on side by side evaluations in real world conditions. The development of new cultivars is needed to increase the yield to provide growers with viable option in their diversified production systems. Black raspberry has high market potential due to its extremely high levels of phytochemicals and antioxidants and its

potential to benefit human health on top of excellent flavor and eating quality. Interest in black raspberry production is increasing as research shows the potential health benefits from consuming them on a regular basis. This project has elicited numerous extension inquiries, which provides the opportunity to educate producers on a wide range of berry production problems and opportunities.

Commercially available black raspberry cultivars were established in a replicated trial in 2005 under commercially accepted practices. Nine cultivars and two selections from the Cornell University breeding program were planted including Mac Black, Huron, Allen, New Logan, Black Hawk, Munger, Haut, Bristol, Jewel, NY03-11b and NY03-01p. Twelve cultivars and numerous genotypes are being evaluated for horticultural traits and pest and disease resistance.

Funding source: Federal Formula Funds Competitive Hatch Program

Project period: The project is ongoing as part of the raspberry breeding program.

For more information: Weber, C. and C. Heidenreich. 2005. Developing black raspberry for diversified and sustainable agriculture systems in the Northeast. *New York Berry News*. 4(7):6-8.

### **New varieties for the New York Apple Industry**

Project leader: Susan Brown, Department of Horticultural Sciences, NYS Agricultural Experiment Station, 630 West North Street, Geneva, NY 14456. 315-787-2224, [skb3@cornell.edu](mailto:skb3@cornell.edu)

Fast tracking the development and grower testing of breeding selections as potential new varieties for the New York apple industry. This project, establishes test plantings of NY apple breeding selections in commercial orchards. Sites include growers with roadside marketing and targets apple selections suited to their unique needs.

Funding source: NY Farm Viability Institute

### **Sweet potatoes for diversified farms**

Project leader: Steve Reiners, , Department of Horticultural Sciences, NYS Agricultural Experiment Station, 630 West North Street, Geneva, NY 14456. 315-787-2311, [sr43@cornell.edu](mailto:sr43@cornell.edu)

Sweet potatoes are a healthy vegetable and in demand at many roadside markets, particularly Amish and Mennonite farms. Growing this heat loving crop in NY is a challenge but our research is focused on variety evaluations, plasticulture and plant populations to optimize yields of marketable potatoes.

### **Development of Cold-hardy, Disease Resistant Wine Grapes**

Project leaders: Bruce Reisch, Department of Horticultural Sciences, NYS Agricultural Experiment Station, 630 West North Street, Geneva, NY 14456. 315-787-2239, [bir1@nysaes.cornell.edu](mailto:bir1@nysaes.cornell.edu), and Dr. Thomas Henick-Kling, Department of Food Science and Technology, NYS Agricultural Experiment Station, 630 West North Street, Geneva, NY 14456. 315-787-2277, [th12@cornell.edu](mailto:th12@cornell.edu)

The Cornell grape breeding program is developing new wine grape varieties adapted for the eastern U.S. One important feature of this effort is the selection of new varieties in

vineyards receiving no fungicide or insecticide treatments. Disease pressure is severe and yet there are selections that grow well and produce fruit of good quality under such conditions. Disease resistance genes are being sought from a variety of wild species of North American grapes. Highly disease resistant selections are being tested for wine quality with Dr. Henick-Kling in the Food Science department. Further trials with interested growers are just beginning. This project is expected to help small farm operators make good use of easy to grow grapes that require little or no pesticide application.

Funding source(s): USDA Viticulture Consortium-East; NY Wine and Grape Foundation

Project period: Began 1988, now ongoing

For more information: [www.nysaes.cornell.edu/hort/faculty/Reisch/grapeinfo.html](http://www.nysaes.cornell.edu/hort/faculty/Reisch/grapeinfo.html)

### **New cultivation tools for weed management**

Project leader: Robin Bellinder, Department of Horticulture, 164 Plant Science, Cornell University, Ithaca, NY, 14853. 607-255-7890, [rb3@cornell.edu](mailto:rb3@cornell.edu).

### **High tunnels for season extension of flowers and fruits**

Project leaders: Chris Wien and Marvin Pritts, Department of Horticulture, Cornell University, Ithaca, NY, 14853. (607) 255-4570, [hcw2@cornell.edu](mailto:hcw2@cornell.edu); Stephen Reiners, Department of Horticultural Sciences, Geneva, NY 14456, (315) 787-2311, [sr43@cornell.edu](mailto:sr43@cornell.edu); Judson Reid, Extension Associate, Cornell Vegetable Program, (315) 536-5123, [jer11@cornell.edu](mailto:jer11@cornell.edu).

New York growers of horticultural crops are constrained by the shortness of the growing season. Unheated high tunnels, consisting of a metal frame covered by a single layer of polyethylene, may allow NY growers to market their crops earlier, and also later, extending their production season. Researchers at Cornell are examining enterprise budgets for European cucumbers, cut flowers, tomatoes and raspberries as well as conducting market analyses for raspberries, tomatoes, and cut flowers.

Funding Source: NY Farm Viability Institute

### **Gourmet and Medicinal Mushroom Production for Forest Farming in the Northeast**

Project leader: Kenneth W. Mudge, Department of Horticulture, 13 Plant Science Building, Cornell University, Ithaca, NY, 14853. 607-255-1794, [kwm2@cornell.edu](mailto:kwm2@cornell.edu).

Partners: Kathie Hodge, Dept. Plant Pathology, Cornell; Jim Ochterski CCE Schuyler County, NY, Robert Beyfuss, CCE Greene County, NY; John Boyle, Technical consultant, Durham, NY; Debbie Polaski, Commercial Mushroom Grower, Saugerties, NY; Paul Treadwell, Cornell Cooperative Extension

This is a research and extension project intended to generate and extend reliable, research-based information for the forest cultivation of several species of gourmet / medicinal mushrooms in the North East. Although cultivation of Shiitake mushrooms is a well-established commercial enterprise, the log cultivation of oyster mushrooms and lions mane is much less reliable. It is generally understood that Shiitake mushrooms grow best on oak logs, but woodlot owners in the North East often have a surplus of red maple, beech and poplar. Regardless of species of mushroom, or substrate tree species, excessive moisture loss from logs is often the cause of failure. During the spring of 2006

we initiated an experiment involving 3 species of mushrooms, 4 tree species and 2 different moisture management regimes at Cornell's Arnot Forest. Private woodlot owners were recruited as part of a mushroom cultivation workshop to assist with log inoculation for this experiment. Mushroom production and log moisture content as affected by mushroom species, tree substrate species and moisture management regime is being monitored over a 3 year period. Logs are expected to yield mushroom for the first time during 2007.

Most small farms in the North East include forested land, which is often under utilized. The agroforestry practice know as forest farming, including mushrooms, medicinals, ornamentals, nut trees, and small fruits encourages forest conservation while generating income. Regionally appropriate approaches to cultivating forest mushrooms can be a profitable part of a diversified forest farming system.

Funding Source: Federal Hatch / Smith Lever funding

Project period: 2005-2008

For more information: website is under development

### **Open-pollinated corn varieties**

Project leader: Jane Mt. Pleasant, Department of Horticulture, 450 Caldwell Hall, Cornell University, Ithaca, NY, 14853. 607-255-1755, [jm21@cornell.edu](mailto:jm21@cornell.edu).

## **Horticulture Extension Resources**

### **Online Resources**

Numerous links to online resources from Cornell and elsewhere can be found at the Cornell Small Farms Website, [www.smallfarms.cornell.edu](http://www.smallfarms.cornell.edu).

- Fruit: Click on Resources>Production>Fruit Production
- Vegetables: Click on Resources>Production>Vegetable Production
- Greenhouse & Ornamentals: Click on Resources>Production>Greenhouse & Ornamentals

### **Cornell University Department of Horticulture**

134A Plant Science Bldg, Cornell University, Ithaca, NY 14853. 607-255-4568/1789. [hort@cornell.edu](mailto:hort@cornell.edu), [www.hort.cornell.edu](http://www.hort.cornell.edu).

### **Geneva Horticultural Sciences Department**

NYS Agricultural Experiment Station, 630 West North Street, Geneva, NY 14456. 315-787-2011, [www.nysaes.cornell.edu/hort/index.html](http://www.nysaes.cornell.edu/hort/index.html).

