“The Cornell Cooperative Extension system enables people to improve their lives and communities through partnerships that put experience and research knowledge to work”
Volunteer leadership is a vital force of Cornell Cooperative Extension Fulton & Montgomery Counties. The loyalty and hard work of volunteers greatly expands available programming. Members of the Board of Directors are elected by the enrollees and are responsible for determining our local mission, setting program direction, ensuring adequate resources, and enhancing Cornell Cooperative Extension’s public standing.

**Board of Directors**
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**Association Staff**

Brian Gilchrist, Extension Executive Director

Georgia Dutcher, Administrative Assistant

**4-H Program**

Kyle Yacobucci, 4-H Educator

**Central NY Dairy, Field Crops and Livestock Program**

Kevin Ganoe, Field Crops

David Balbian, Dairy

Ashley McFarland, Livestock

Nicole Tommell, Farm Business Management

**Eastern NY Horticulture Program**

Mike Basedow, Chuck Bornt, Dan Donahue, Ethan Grundberg, Liz Higgins,

Elisabeth Hodgdon, Laura McDermott, Jim Meyers,

Tresa Rusinek, Crystal Stewart-Courtens, Chelsea Truehart, Maire Ullrich,
CORNELL COOPERATIVE EXTENSION IS:

A **partnership** between the federal, state and county governments, Cornell University, and the citizens of New York State.

**Integrated.** A network of professionals includes campus-based faculty and staff, regionally deployed specialists, county-based educators and professional employees.

**Practical.** Programs are designed to solve real life problems, helping to transform and improve communities.

**Locally-rooted.** Citizens are key to identifying and creating programs which serve the needs of communities, businesses and individuals.

**Extensive.** High value educational programs are offered in every county and the 5 boroughs of New York City.

**Research-based.** Educational programs are developed through interpretation and practical application of research conducted at Cornell University.

**Comprehensive.** CCE programming covers five primary mission areas: Agriculture, Community, Environment, Nutrition, Youth and Families.

**An education system which extends Cornell University’s land grant programs to citizens across New York State.**
Cornell Cooperative Extension’s 4-H Youth Development program develops citizenship, leadership, and life skills in youth through hands-on learning. The essential elements of 4-H are the opportunities to experience independence, belonging, generosity, and mastery.

The 4-H youth development program is unique among youth-serving organizations because it combines the strength of a community-based youth organization with the knowledge gleaned from university research to provide positive youth development opportunities.

4-H Youth Development Programs in Fulton & Montgomery Counties are delivered using the traditional 4-H Club Model and special interest programs such as 4-H Shooting Sports, and Tractor Safety.

Over 200 youth are enrolled in 13 4-H Clubs supported by over 200 adult volunteers.
Agriculture & Food Systems: 4-H agriculture programs teach youth how to be engaged food citizens with a greater understanding of the plants and animals that contribute to feeding their communities and the world.

Citizenship & Civic Engagement: 4-H citizenship programs empower young people to be well-informed citizens who are actively engaged in their communities and the world.

Science, Technology, Engineering & Math (STEM): 4-H science programs provide 4-H youth the opportunity to learn about Science, Technology, Engineering & Math through fun, hands-on activities and projects.

Healthy Living: 4-H healthy living programs help 4-H youth learn how to lead lives that balance physical, mental, and emotional health.
The mission of the Master Gardener program is to provide sound, practical, research-based information to the public in residential and consumer horticulture. Master Gardener volunteers complete a certified training course offered by Cornell Cooperative Extension in conjunction with Cornell University Master Gardeners. Volunteers conduct soil and diagnostic clinics, demonstrations, exhibits, lectures, and inquiries from Fulton and Montgomery County residents.

Eighteen dedicated volunteers contributed nearly 900 hours of service including office hours, community presentations, community service projects, leading youth horticulture programs, and answering questions and providing gardening information at the Fonda Fair.
Serving the educational and research needs of the commercial small fruit, vegetable, and tree fruit industries in Albany, Clinton, Columbia, Dutchess, Essex, Fulton, Greene, Montgomery, Orange, Putnam, Rensselaer, Saratoga, Schoharie, Schenectady, Ulster, Warren, and Washington counties.