### **Print Publications on Fruits, Vegetables, Gardens, Flowers and Landscaping**

Numerous horticulture-related publications are available online through Cornell's Digital Document Library, at <http://dspace.library.cornell.edu>, including: Cover

Crops for Vegetable Production in the Northeast; Vegetable Production Handbook; Natural Enemies of Vegetable Insect Pests; Bramble Production Guide; Cultural Practices for Commercial Vineyards; and much more.

### **Horticultural Business Management and Marketing Program**

This program in the Department of Economics and Management places emphasis on adaptation of new technologies to enhance productivity while maintaining environmental quality and sustainability. Contact: Wen-fei Uva, Senior Extension Associate, 607-255-3688 Email: [w132@cornell.edu](mailto:w132@cornell.edu), or visit <http://hortmgt.aem.cornell.edu>.

### **NRAES -- Natural Resource, Agriculture, and Engineering Service**

NRAES produces publications and conferences on: Horticultural production, Dairy, livestock, and poultry production systems, Agricultural waste management, Consumer education, Natural resources management, Farm safety, Biological engineering, Environmental engineering. For more information: NRAES, Cooperative Extension, PO Box 4557, Ithaca, New York 14852-455. [nraes@cornell.edu](mailto:nraes@cornell.edu). Web site: [www.nraes.org](http://www.nraes.org).

## **Small Dairy**

### **Small Dairy Research Efforts**

The following is a sampling of research projects relevant to small dairies. If you have a specific interest that is not addressed here, contact Alan Bell, Chair, Department of Animal Science, 149 Morrison Hall, Cornell University, Ithaca, NY, 14853. 607-255-2862, [awb6@cornell.edu](mailto:awb6@cornell.edu).

#### **Financial Performance of Value-Added Dairy Operations**

Project leader: Mark W. Stephenson, Department of Applied Economics and Management, 316 Warren Hall, Cornell University, Ithaca, NY 14853. 607-255-0324, [mws5@cornell.edu](mailto:mws5@cornell.edu).

Partners: Chuck Nicholson and Angela Gloy, Cornell University University of Vermont; Department of Ag, Trade and Consumer Protection, Wisconsin

A study on "Financial Performance of Value-Added Dairy Operations in NY, WI and VT" collected financial and production information from existing value-added producers and provided documentation of success. Income and expenses, assets and liabilities, and labor hours were separated for milk production, dairy product processing and product marketing. The participating small-scale processors were able to see which aspects of their business were doing well and which areas needed improvement. The summarization of the data is helpful for those considering value-added processing.

A computer software program was developed to collect farm/processor data. This software generates a seven-page report summarizing the operation including an enterprise level income statement and balance sheet and a buildup of costs per hundredweight of milk produced and processed into dairy products. This software sends the completed data to a central database where benchmark farm reports are generated. The response is instantaneous and the data are checked for accuracy by researchers at Cornell. An annual report of value-added dairy processors will be published from the data.

This project has identified excessive capital costs as a major stumbling block to success. Working closely with Food Scientists at Cornell, individual processors have been able to alter their make procedure to improve product quality, reduce labor inputs, and plan for lower cost equipment for processing.

Funding Sources: USDA Water Quality, USDA Special Grants, USDA NRI, USDA Risk Management Agency.

For more information: Mark Stephenson, 607-255-0324.

### **Dairy Farm Business Summary, New York Small Herd Farms, 80 Cows or Fewer**

Project leader: Wayne Knoblauch, Department of Applied Economics and Management, 358 Warren Hall, Cornell University, Ithaca, NY 14853. 607-255-1599, [wak4@cornell.edu](mailto:wak4@cornell.edu)

This applied research examines the average performance and characteristics of small farms and the average of the top 25 percent of those small farms with the highest rate of return on assets without appreciation. Small farms are constantly facing management challenges in their efforts to control costs and remain profitable. This research helps participating farmers identify strengths and areas for improvement by comparing their business to that of similar farms.

This program is provided to small farms as part of the Dairy Farm Business Summary and Analysis Program. Managers of each participating farm business receive a comprehensive summary and analysis of their farm's production and financial performance. In addition, the information from all small farms are presented in a report that represents averages from dairy farms in New York with herds of 80 cows or fewer and not using milking parlors.

Project period: Ongoing

For more information: The 2006 report can be ordered by calling Linda Putnam at 607-255-8429.

### **Dairy Farm Business Summary, New York Intensive Grazing Farms**

Project leader: George Conneman, , Department of Applied Economics and Management, 416 Warren Hall, Cornell University, Ithaca, NY 14853. 607-255-1367, [gjc4@cornell.edu](mailto:gjc4@cornell.edu)

This program is provided to farms utilizing intensive grazing as part of the Dairy Farm Business Summary and Analysis Program. Managers of each participating farm business receive a comprehensive summary and analysis of their farm's production and financial performance. This study of intensive grazing farms centered on 42 New York farms which were not organic farms, were not first year grazers and on which at least 30

percent of forage consumed during the grazing season was grazed. Thirteen farms with the highest labor and management incomes per operator per cow are compared to the average of the 42 farms.

The first section of the report compares intensive grazing farms that participated in the Dairy Farm Business Summary project in 2004 and 2005. A ten-year comparison is also included this year. The second section of this publication reports data from the grazing practices survey. A comparison of intensive grazing farms with non-grazing farms is included. The third section, Case Studies, describes three grazing farms. The fourth section summarizes grazing farms by herd size. The fifth section, the summary and analysis portion of this report, follows the same general format as in the 2005 DFBS individual farm report received by all participating dairy farmers.

Project period: Ongoing

For more information: The 2006 report can be ordered by calling Linda Putnam at 607-255-8429. The 2005 report is available online at:

[www.umaine.edu/grazingguide/Main%20Pages/DFBSIntGrazEB2005-08.pdf](http://www.umaine.edu/grazingguide/Main%20Pages/DFBSIntGrazEB2005-08.pdf)

### **Small and Mid-Sized Dairy Farm Viability Study**

Project leader: Gil Gillespie, Community, Food and Agriculture Program, Department of Development Sociology, 216 Warren Hall, Cornell University, Ithaca, NY 14853. 607-255-1675, [gwg2@cornell.edu](mailto:gwg2@cornell.edu)

This study is using farmer surveys and focus groups to examine the factors influencing economic viability of small and mid-size farms in New York.

Funding source: Hatch Federal Formula Funds

### **Can The Small Dairy Farm Remain Competitive In U.S. Agriculture?**

Project leader: Loren Tauer, Department of Applied Economics and Management, 451 Warren Hall, Cornell University, Ithaca, NY 14853. 607-255-4402, [lwt1@cornell.edu](mailto:lwt1@cornell.edu)

Smaller dairy farms in the U.S. are observed to have higher costs than larger dairy farms, and whether those higher costs are due to technology or inefficiency has implications for policy to address the small farm. If high cost of production on smaller farms is due to a higher cost frontier, then to make small farms competitive would require research to devise and design technology that is suitable for small farms. If instead high cost is due to inefficiency, then educational approaches are needed to ensure small dairy farms use technology efficiently.

Higher cost on many smaller dairy farms was found to be caused more by inefficiency than the non-availability of small-farm technology. These results imply that for the small U.S. dairy farm to become competitive with the large U.S. dairy farm requires some new technology appropriate for smaller farms. However, a much larger cost reduction on smaller farms would be possible if those farms would learn how to use existing technology more efficiently. Although new technology for the small dairy farm would be useful, it appears that current technologies are in place which would make the small dairy farm more competitive if those farms used that technology efficiently. Educational efforts, if effective, may have a larger impact than new technology for small dairy farms.

Funding sources: National Research Initiative of the Cooperative State Research, Education and Extension Service, USDA

Project period: 2005

For more information: Tauer, Loren W., and Ashok K. Mishra. 2006. Can the small dairy farm remain competitive in U.S. agriculture? Food Policy 31:458-68.

### **Composting Livestock Mortalities**

Project Leader: Jean Bonhotal/ Ellen Harrison, Cornell Waste Management Institute, 100 Rice Hall, Ithaca, NY14853-3501. 607-255-8444, [jb29@cornell.edu](mailto:jb29@cornell.edu), [cwmi@cornell.edu](mailto:cwmi@cornell.edu).

Partners: Stehman, Wade; Smith Vet School; Cornell Farm Services; Pro-Dairy; CCE Associations; NYSDOT; NYSDEC; NRCS; NYSDAM; NESARE; APHIS; EPA; US Compost Council; Farms and Butchers are often involved in the research.

Livestock farmers and custom butchers find it difficult to locate off-farm disposal for dead animals and meat residuals. In many cases these previously rendered materials are being disposed of in an unsound manner, causing potential farm bio-security and environmental problems. Residuals from sheep, goats and poultry can be difficult to dispose of, most renderers will not accept it. Composting is simple, takes less time than dragging a carcass out back, employs equipment used in daily operations on farms and is cost effective.

CWMI developed a 20 minute video, "Natural Rendering: Composting Livestock Mortality & Butcher Waste," a 10 page fact sheet, a set of posters and a powerpoint presentation are available on the web site <http://cwmi.css.cornell.edu>.

A joint education program with Pennsylvania and Vermont allowed the practice to spread beyond NY's borders. A DOT funded pathogen assessment of road-kill deer piles will be completed by 2008. In 2007, CWMI will develop the compost component of an emergency response plan in case there is a high pathogen avian influenza outbreak. Information will be developed for large and small flocks with agencies and businesses working together.

Economical disposal option, improves bio-security, reduces pathogens, improves environmental quality

Funding sources: Empire State Development (Environmental Investment Program), Highland Institute, American Association of Meat Processors, the Northern New York Program, Cornell Cooperative Extension, NE Sustainable Agriculture Research and Education Program, NYSDEC and NYSDOT.

Project period: Ongoing. Started in 1998

For more information visit CWMI web site <http://cwmi.css.cornell.edu> for educational materials, research and program updates.

### **Composting Manure Project**

Project Leader: Jean Bonhotal/ Ellen Harrison, Cornell Waste Management Institute, 100 Rice Hall, Ithaca, NY14853-3501. 607-255-8444, [jb29@cornell.edu](mailto:jb29@cornell.edu), [cwmi@cornell.edu](mailto:cwmi@cornell.edu).

Partners: Staehr; AEM, Kettering, Rao; CSS, Scott, Gooch; BEE, Welcome, Stehman, Wade; VetSchl; Farm Services; multiple CCE Assns; NYSDEC; NYSERDA; NRCS; NYFVI; NYSDAM; APHIS; EPA; US Compost Council. Our technical assistance and much of our research is conducted on farms

Cornell Waste Management Institute conducts integrated extension and applied research projects engaging diverse collaborators. Topics include compost production for use on-farm and export of nutrients off-farm, assessment of compost quality and use, improving soil health and use of manure as bedding.

Current research projects include 1. Use of compost on turf, landscaping and vineyards. This will help expand uses and better understand how and when to use compost. 2. Assessing use of manure as bedding in terms of herd health, economics and nutrient management as well as whether composting plays a role.

CWMI relies on stakeholder input for program direction & convenes dialogues focused on current concerns. We provide educational opportunities through field research, demonstrations, meetings, courses, conferences & technical assistance. In the last 2 years compost fact sheets were developed to address production, site selection, equipment choices, bulking materials, use and more. One project of interest involved collaborative composting where over 10 farms in one area shared equipment, services, experiences and analytical information.

The CWMI's web site <http://cwmi.css.cornell.edu> provides technical information, project updates, literature reviews, fact sheets, compost maps & power points. There is also a computer model, developed with Dept of Biological and Environmental Engineering, that helps to calculate how much space you will need to compost, time it takes, cost to produce end product and more.

We work with agencies to help build relationships with farms for better understanding of practices and how they protect the environment. Some of the work involves assistance in policy development and standards as information becomes available and needs arise.

Potential benefits of the project for small farms include Waste Reduction, Value Added Products, Bio-security, Nutrient management, Economics

Funding sources: NYS Energy Research and Development Authority, Dept of Economic Development, NYS Farm Viability Inst., Cornell Cooperative Extension

Project period: ongoing

For more information visit <http://cwmi.css.cornell.edu> for videos publications, facts sheets and research summaries.

## **Small Dairy Extension Resources**

### **Online Resources**

Numerous links to online resources from Cornell and elsewhere can be found at the Cornell Small Farms Website, [www.smallfarms.cornell.edu](http://www.smallfarms.cornell.edu). Click on Resources>Production>Dairy.

### **Cornell University Department of Animal Sciences**

For Animal Science Department information, contact Alan Bell, Chair and Professor at 607-255-2862 or awb6@cornell.edu at Morrison Hall, Cornell University, Ithaca, NY 14853. [www.ansci.cornell.edu/ansci.html](http://www.ansci.cornell.edu/ansci.html)

## **Pro-Dairy Program**

For more information contact David Galton, Director, 272 Morrison Hall, Cornell University, Ithaca, NY 14853. (607)255-2877, [dmg20@cornell.edu](mailto:dmg20@cornell.edu).

## **Organic Dairy Initiative**

This Cornell Small Farms Program initiative provides technical support, farm business planning, and educational workshops to help producers add value to milk through organic certification. Staff work with farmers to help plan a transition to organic milk production, develop a record keeping system, and/or increase whole farm production efficiency and herd health in an organic system. Contact: Fay Benson, Cornell Small Farms Program, (607) 753-5213, [afb3@cornell.edu](mailto:afb3@cornell.edu). Funding for this initiative is provided by a grant from the NY Farm Viability Institute.

## **Transitioning to Organic Dairy Production**

This workbook will help you explore questions such as: How stable is the market for organic milk? How much will it cost? What are the yield reductions in forage production? What are some heard health/cull rate considerations? After completing the workbook, you should have a business plan, a budget, and an action plan to follow during this challenging time. \$12. To order a copy, call the NY FarmNet office at 1-800-547-3276.

## **Small Dairy Value-Added Initiative**

This Cornell Small Farms Program initiative is using distance learning technologies to help small dairy producers explore strategies for adding value to their product. Contact: Fay Benson, Cornell Small Farms Program, (607) 753-5213, [afb3@cornell.edu](mailto:afb3@cornell.edu). Funding for this initiative is provided by a grant from the NY Farm Viability Institute.

## **Dairy Product Development Assistance for Small-Scale Cow, Goat and Sheep Dairy Farms**

David P. Brown is a Senior Extension Associate in Cornell's Department of Food Science with expertise in dairy foods technology.. Although he does not have a formalized project or program, he works regularly with small farmstead operations (including cow, goat, and sheep producers) and small non-farm entrepreneurs in the dairy products area. As an example he recently traveled across the state with NYS Ag & Markets, Division of Milk Control and Dairy Services, putting on workshops on vat pasteurizers. One of our target audiences was existing and new farmstead operations. He can be reached at: 179 Stocking Hall, Cornell University, Ithaca, NY, 14853. 607-255-4536, [dpb1@cornell.edu](mailto:dpb1@cornell.edu).

## **Value-Added Dairy (Cheese) Project**

Farmers interested in cheese making can now work with NY Ag Innovation Center's business planning consultants to develop a business plan for the types of cheese best suited to their dairy and suited to their targeted market audiences.

The NY Ag Innovation Center also provides farmers with help to perfect the producer's recipe to meet consumer demands for specialty, organic, raw milk and other styles of cheeses.

Through funding from the NY Farm Viability Institute, the NY Ag Innovation Center (NYAIC) is developing financial benchmarks to help producers understand the pitfalls that can affect small-scale cheesemaking. For example, the risk of overcapitalizing a start-up with expensive equipment is prompting Cornell Food Science Program researchers associated with the Center to develop less expensive, yet efficient, small-scale cheesemaking equipment. building databases of cheese producers, food distributors, food buyers and retailers. The databases are the result of a statewide survey of winery owners, and a survey of specialty and food shop owners, restaurant owners and chefs in New York City.

For more information contact Mark Stephenson at 607-255-0324.

## Livestock and Poultry

### Livestock and Poultry Research

The following is a sampling of research projects relevant to non-dairy livestock producers. If you have a specific interest that is not addressed here, contact Alan Bell, Chair, Department of Animal Science, 149 Morrison Hall, Cornell University, Ithaca, NY, 14853. 607-255-2862, [awb6@cornell.edu](mailto:awb6@cornell.edu).