Serving an Industry with a farm gate value of $182 million

141 Meetings & Trainings

4947 Meeting/Training Attendees

12k+ newsletters & Reports
New Technology in Soil Moisture Sensing

With funding from a Specialty Crop Block Grant and an ENYCHP Challenge Grant, Ethan Grundberg and Chuck Bornt were able to purchase an Irrrometer IrroMesh wireless soil moisture and temperature sensor system. Each node, mounted atop a 10-foot length of conduit, can support up to 3 soil moisture sensors, a soil temperature sensor, and a rain gauge. The nodes then communicate via radio signal to a central base station. When equipped with a cellular modem, the base station can transmit data from up to 12 nodes to the cloud every hour making the data viewable through the web portal shown below. The system is currently deployed in a reduced tillage kabocha squash trial in Orange County. More soil moisture sensing systems will be investigated in 2020 to inform growers of newer technologies for improving irrigation management on the farm.

Entomopathogenic Nematodes (EPN) Expand Bio-Control of Vegetable Pests

Perennial EPN bio-controls have provided control of alfalfa and strawberry root pests and are now being examined to suppress wireworms and Colorado Potato beetles (CPB) in vegetable crops. In collaboration with Cornell Entomologist Elson Shields, ENYCHP specialist Teresa Rusinek and Charles Bornt are using the same plots inoculated with EPNs for the wireworm study in 2017 to monitor for long-term control for Colorado Potato Beetle. EPN’s have been shown to control certain species of white grubs (in particular Japanese Beetle larvae) that have reduced the quality of sweet potatoes and Irish potatoes while a significant reduction in white grub feeding on Daikon radish was anecdotally observed. EPN’s may have the potential to control Seed Corn Maggot in organic and conventional production systems, which would continue to benefit local farmers. To date, nematodes have been applied on eight fruit and vegetable farms throughout Eastern New York. ENYCHP specialists advise growers on raising their own nematodes and on application techniques.

Food Safety Recommendations for Eastern NY Farms

This growing season marked the first official inspections for farms subject to the Produce Safety Rule under the federal Food Safety Modernization Act (FSMA), signed into law by President Obama in 2011. Farms selling fresh produce are required to meet specifications for numerous activities involving growing, harvesting, and storing produce, including worker training, soil amendment application, and irrigation water testing. ENYCHP specialists offered three trainings throughout the region this year, to help growers earn certificates for FSMA compliance on their farms. ENYCHP collaborated with University of Vermont Extension to host a post-harvest workshop, where growers worked on plans to update their wash/pack areas with food safety in mind. Several ENYCHP specialists are now trained to assist the New York State Department of Agriculture and Markets to with On-Farm Readiness Reviews (OFRRs). During OFRRs, farms receive personalized recommendations for improvements for their farm’s food safety, and are excellent opportunities to prepare for upcoming inspections.

Bitter Pit Prediction Helps Increase Producer Profitability

Bitter pit (BP) disorder of Honeycrisp (HC) is financially devastating to NYS apple producers. Estimated per acre losses can range from 1,170-$12,000/acre, a minimum 2.3 million to the NYS industry. Research has produced results with great benefits for NYS HC producers. The 1st is that a plant growth regulator, applied at pink, can reduce BP approximately 50%. 2nd is the development of a BP prediction model based on pre-harvest peel mineral analysis and other horticultural factors, that has the potential to identify blocks with a high BP risk. 3rd is the development of a non-mineral "passive" BP prediction model that is simple to implement, with only a labor commitment and no lab analysis fees. ENYCHP tree fruit educator Dan Donahue has taken a leadership role in the research. The entire state-wide team of research, extension, and industry professionals encourage producer adoption of these new BP management technologies. By reducing the incidence of bitter pit, and providing tools to assist producers and marketers in pre-harvest identification of problem BP blocks, producers will see a significant reduction in storage losses. Our project will result in a direct benefit to the NYS apple industry of at least 1 million dollars annually, perhaps more.
Apple Thinning with Computer Models and New Materials

Thinning the apple crop is one of the most difficult tasks an orchardist undertakes each year, with profound implications on profitability. If too much fruit is left on the tree, labor intensive hand thinning will be required to encourage apples to size. Too heavy a crop will also result in a smaller bloom the following spring. If thinning is too aggressive, total yield could be dramatically reduced.