#### **Winter Feeding Grass-Fed Feeder Cattle to Finish Utilizing Brown Mid Rib Sorghum Sudangrass**

Project leader: Tom Gallagher, CCE Albany County, PO Box 497, 24 Martin Road, Voorheesville, NY 12186. 518-765-3511, [tjq3@cornell.edu](mailto:tjq3@cornell.edu)

Partners: Doug Giles, farmer; Tom Kilcer, CCE Field Crop Specialist, Heather Birdsall, CCE Livestock Educator; Mike Baker, Cornell Beef Extension Specialist, Garrison & Townsend, Inc, Seed Company

Brown midrib sorghum/sudangrass (BMRSS) has a high level of carbohydrate and may promote a higher rate of growth. This project will evaluate the performance of feeder cattle fed through the winter on BMRSS baleage compared to a conventional finishing diet of corn silage, alfalfa haylage and corn grain. We will also evaluate the health benefits and eating qualities of grass-fed beef.

If successful more Northeast cow/calf producers will be able to raise their calves to finish weight on an all-forage diet with acceptable carcass quality. This should enhance profitability and sustainability.

Funding source: USDA SARE

Project period: October 2006-September 2007

### **Developing a Feeding and Management System to Provide High Quality Beef for the Grass Finished Market**

Project leader: Mike Baker, 130 Morrison Hall, Cornell University, Ithaca, NY 14853, 607-255-5923, [mjb28@cornell.edu](mailto:mjb28@cornell.edu).

This project is designed to evaluate the effect of age at weaning on performance of beef cattle intended for the grass fed market. Calves will either be weaned at 5 months (on to an all forage diet) or remain with the cow until 10 months of age. Calves from both treatments will be grazed to maximize gain the summer following weaning. Changes in gain and body composition will be measured. These two treatments will be compared to a conventional grain finishing program.

Producers interested in producing beef for the grass fed market, need to have better information on wintering strategies that will promote high rates of growth on all forage diets.

Funding Source: Federal Smith-Lever (Extension) funds

Project period: October 2004 – September 2007

### **Cornell Sheep Program Research**

Project leader: Michael L. Thonney, Department of Animal Science, 114 Morrison Hall, Cornell University, Ithaca, NY 14853-4801. 607-592-2541, [mlt2@cornell.edu](mailto:mlt2@cornell.edu).

Project partners: Dr. Mary C. Smith, College of Veterinary Medicine; CCE educators with animal agriculture responsibilities; Empire Sheep Producer's Association; Susan Schoenian, University of Maryland Cooperative Extension.

Sheep flocks are relatively economical to establish and manage to take advantage of forage-producing land. They can provide significant income to owners of small farms who take advantage of the many high value markets for lambs in the Northeast. The Cornell Sheep Program evaluates and disseminates information on management, nutrition, health, selection, and marketing strategies for highly productive sheep systems. Purebred Dorset and Finnsheep flocks and a commercial Finnsheep ´ Dorset flock are managed under the Cornell STAR management system. Selection in the Dorset and Finnsheep flocks is for aseasonality and fertility. Strategies to make efficient use of labor and to better control health problems are evaluated in the commercial flock. Growing lambs are used to evaluate diet ingredients such as fish meal to provide rumen-escaped protein, barley in diets for lambs in the northeast, and source and level of dietary fiber.

Funding source(s): Cornell University Experiment Station, Cornell Cooperative Extension, USDA Sheep Improvement Center.

Project period: Ongoing

For more information: [www.sheep.cornell.edu/sheep](http://www.sheep.cornell.edu/sheep), <http://sheepgoatmarketing.info>.

### **Goats in the Woods Project**

Project leader: Dan Brown, Department of Animal Science, 320 Morrison Hall, Cornell University, Ithaca, NY 14853-4801. 607-255-4407, [dlb20@cornell.edu](mailto:dlb20@cornell.edu).

Partner: Peter Smallidge, Department of Natural Resources.

This project is investigating the feasibility of using meat goats to reduce the undesirable woody species (striped maple and American beech) present in commercial oak and sugar maple forests.

Funding source: USDA/SARE program

### **Cornell Feedlot & Carcass Value Discovery Program**

Project leader: Mike Baker, Beef Cattle Extension Specialist, Department of Animal Science, 130 Morrison Hall, Cornell University, Ithaca, NY 14853-4801. 607-255-5923, [mjb28@cornell.edu](mailto:mjb28@cornell.edu).

The program, now in its 10th year, is an applied research effort designed to help beef producers learn the true value of their cattle based on their performance in the feedlot and on the rail. Producers of these calves receive feedlot and carcass data such as average daily gain, feed conversion, hot carcass weight, marbling score and ribeye area. Past participants have used the data to improve the genetics of their herd and to bargain for higher feeder calf prices.

Producers have the option of selecting the conventional feedlot program or the “natural” program which does not use implants or antibiotics. Calves raised under these conditions will be eligible for several natural markets that exist in the Northeast.

For more information: [www.ansci.cornell.edu/beef](http://www.ansci.cornell.edu/beef) and click on “Software and Reports”.

## **Livestock and Poultry Extension Resources**

### **Online Resources**

Numerous links to online resources from Cornell and elsewhere can be found at the Cornell Small Farms Website, [www.smallfarms.cornell.edu](http://www.smallfarms.cornell.edu). Click on Resources>Production>Livestock or click on Resources>Production>Poultry.

### **Cornell University Department of Animal Sciences**

For Animal Science Department information, contact Alan Bell, Chair and Professor at 607-255-2862 or [awb6@cornell.edu](mailto:awb6@cornell.edu) at Morrison Hall, Cornell University, Ithaca, NY 14853-4801. Website: [www.ansci.cornell.edu](http://www.ansci.cornell.edu)

### **Cornell University Beef Management Program**

Contact: Mike Baker; Beef Cattle Extension Specialist, Department of Animal Science, Cornell University, Ithaca, NY 14853-4801, 607-255-5923, [mjb28@cornell.edu](mailto:mjb28@cornell.edu). Website: [www.ansci.cornell.edu/beef/beef\\_main.html](http://www.ansci.cornell.edu/beef/beef_main.html)

### **Cornell Sheep Program**

Contact Mike Thonney, Department of Animal Science, Cornell University, Ithaca, NY 14853-4801. 607-255-2851, [mlt2@cornell.edu](mailto:mlt2@cornell.edu). [www.sheep.cornell.edu](http://www.sheep.cornell.edu).

### **Goat Management Program**

Contact: tatiana Stanton, Department of Animal Science, Morrison Hall, Cornell University, Ithaca, NY 14853-4801. [tls7@cornell.edu](mailto:tls7@cornell.edu).

### **Small Farm Swine Program**

Contact: Tro Bui, Extension Associate, Department of Animal Science, Morrison Hall, Cornell University, Ithaca, NY 14853. 607-255-4505, [tvb2@cornell.edu](mailto:tvb2@cornell.edu).

### **Small Farm Poultry Program**

Contact: Tro Bui, Extension Associate, Animal Science, Morrison Hall, Cornell University, Ithaca, NY 14853. 607-255-4505. 607-255-4505, [tvb2@cornell.edu](mailto:tvb2@cornell.edu).

## **Business Planning and Management**

### **Farm Business Management Research**

#### **Dairy Farm Business Summary, New York Small Herd Farms, 80 Cows or Fewer**

See description under “Small Dairy Research and Resources.”

#### **Dairy Farm Business Summary, New York Intensive Grazing Farms**

See description under “Small Dairy Research and Resources.”

### **Cornell Cooperative Enterprise Program**

CEP conducts applied research on the economics of collective action, cooperative decision-making, management and marketing. A recent example of CEP research relating to small farms is a project conducted with colleagues in the Department of Development Sociology at Cornell that resulted in the publication titled, “Small-Scale Grower Cooperatives in the Northeast United States,” published by USDA, Rural Development, RBS Research Report 210. One conclusion of that study is that “produce marketing cooperatives play a critical role in the sustainability of their family farm members’ businesses and in the welfare of their families”.

For more information contact: Brian Henehan, Cornell Cooperative Enterprise Program, Department of Applied Economics and Management, 202 Warren Hall, Cornell University, Ithaca, NY 14853-4801. 607-255-8800, [bmh5@cornell.edu](mailto:bmh5@cornell.edu).

## **Farm Business Planning and Management Extension Resources**

## Online Resources

Numerous links to online resources from Cornell and elsewhere can be found at the Cornell Small Farms Website, [www.smallfarms.cornell.edu](http://www.smallfarms.cornell.edu). Click on Resources>Business Management.

## Department of Applied Economics and Management

For AEM Department information, contact Professor & Chair Bill Lesser, 105 Warren Hall, Cornell University, Ithaca, NY 14853-4801. 607-255-4595, [whl1@cornell.edu](mailto:whl1@cornell.edu). AEM Website: <http://aem.cornell.edu>.

## NY Ag Innovations Center

The Agriculture Innovation Center (AIC) helps farmers add value to what they produce, for example by product branding; product quality enhancement; on-farm, first-stage product transformation; finding higher-value uses for manure and crop by-products; value-added and organic dairy enterprises.

Business planning assistance is a key element of all activities. Researchers and Extension/outreach specialists from Cornell University, SUNY colleges and others around the State provide one-on-one assistance to agricultural producers. This assistance is made possible by grants from the New York Farm Viability Institute. If you are producing (or considering producing) a value-added product, the AIC may be able to help. Contact Kristen Park at 607-255-7215, send an email to [nyaic@cornell.edu](mailto:nyaic@cornell.edu), or visit [www.nyfarmviability.org/aic](http://www.nyfarmviability.org/aic).

Business Structure assistance helps individuals and groups of farm businesses to develop sound business and organizational structures. Organizational innovation can include creative approaches to: financing, governance, group structures (networks, alliances, cooperatives, etc.), management participation and the role of investors. The majority of our work focuses on farmer-owned businesses that are owned by small farmers. Examples include:

- A group of small vegetable producers incorporated as a cooperative so that they can distribute to local institutions more efficiently.
- A small herb business sought information to aid a decision in forming an appropriate organizational structure to incorporate family members.
- Farmers Markets (comprised of small farms) across NYS are seeking assistance in organizational structure (including financing) in order to develop viable operations.
- 2 individuals running a CSA were interested in formalizing their business partnership and our assistance provided them information to make decisions.
- A board of directors' workshop was developed for an Association of New York Maple syrup producers who requested training for their board of directors. The association membership includes small scale producers.

For further information on business structure assistance through the NY Agriculture Innovation Center, contact either Jude Barry at 607-254-4741,

[jab267@cornell.edu](mailto:jab267@cornell.edu); or Brian Henehan at 607-255-8800, [bmh5@cornell.edu](mailto:bmh5@cornell.edu); send an email to [nyaic@cornell.edu](mailto:nyaic@cornell.edu), or visit [www.nyfarmviability.org/aic](http://www.nyfarmviability.org/aic).

### **NY FarmNet and Farm Link Programs**

NY FarmLink provides one on one consulting via business planning assistance to farmers who are interested in exploring adding value to agricultural products, business transfers, partnerships, retirement planning, and estate planning. Business planning assistance is made available to all farm types through a grant from the New York Farm Viability Institute. Approximately 75 percent of farms receiving targeted business planning assistance from NY FarmLink can be classified as small farms. The program has also developed resources for farmers to use in the business planning process, including the publication *Starting an Ag Business? A Pre-Planning Guide*. For more information Call 1-800-547-FARM (3276) or visit <http://nyfarmlink.org>.

### **Horticultural Business Management and Marketing Program**

This program in the Department of Economics and Management places emphasis on adaptation of new technologies to enhance productivity while maintaining environmental quality and sustainability. Contact: Wen-fei Uva, Senior Extension Associate, 607-255-3688 Email: [w132@cornell.edu](mailto:w132@cornell.edu), or visit <http://aem.cornell.edu/hortmgt>.

### **Cornell Cooperative Enterprise Program**

CEP offers annual conferences and workshops designed for boards of directors and managers of cooperative businesses. The subjects covered include director responsibilities, effective board decision making, questions directors should be asking management, and board-manager relations. Workshops and conferences are offered to individual boards of directors or groups of directors.

The majority of farmer members of most cooperatives operating in New York State (dairy, fruit, vegetable, grain, livestock, etc.) would fall into the category of "small farms". Many directors of cooperatives manage small farms. CEP has worked with a number of groups of small and mid-sized farmers interested in organizing new cooperatives involving a range of products and market channels such as: specialty meats, farmer's markets, grains, fresh fruits and vegetables as well as specialty crops.

For more information contact: Brian Henehan, Cornell Cooperative Enterprise Program, Department of Applied Economics and Management, 202 Warren Hall, Cornell University, Ithaca, NY 14853-4801. 607-255-8800, [bmh5@cornell.edu](mailto:bmh5@cornell.edu).

### **Farming Alternatives: A Guide to Evaluating the Feasibility of New Farm-Based Enterprises**

An excellent business planning guide for evaluating new enterprise ideas for an existing farm, or starting up a new farm. Available for \$8 from Cornell's Community, Food and Agriculture Program, Department of Development Sociology, 216 Warren Hall, Cornell University, Ithaca, NY 14853-4801. 607-255-9832. Website: [www.cfap.org](http://www.cfap.org).

# Marketing, Adding Value, & Agriculture Development

## Marketing, Adding Value & Agriculture Development Research Efforts

The following is a sampling of research projects. If you have a specific interest that is not addressed here, contact Bill Lesser, Chair, Department of Applied Economics and Management, 105 Warren Hall, Cornell University, Ithaca, NY 14853-4801. 607-255-4595, [whl1@cornell.edu](mailto:whl1@cornell.edu).

### Local Food Systems Project

Project leader: Gary W. Fick, 507 Bradfield Hall, 607-255-1704, [gwf2@cornell.edu](mailto:gwf2@cornell.edu)

Partners: Christian Peters, Crop & Soil Science; Art Lembo, Crop & Soil Sciences; Jennifer Wilkins, Nutritional Sciences

Local food systems can address several of the economic, environmental, and social ills of modern agriculture. They may improve farm incomes by helping farmers capture a larger share of the consumer's food dollar, reduce energy use and greenhouse gas emissions by reducing the distance food travels, and increase the viability of small farms, thereby increasing the strength of rural communities. A small but diverse and growing community of stakeholders is already promoting local food systems. Unfortunately, little evidence exists to evaluate the benefits, costs, and potential for expanding local markets and building stronger producer-consumer.

The goal of this research is to develop a model for holistic understanding of regional food production potential relative to regional food needs in the context of New York State. There are four principal objectives: 1) Create a geographic information system (GIS) for mapping biophysical suitability and economic use-value of land for different classes of agriculture which relies on nationally available data, 2) Use this model to calculate the shortest distance in which the food needs of upstate New York population centers could be met, 3) Make these findings accessible to the public via an internet map server (IMS), a web-based interface for users to view and perform simple queries on the resulting maps, and 4) Develop training materials for nutrition extension educators that educate consumers on the relationship between food choices and local food systems.

The principal benefit of this research is to help stakeholders envision the potential to meet a greater share of our food needs locally. While this project cannot directly inform the day-to-day decisions of individual producers, it can serve as a starting point for evaluating the degree to which development of local food systems can be used as a strategy for improving the viability of small farms. In addition, it will hopefully serve to guide the thinking of producers, consumers, and policy makers on the degree to which increased reliance on small farms and local agriculture might reduce our environmental impact and enrich our communities.

Funding source: USDA-CSREES Competitive Grant

Project period: July 1, 2005 – June 30, 2008

For more information: Contact project leader.

### **Using GIS Tools to Improve Agricultural Marketing & Local Food System Mapping**

Project leaders: Duncan Hilchey, Community, Food and Agriculture Program, and Joe Francis, Professor, Department of Development Sociology, Warren Hall, Cornell University, Ithaca, NY, 14853- 4801. 607-255-4413, [dlh3@cornell.edu](mailto:dlh3@cornell.edu).

This project is developing a GIS-based market-mapping tool (MarketScape™) for use by Extension Educators, Planners, and Economic Development professionals to assist small farmers in identifying niche market opportunities in NY State. With these tools, farmers will be able to generate maps at the census-tract (neighborhood) level showing the location of concentrations of potential specialty-dairy-product consumers, gourmet consumers, organic consumers, kosher, and other ethnic consumers and the like. Producers, Extension agents and commodity organizations will be able to identify and map restaurants and grocery stores, as well as local public schools, hospitals, jails and other public institutions that might buy New York agricultural products.

For more information: [www.cfap.org](http://www.cfap.org)

### **A Place at the Table: Establishing Agricultural Heritage Areas in New York State**

Project leaders: Duncan Hilchey and Gil Gillespie, Community, Food and Agriculture Program, Department of Development Sociology, 216 Warren Hall, Cornell University, Ithaca, NY, 14853- 4801. 607-255-4413, [dlh3@cornell.edu](mailto:dlh3@cornell.edu). [www.cfap.org](http://www.cfap.org).