Ideal crop loads for various combinations of variety, rootstock, and tree age, are difficult to achieve with chemical thinners based on plant hormones. The narrow temperature range where these thinners act predictably make it hard to know how well each application "worked", and if continued thinning is needed. To help make thinning a more precise process, Mike Basedow worked with Champlain Valley orchards to fine tune the process using new models and thinning materials. The pollen tube growth model and the fruit growth rate model, are two predictive tools that help quantify the art of thinning decision-making. Participating growers were happy with their fruit yield and quality at harvest (see photo below), and look forward to adding more precision to their thinning.

Protected Culture Offers Options for Berry Growers

Tunnel production offers growers the opportunity to produce crops under a ‘protected’ environment. High tunnels are used by vegetable farmers to improve crop quality, lengthen the season and manage weather related risk. Now berry growers have access to low and high tunnel information due to research by ENYCHP staff.

A Specialty Crop Research Initiative (SCRI) brought faculty and extension staff from seven states to conduct field research and develop outreach material High Tunnel Production Guide for Raspberries and Blackberries that is now available on the Tunnelberries website. The research focused on analyzing different plastic covering treatments, different pruning and wintering treatments, the use of exclusion netting in a tunnel, and the comparison of berry crop budgets. ENYCH staff are also involved with ongoing research in low tunnel strawberry production and actively assist with research that is being conducted by the Cornell berry faculty team to protect New York state’s $20 million berry industry.

Research Supports the Growing Garlic Industry

Garlic production continues to increase in New York State, and our team plays key role in making successful growth possible. We are currently involved in several grant-funded garlic projects led by Crystal Stewart-Courtsens on disease management and post-harvest handling for long-term storage. The opportunity to partner with UVM Ag Engineer Chris Callahan in an attempt to optimize drying and storing of garlic and other alliums promises exciting synergy. On-farm research is paired with outreach activities including our annual presence at the Hudson Valley Garlic Festival, a bi-annual Garlic School, and intensive workshops at NOFA-NY. This year over 500 garlic growers were supported with new information that helps them improve the quality of their garlic and, by extension, farm profitability.

New Vineyard in Westport Promises to Expand Adoption of Champlain Valley Wines

A recent vineyard planting in Essex County is the largest expansion of grapevines in the Champlain Valley since the creation of the Champlain Valley American Viticultural Area (AVA). Rolling Hills Farm in Westport, NY planted 12,000 vines including six cold hardy cultivars. The new planting covers approximately 20 acres and the farm has long range plans for as many as 100 acres in total. While the creation of the Champlain Valley AVA draws attention of wine consumers, wines are not currently being produced in quantities large enough to export out of the region. Rolling Hills is seeking to change that. ENYCHP worked with Rolling Hills during the planning phase, providing guidance on site evaluation, site preparation, cultural practices, and ongoing operations, including the integration of specialized drones and aerial imagery into farm operations.
Sweet Potatoes Gain Popularity with ENY Growers

CCE ENYCHP has worked with the growing number of sweet potato growers for the past decade. Numbers have increased over seven times to a 2017 Census high of just under 150 growers. This season ENYCHP specialists conducted a variety trial at two different locations with different soil types. The varieties are from across the country and the evaluation will help growers better understand the differences in performance in our colder climate. Another barrier to sweet potato production is acquisition of high-quality slips for planting. A study evaluating sweet potato root propagation using simple heat mats in greenhouses may inspire local growers to try propagation themselves to reduce dependence on southern slip growers.

2019 Collaborators

- NY Apple Research and Development Program
- NYS Dept of Agriculture and Markets
- NE Sustainable Agriculture Research & Education
- NY and NE Integrated Pest Management
- University of Vermont
- New York Farm Viability Institute
- US Dept of Agriculture
- Michigan State University
- Northeast Organic Farmers Association-NY
- National Institute of Food & Agriculture
- NYS Dept of Environmental Conservation
- New York Apple Association
- Northern NY Ag Development Program
- NY Center for Agricultural Medicine & Health
- Cornell Farmworker Program
- Hudson Valley Farm Hub
- NYS Berry Growers Association
- US Dept of Labor
- Grow NYC
- NYS Dept of Labor
- New York State Vegetable Growers Association
- CCE Associations and Regional programs
- New World Foundation
- Cornell Institute on Climate Smart Solutions
- University of Maine
- Louisiana State University
- University of Rhode Island
- Produce Safety Alliance
- Hudson Valley Research Laboratory
- Cornell Agricultural Workforce Development Program
- Cornell Small Farms Program
- Glynwood
- Orange County Vegetable Growers Association