Based on the Community, Food and Agriculture Program's work in the Concord Grape Belt of Western NY, this project is sharing the concepts of "food-based regional identity and agricultural heritage areas" to other specialized farming regions in the State. This two-year research and education program is working with 10 Concord Grape Juice manufacturers and their grower suppliers to explore the potential of "certified heritage product" labeling. Such labels and related product information may educate consumers about unique regional agricultural products and tap their interest in wholesome products which not only contribute to improved health but also to American cultural identity.

With assistance from the Community, Food, and Agriculture Program at Cornell University, the Concord Grape industry, including the National Grape Cooperative (owner of Welch's), and all other concord grape processing cooperatives and companies in the Concord Grape Belt have come together with numerous other local agencies and development organizations to form the Lake Erie Concord Grape Belt Heritage Association. Nearly 100 grape growers and allied businesspeople in the region are due-paying members. The Association is working with the New York State Heritage Areas Program in the creation of a formally designated heritage area that could provide resources for the grape industry to promote its heritage, vineyard lands preservation activities, a product "label of certified origin" marketing campaign, and an interpretive trail within the existing Seaway Trail scenic byway. The Association is also presently conducting an economic impact study of the Concord Grape Industry. These and other activities are expected to raise consumer awareness of the rich history of the Concord Grape, and the many benefits it makes to the quality of life in Western New York and Pennsylvania, and the United State as a whole. As a model of place-based community

development, this pilot agricultural heritage area will inspire other struggling commodity production regions to tap and take advantage of their special heritage contribution to American culture.

Funding Sources: Federal Formula Funds - Research (e.g., Hatch, McIntire-Stennis, Animal Health)

For more information: [www.cfap.org](http://www.cfap.org)

## **Financial Performance of Value-Added Dairy Operations**

See Small Dairy research above.

# **Marketing, Adding Value & Agriculture Development Extension Resources**

## **Online Resources**

Numerous links to online marketing resources from Cornell and elsewhere can be found at the Cornell Small Farms Website, [www.smallfarms.cornell.edu](http://www.smallfarms.cornell.edu). Click on Resources>Marketing. For a wealth of Agriculture Development resources visit the Community, Food and Agriculture Program website at [www.cfap.org](http://www.cfap.org).

## **Value-Added Dairy (Cheese) Project**

See "Dairy" section above.

## **Smart Marketing Bulletins**

From the Horticulture and Business Management and Marketing Program at Cornell University. Many of the bulletins apply to many different types of farm operations besides horticulture. The monthly bulletins are available online at:

[http://aem.cornell.edu/special\\_programs/hortmgt/pubs/smartmkt/index.htm](http://aem.cornell.edu/special_programs/hortmgt/pubs/smartmkt/index.htm)

or you can contact Wen-fei Uva for a published compilation of bulletins:

607-255-3688, [wf32@cornell.edu](mailto:wf32@cornell.edu).

## **Community, Food, and Agriculture Program**

Cornell's Community, Food, and Agriculture Program, in the Department of Development Sociology, conducts integrated research, education and professional development relating to food and agriculture based community and economic development. Extension educators and other agriculture economic development professionals are a key audience. CFAP coordinates Cornell's Agriculture Economic and Community Development Program Work Team, which identifies needs and responses such as professional development programs for CCE and other agriculture development practitioners. Community, Food and Agriculture Program, 216 Warren Hall, Cornell University, Ithaca, NY, 14853-4801. 607-255-9832, [gcq4@cornell.edu](mailto:gcq4@cornell.edu).

## **Empire State Food and Agricultural Leadership Institute (LEAD NY)**

LEAD is an agriculture sector leadership development project that accepts approximately 30 students every other year for a 2-year cohort program. Small farm operators are encouraged to participate. Contact: Larry Van De Valk, Director, LEAD-NY, 607-255-7905  
[www.leadny.org](http://www.leadny.org)

# **Field Crops and Forages**

## **Field Crops and Forages Research**

The following is a sampling of research projects. If you have a specific interest that is not addressed here, contact Stephen DeGloria, Chair, Department of Crop and Soil Science, 235 Emerson Hall, Cornell University, Ithaca, NY 14853. (607) 255-5459.  
[sdd4@cornell.edu](mailto:sdd4@cornell.edu).

### **Grass Pellet Energy**

Project leader: Jerry Cherney, E.V. Baker Professor of Agriculture, Department of Crop & Soil Sciences, 503 Bradfield Hall, Cornell University, Ithaca, NY 14853-1901. 607-255-0945, [jhc5@cornell.edu](mailto:jhc5@cornell.edu).

It takes 70 days to grow a crop of grass pellet fuel. It takes 70 million years to grow a crop of fossil fuel. Grass pellets have great potential as a low-tech, small-scale, environmentally-friendly, renewable energy system that can be locally produced, locally processed and locally consumed. As the US focuses on energy security, grass bioenergy is one of the ways that rural communities can move towards energy security.

New York State has about 1.5 million acres of unused or underutilized agricultural land, most of which is already growing grass. Grass biofuel production does not need to divert any of the current agricultural productivity into the energy market; this biomass industry can be completely independent from, but complimentary to, the production of food or animal feed. It is also a very “farmer-friendly” way to get producers exposed to biofuel production.

For more information: [www.GrassBioenergy.org](http://www.GrassBioenergy.org), also [www.forages.org](http://www.forages.org).

### **Cornell Small Grains Project**

Project leader: Mark Sorrells, Professor of Plant Breeding, Department of Crop & Soil Sciences, 240 Bradfield Hall, Cornell University, Ithaca, NY 14853-1901. 607-255-2180, [mes12@cornell.edu](mailto:mes12@cornell.edu).

Project partners: Margaret Smith, Gary Bergstrom, Bill Cox, Cornell University

The Cornell Small Grains Project has a history more than 90 years of developing innovative approaches to crop improvement. Research uses a range of technologies including molecular genetics, physiology, pathology, and breeding to help develop

superior crop varieties. The more applied goals of the program are to: (1) develop, evaluate, and introduce new cultivars and germplasm of small grains having improved yield, nutritional quality, disease resistance, and other characteristics that increase the crop value and production efficiency; (2) develop and evaluate novel breeding strategies for crop improvement; and (3) elucidate the inheritance of agronomic plant characters, the gene expression controlling these characters, and their correlations with other traits. A regional variety testing program is conducted annually for wheat, oats, and barley.

Funding sources: Hatch Federal Formula Funds, voluntary checkoffs on certified seed

Project period: Ongoing

For more information: <http://smallgrains.cit.cornell.edu>

### **Cornell Nutrient Management Spear Program.**

Project Leader; Quirine Ketterings, Department of Crop and Soil Sciences, 817 Bradfield Hall, Ithaca NY 14853, Phone: 607 255-3061, Fax: 607 255-7656; E-mail: [gmk2@cornell.edu](mailto:gmk2@cornell.edu)

Partners: Numerous statewide collaborators.

The goal of this research and extension program is to improve understanding of nutrient release and risk for runoff and leaching losses from inorganic and organic amendments as affected by soil type, hydrology, time and rate of application, and the use of specific soil and fertilizer amendments. Publications and research information are also available at the program website: <http://nmssp.css.cornell.edu>.

## **Field Crops and Forages Extension Resources**

### **Department of Crop and Soil Sciences**

Cornell's Department of Crop and Soil Sciences providing Extension support in the following areas: Composting, Cornell Nutrient Analysis Lab, Crop Production, Disease Management, GIS and Remote Sensing; Forages, Pest Management, Precision Agriculture, Nutrient Management, Soil Conservations, Waste Management, and Weed Management. For more information contact: Stephen DeGloria, Chair, Department of Crop and Soil Sciences, 235 Emerson Hall, Cornell University, Ithaca, NY 14853. (607) 255-5459. [sdd4@cornell.edu](mailto:sdd4@cornell.edu).

### **Cornell Nutrient Management Spear Program.**

Project Leader; Quirine Ketterings, Department of Crop and Soil Sciences, 817 Bradfield Hall, Ithaca NY 14853, Phone: 607 255-3061, Fax: 607 255-7656; E-mail: [gmk2@cornell.edu](mailto:gmk2@cornell.edu)

Partners: Numerous statewide collaborators.

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soil and fertilizer amendments. Publications and research information are also available at the program website: <http://nmsp.css.cornell.edu>.

### **Forage-Livestock Systems at Cornell**

Forage-Livestock Systems focus on interdisciplinary basic and applied research on forages and the animals that consume them. Forage crops are one of the few resources that can be converted to food while sustaining and restoring our soil, water and atmosphere. The Cornell website at [www.forages.org](http://www.forages.org) provides: Resources (such as Guidelines for Forage Crops in New York State; Forage Species Selection in New York State; Prescribed Grazing Management Manual for New York State; Forage Stand Assessment and Management Alternatives), information on current research at Cornell, information on grass biofuels, an interactive tool for forage species selection and a soil type locator for NYS, and information about numerous forage species. For more information visit [www.forages.org](http://www.forages.org). If you do not have internet access contact your local CCE office for assistance.

## **Agroforestry and Natural Resources**

The following is a sampling of research projects. If you have a specific interest that is not addressed here, contact Barbara Knuth, Chair, Department of Natural Resources, 117 Fernow Hall, Cornell University, Ithaca, NY 14853. 607-255-2822, [bak3@cornell.edu](mailto:bak3@cornell.edu).

### **Agroforestry and Natural Resources Research**

#### **NY Maple Producers and Working Landscapes**

Project leader: Steven Wolf, Assistant Professor, Department of Natural Resources, Cornell University, 124 Fernow Hall, Ithaca, NY 14853, (607) 255-7778, [saw44@cornell.edu](mailto:saw44@cornell.edu).

Project partners: Louise Buck, Cornell Maple Program

Through applied research, this project seeks to support New York maple syrup producers and enhance forest conservation through entrepreneurship, professionalization of the maple sector, and public policy innovation. Little is known about the structure of the maple industry, the demographics of who is engaged, the variety of enterprise types and business strategies, where maple producers get information to support decisions that affect their forests and their maple businesses, and interactions between sugaring, timber harvesting, and natural resource conservation. Enhanced understanding of these issues will be important as the maple sector adjusts to new patterns of competition and pursues new opportunities.

As conceptualized in this research, firms and families producing maple sugar represent a type of stewardship enterprise. Stewardship enterprises are businesses that have the potential to produce both private and public goods; the former in terms of personal satisfaction and return on investment, the later in terms of ecosystem services and

regional socioeconomic development. Because of our commitment to maple syrup production and because this production has the potential to produce public goods that will benefit people in New York State and beyond, we are excited to be involved in an analysis of the industry. This applied research project seeks to contribute to Cornell University research and extension efforts in support of maple production, rural development and natural resource conservation.

We conducted a 2004 mail survey of 265 NY State maple syrup and maple sugar producers (response rate of 66%) and conducted comparative case studies of value-added specialty agriculture sectors (NY maple syrup, NY Finger Lakes wine and Vermont maple syrup). We will produce a variety of reports and academic publications to support maple production, extension activities and academic research on working landscapes.

Our benchmarking report will allow producers and development agents to evaluate strengths and weaknesses of operations and refine future-oriented strategies. These data will also serve as a benchmark against future developments. Further, our survey serves as a source of information on producers' priorities for development of their industry (i.e., targets for collective action, university and state agency engagement).

Funding source: Cornell University Agricultural Experiment Station

Funding period: 9/03-ongoing

For more information: Steven Wolf, Jeff Klein, Stefanie Hufnagl-Eichiner and Louise Buck. 2006. *Taking stock and looking ahead: Benchmarking of New York State maple production*. Department of Natural Resources, Cornell University. Available online at: <http://maple.dnr.cornell.edu>. Future publications resulting from this work will be listed or posted at [www.dnr.cornell.edu/saw44](http://www.dnr.cornell.edu/saw44).

### **The Cornell Maple Program: Increasing economic vitality of small farm woodlots through enhanced sugar maple production**

Program Director: Dr. Brian Chabot, Ecology & Evolutionary Biology Department, 150 Corson Hall, Cornell University, Ithaca, NY 14853. 607-254-4234, [bfc1@cornell.edu](mailto:bfc1@cornell.edu).

Partners: Michael Farrell, Peter Smallidge, Stephen Childs, Cornell Maple Team (county natural resource educators), individual maple producers, New York State Maple Producers Association,

The Cornell Maple Program improves the production of NY maple products through research and education. Many projects exist addressing general objectives of improving forest productivity and stewardship, improving collection and processing of sap, improving pure maple products, and improving marketing and business practices. Small farms may benefit from this research by improved knowledge about land stewardship, production and marketing practices, increased production, and increased income.

Funding sources: many, including NY Farm Viability Institute, USDA-SARE Program.

Project period: Ongoing

For more information: [www.cornellmaple.info](http://www.cornellmaple.info)

## **Aquatic Plant Management for Rural New York**

Project leader: Rebecca Schneider, Department of Natural Resources, 112 Fernow Hall, Cornell University, Ithaca, NY 14853. 607-255-2115, [RLS11@cornell.edu](mailto:RLS11@cornell.edu)

Over the past decade we have developed an integrated pest management approach for dealing with weeds in small ponds and lakes. The step-wise approach includes an overview of the benefits of aquatic plants in ponds, evaluating a set of criteria to determine which aquatic weed management strategy will be most successful, and a summary of advantages and disadvantages of the eight different strategies that are available.

For more information: We can provide support in the form of workshops partnering with county extension educators. We have fact sheets and a Powerpoint presentation for use by interested educators. Contact Project Leader.

## **Sustainable and profitable woodlot management**

Project leader: Peter J. Smallidge, Department of Natural Resources, 116 Fernow Hall, Cornell University, Ithaca, NY, 14853. 607-592 – 3640 voice; [pjs23@cornell.edu](mailto:pjs23@cornell.edu).

Partners: Campus – Gary Goff, Kristi Sullivan, Steve Morreale; CCE Educators – Lutie Batt, Lynn O'Brien, Carl Albers, Rene Jensen, Jim Ochterski, Kevin Mathers, Michele Ledoux, Rebecca Hargrave, Janet Aldrich, Bob Beyfuss, Marilyn Wyman, Laurel Gailor, Richard Gast, Steve Vandermark; Organizations & Other – New York Forest Owners Association, Master Forest Owner volunteers,

Approximately half of New York State is private forest land, and, on average, 20% of each farm is woodland. On many farms 50% or more of the acreage is in forest land. This program, with multiple project initiatives, identifies the needs of woodlot owners, conducts applied research, on-farm research, and literature reviews to help resolve those needs. Many forest owners want and need to generate income from their woodlot, yet also want to ensure their actions maintain a sustainable and healthy forest ecosystem. Campus and county educators work collaboratively to develop educational materials and market educational opportunities through various channels. Primary educational venues include: direct mail brochures, workshops, woodswalks, demonstration areas, newsletter articles, short courses, bulletins, and visits from Master Forest Owner volunteer peer-counselors. Cornell University's Arnot Teaching and Research Forest, near Ithaca, hosts numerous applied research projects and pilots of on-farm collaborative research; demonstration sites, and educational facilities.

Owners and managers of small farms could learn to work with foresters to assess the value of timber, develop a plan to provide for long-term economic return from their woods, and identify the potential for other sources of income based in their forest (e.g., maple syrup, agroforestry, fee hunting, etc.)

Funding sources: Current and historic funding partners include USDA CSREES Renewable Forest Resources Extension; USDA Forest Service; NYS Department of Environmental Conservation; NY Forest Owners Association; NY Society of American Foresters; Ruffed Grouse Society, National Wild Turkey Federation.

For more information: [www.ForestConnet.info](http://www.ForestConnet.info), [www.CornellMFO.info](http://www.CornellMFO.info), [www.ArnotForest.info](http://www.ArnotForest.info). Many publications are available though [www.store.cce.cornell.edu](http://www.store.cce.cornell.edu) and [www.nraes.org](http://www.nraes.org) via their forestry and natural resources links.