ENYCH Partners with Ag Workforce Development to Improve Farm Management Skills

Liz Higgins and Ethan Grundberg of ENYCH along with partners from Cornell’s Ag Workforce Program, Small Farms Program, the Farmworker Program and the CCE LOFT team, offered management training to over 50 farm owners and managers in NYS as part of a USDA grant. Participants learned communication skills; how to hire, train and motivate employees; and how to improve the work environment to get employees off to a good start. Farm management skill training is particularly timely given the high costs of employees and increasingly tight ag labor market. Participants recommended offering the training annually to farm managers.

2018 OPERATING BUDGET

- **Supporting County Association Shares:** $539,030.00
- **ENYCHP Grants & Funds:** $446,807.00
- **Cornell University Federal Funds:** $186,000.00
- **Harvest New York:** $15,000.00

1 Includes funds from reserve accounts, grants, donations, program revenue, Ag & Markets, money market investment interest, Cornell Dept.
2 USDA National Institute of Food and Agriculture Smith Lever Funds
3 New York State Funds

Cornell Cooperative Extension
Eastern NY Commercial Horticulture Program
In the past year the Central New York Dairy, Livestock and Field Crops Team has conducted 61 meetings on 23 different topics with 1025 people in attendance. This report is a sampling of those activities.

**Success in Succession Planning**

The CNYDLFC team joined forces with the SCNYDLFC team, Pro-Dairy and Farm Net to present programming on succession planning at the farm level covering the human, financial and legal components of successful farm family transition.

**Forage Quality Conferences**

Economically produced high quality home grown forages play an important role in keeping dairy and livestock profitable. These conferences in Hamilton and Johnstown featured world renown silage expert Dr. Limin Kung, Professor & Chair of Animal Science, University of Delaware sharing with local dairy and livestock producers how they can maintain the quality of forage captured at harvest.

**Dairy Margin Coverage Program**

The new farm bill brought about a replacement for the old Margin Protection Program (MPP) called the Dairy Margin Coverage (DMC) program. For the 2019 calendar year participation in the program by dairy producers is a “no brainer” because it’s retroactive to January 1, 2019 and the calculated margins at the $9.50 level of coverage are already known to be greater than the premiums due. Fifty seven people attended informational sessions which were held in cooperation with the local Farm Service Agency (FSA) personnel as they are responsible for implementing the program.

**Central New York Beef Producers**

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**Central New York Beef Producers**

Central N.Y. Beef producers have come together with Cornell Cooperative Extension to put a feeder calf sale on in the spring and fall of each year. The tele-auction has been growing and improving for the past three years. High prices this past sale were $1.46/lb, low prices were $1.01/lb. The sale has set some high standards for participating producers. Producers are required to following strict guidelines set by producers on the Central New York Beef producers committee. Ashley McFarland, CNYDLFC Livestock specialist and Dr. Mike Baker, State Beef Extension specialist have worked heavily with this group to help them succeed.
Dairy reproductive efficiency emphasized in educational programs

It is economically imperative that dairy producers get cows and heifers pregnant in a timely manner to maintain a higher daily milk output per cow. Delayed pregnancy that causes deviations from this norm generally results in higher feed costs with less milk revenue. The 2019 Dairy Day at the Otesaga Resort in Cooperstown and the dairy cattle summer research updates at farms in Schuylerville and Milford provided the latest in research and farm case studies.

Using proper livestock management techniques leads to greater profitability

Producers that vaccinate, properly castrate and ear tag animals are likely to receive a higher price at sale. Meetings held at the CCE of Herkimer, Madison, and Chenango County offices focused on proper management practices such as castration, ear notching, ear tagging, administration of injections, and implanting techniques, along with the proper handling of animals.

Performing a hands-on workshop without the use of live animals allowed for many different types of scenarios. We were able to demonstrate why and how a scenario would affect the animal if done one way verses the proper way. It was a fun learning experience for all in attendance.

Central New York Dairy, Livestock & Field Crops Team serving Chenango, Fulton, Herkimer, Madison, Montgomery, Otsego, Saratoga and Schoharie Counties

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Timothy Cantwell  
(Vice Chairman)  
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Corey Mosher  
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