# Agroforestry Extension Resources

## The Cornell Maple Program

Contact: Stephen Childs, Extension Maple Specialist, Cornell Maple Program, 110 Fernow Hall, 607-255-1658, [slc18@cornell.edu](mailto:slc18@cornell.edu). Website: [www.cornellmaple.info](http://www.cornellmaple.info)

## Woodlot management assistance

Contact Peter J. Smallidge, Department of Natural Resources, 116 Fernow Hall, Cornell University, Ithaca, NY, 14853. 607-592 – 3640 voice; [pjs23@cornell.edu](mailto:pjs23@cornell.edu). Websites: [www.ForestConnet.info](http://www.ForestConnet.info), [www.CornellMFO.info](http://www.CornellMFO.info), [www.ArnotForest.info](http://www.ArnotForest.info). Many publications are available though [www.store.cce.cornell.edu](http://www.store.cce.cornell.edu) and [www.nraes.org](http://www.nraes.org) via their forestry and natural resources links.

## The “How, when and why of forest farming” project

Project leader: Prof. Ken Mudge, Department of Horticulture, Plant Science, Cornell University, Ithaca, NY 14853. 607-255-2421, [kwm2@cornell.edu](mailto:kwm2@cornell.edu).

Partners: Louise Buck (DNR, Sr. Extension Assoc), Paul Treadwell (CCE Instructional Technology Unit), CCE County educators (several), Penn State School of Forestry and Natural Resources (Profs. Jim Findley and Mike Jacobson), PSU County educators (several), about 80 farmers and forest owners from NY and PA participating in course development

The “How, when and why of forest farming (HWWFFF)” project is developing an online curriculum and set of teaching and learning tools to enable educators to facilitate interactive courses with landowners in forest farming, and to enable landowners to use an auto-tutorial format to access the materials. The content for the curriculum has been developed through interaction among the investigators and CCE educators in NY and PA who have experience with producing non-timber forest products in agroforestry/forest farming systems. A HWWFF Resource Center contains the content for the curriculum, in 7 Units: Introduction to forest farming, Site assessment and crop selection, Medicinals, Fruits and nuts, Mushrooms, Maple, and Marketing. Moodle, an open-access software program, provides the online course delivery platform.

Most small farms have woodlots, from which income can be derived by growing specialty products which have a low volume/high price ratio. Woods-base crops commonly can be cultivated at times in the small farm seasonal calendar that complements more routine labor demands. The HWWFF online course materials and delivery tools orient landowners to these opportunities and offers instruction in how to create forest farms from their woodlots. Woodlot management for crop cultivation also can help preserve the health and integrity of their forest resources.

Funding source: NE SARE. Project period: June 04-Dec 06 (external funding); activity to be internalized by CCE Instructional Technology Unit in Spring 07, and made accessible to educators and landowners in perpetuity.

For more information: By Feb 07 NE SARE website will host final project report, and Paul Treadwell ([pt36@cornell.edu](mailto:pt36@cornell.edu)) will mount the HWWFF Resource Center and online instructional platform and teaching/learning tools on CCE’s server. Stay tuned to: <http://moodle.cce.cornell.edu>.

# Beginning Farmers

## Small Farms Program's Beginning Farmers Project

We are working with a team of Extension educators to enhance and coordinate training and resources for beginning farmers across the state. For more information contact Erica Frenay at [ejf5@cornell.edu](mailto:ejf5@cornell.edu).

## NY FarmLink Program

1-800-547-FARM (3276). An assistance and referral organization that links beginning farmers with retiring farmers and other farm business opportunities. A network of counselors is available to assist with farm transfers, partnerships, and other business agreements.

## New Farmer Development Project

A collaboration of the Council on the Environment of NYC/Greenmarket, Cornell Cooperative Extension-New York City, the New Farmer Development Project (NFDP) identifies, educates, and supports agriculturally experienced immigrants in the NYC region to establish economically and environmentally sound, small-scale farm operations. NFDP provides education; direct marketing opportunities through Greenmarket's farmers markets; placement with farmers on farms and in markets; organic training farms in Queens, Staten Island, and Dutchess County, New York; loans; and assistance in establishing new farms. For information contact Cornell Cooperative Extension-NYC, (212) 340-2950 or visit [www.cenyc.org/HTMLGM/nfdpfaq.htm](http://www.cenyc.org/HTMLGM/nfdpfaq.htm).

## Growing New Farmers Network

Offers a website devoted to new farmers and those who hope to farm in the Northeast, and to service providers who are helping them succeed. [www.northeastnewfarmer.org](http://www.northeastnewfarmer.org). Cornell contact: NY FarmLink Program, 607-255-4121.

# Organic Farming

## Organic Farming Research Efforts

### Organic Agriculture At Cornell: Summary of Research and Extension Projects

There are numerous efforts at Cornell focused on organic production systems. For a list of current research efforts, visit the Cornell Organic Production and Marketing Working Group Website at [www.organic.cornell.edu/](http://www.organic.cornell.edu/). Research reports are organized by topic, including vegetables, fruits, field crops, dairy,

cover crops and rotations. For more information or for a print copy of the Summary, contact Anu Rangarajan, Department of Horticulture, 121 Plant Science Building, Cornell university, Ithaca, NY 14853. 607-255-1780, [ar47@cornell.edu](mailto:ar47@cornell.edu).

### **Freeville Organic Research Farm**

A 30-acre research farm adjacent to the Homer Thompson Farm, dedicated to organic farming research. Contact Anu Rangarajan, Phone: (607)255-1780; Email: [ar47@cornell.edu](mailto:ar47@cornell.edu)

### **Towards Sustainability Foundation Mini Grants**

Research grants given for organic farming and marketing research. For more details about the grant program or past grant awards contact Ian Merwin, Email: [im13@cornell.edu](mailto:im13@cornell.edu) for more information.

## **Organic Farming Extension Resources**

### **Organic Production and Marketing at Cornell**

Visit the Cornell Organic Agriculture Working Group website at [www.organic.cornell.edu](http://www.organic.cornell.edu) to learn more about the growing number of organic research and education efforts happening at Cornell. Contact: Anu Rangarajan ; Phone: (607)255-1780; Email: [ar47@cornell.edu](mailto:ar47@cornell.edu)

### **Dilmun Hill Student Farm**

A campus, student-run organic farm. Its mission is to provide experiential learning opportunities and educational facilities for Cornell students, faculty, staff and the local community in the exploration of sustainable food and agricultural systems. Contact Ian Merwin for more information, [im13@cornell.edu](mailto:im13@cornell.edu) or 607-255-1777

### **Transitioning to Organic Dairy Production**

This workbook will help you explore questions such as: How stable is the market for organic milk? How much will it cost? What are the yield reductions in forage production? What are some heard health/cull rate considerations? After completing the workbook, you should have a business plan, a budget, and an action plan to follow during this challenging time. \$12. To order a copy, call the NY FarmNet office at 1-800-547-3276.

### **Organic Dairy Initiative**

This initiative provides technical support, farm business planning, and educational workshops to help producers add value to milk through organic certification. Staff work with farmers to help plan a transition to organic milk production, develop a record keeping system, and/or increase whole farm production efficiency and herd health in an organic system. Contact: Fay Benson,

Cornell Small Farms Program, (607) 753-5213, [afb3@cornell.edu](mailto:afb3@cornell.edu). Funding for this initiative is provided by a grant from the NY Farm Viability Institute.

## Integrated Pest Management

### IPM Research and Extension

The NYS IPM Program is an integrated research-Extension program. IPM collaborations in research range from systems approach comparisons of IPM vs conventional vs organic production; evaluation of host plant resistance; testing effectiveness of fly traps for animals on pasture; and many more. These efforts are pest or commodity specific but generally not farm size specific.

The mission of the NYS IPM Program is to help develop and deliver pest management tools that pose minimal environmental, economic and human health risks. Various IPM personnel are involved with small group, hands-on, trainings (conventional, organic, Amish and Mennonite groups), grower discussion groups, and IPM workshops. Contact your local Cornell Cooperative Extension association to find out what's happening locally.

The program has numerous publications and web pages that offer timely information on the management of weed, vertebrates, plant disease and insect pests in both agricultural and community settings. For a catalog of print publications call 1-800-635-8356. The IPM web site includes sections on Fruit Crops, Livestock, Field Crops, Nursery and Greenhouse, Landscape and Turfgrass, Field Crops, and Vegetable Crops at: [www.nysipm.cornell.edu](http://www.nysipm.cornell.edu). Individual sections of the NYS IPM website highlight information and activities regarding commodity specific pest management topics [http://nysipm.cornell.edu/reports/ann\\_rpt/20yr/default.asp](http://nysipm.cornell.edu/reports/ann_rpt/20yr/default.asp) .