"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 Washington County. 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.

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**Shared Business Network**

Jim McNaughton, SBN HR Lead  Mike Ryan, SBN Finance Lead  Erik Yeager, SBN IT Lead
CORNELL COOPERATIVE EXTENSION IS:

**An** education system which extends Cornell University’s land grant programs to citizens across 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.
- **Comprehensive.** CCE programming covers five primary mission areas: Agriculture, Community, Environment, Nutrition, Youth and Families.
- **Research-based.** Educational programs are developed through interpretation and practical application of research conducted at Cornell University.

A **partnership** between the federal, state and county governments, Cornell University, and the citizens of New York State.
“4-H is a community of young people across America who are learning leadership, citizenship, and life skills”

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 Washington County are delivered using the traditional 4-H Club Model, special interest programs such as 4-h Shooting Sports, Tractor Safety, Camp Sew For You, and a variety of afterschool enrichment programs.

Over 400 youth are enrolled in almost 50 4-H Clubs supported by over 150 adult volunteers. An additional 500 youth were reached through special interest programs.
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.

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.

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.
4-H Tractor Safety Certification & ATV Safety

National Safe Tractor & Machinery Operation Program & ATV Safety Workshop

Educates youth about:
• Risks of farm related activities
• How to act safely in different farm work settings
• Identifying & correcting farm hazards to prevent injuries and illnesses
• How to obtain safety information about equipment that they may be operating

Youth 14 and 15 years old are required to have a Tractor & Machinery Operation Certificate when employed on farms & other agribusinesses that require operating equipment.

Youth receive a NSTMOP certificate once they pass the written & tractor operation tests.

4-H Shooting Sports

Ready—Aim—Succeed

4-H Shooting Sports is open to all youth ages 12-18 who are interested in firearm safety and environmental conservation. The program features demonstrations, hands-on activities, and range time over 6—8 week period. Disciplines include Air Rifle/Pistol, Archery, Rifle, Shotgun, Muzzleloader plus Hunter Education & Bowhunter Certifications.
Financial Management Education

CCE Washington County provides financial management to the community that will enhance their lives. Topics include, financial needs and wants, financial goals, spending plans, tracking expenses, and credit and debt.

We partner with Washington County Felony Drug Treatment Court and offer Phase 1 participants, 3 hours of Financial Management life skills education. In addition, CCE- Washington County also provides One-to-One Financial Coaching to community members who request the program. Clients of Washington County’s Departments of Social Services, Child Protective Services, and Adult Protective Services have been referred to the program. The Economic Opportunity Council also, has requested general financial presentations to a number of their programs.

I have received many positive quotes regarding the Financial Management Programs I have provided participants in all of the Financial Management programs. In the Drug Court program, evaluation of the program is done at the end of the 3 hour program, as well as a long term evaluation, done 4-6 months following the program.

Here is what participants are saying:

“I learned that there are many things that I buy, that I don’t need.”

“I know (now) that I should check my credit reports from each of the 3 credit bureaus.”

“I have started to save money!”

“Tracking was a pain, but it taught me what I spend money on, and how much I spend on things I don’t have to have.”

“Thank you for helping me make a budget that has me paying my bills on time.”

“Through the One-to-One Financial Coaching program, we were able to keep our home.” (This couple was on the verge of losing their home because of financial concerns.)

Parenting Education

The goals of our Community Parent Education series is to assist and empower parents to create and sustain a healthy, non violent parenting relationship with their children. Our foundation is rooted in the fundamental belief that all kids are worth it and the it is young people who can think for themselves and feel a strong sense that they are loved, respected, listened to, and are responsible and capable.

The goal of our Parents Apart series is to help parents understand the absolute need to keep their children from the center of adult conflict. Utilizing a NYS approved parent education curriculum developed at PACE University we spend six hours walking with parents through modules designed to create awareness, develop healthy communication skills with their children and former partner, promote healthy parenting goals and outcomes and parental conflict resolution.
Dear, Kathy

I’m writing you this letter to thank you so much for teaching the parenting class. I took so much of what you said to heart and practiced it daily. It’s not easy for a parent to admit they need help, I didn’t at first, it was actually Melanie’s idea. I am now very happy she did. The thing I learned that stands out is the difference between discipline and punishment, that our children should learn something when being disciplined for misbehaving and or not listening. The stories you shared really touched me, you even brought me to tears with one of them. You have changed the way I parent, think and feel for the better. I’m working on listening more and yelling less. What you do with your class is amazing and inspiring and I’m grateful that I got a chance to be apart of both of them. Keep making us better parents so we raise better human beings and in turn teach our children how to do the same.

Love, Carolice
Ag and Food Systems Education
Engaging youth & communities in their ag and food systems

**INCREASED KNOWLEDGE AND INSIGHTS**
Into the County’s ag and food systems

**A MORE SKILLED AND BETTER PREPARED WORKFORCE**
for jobs on area farms and in local ag enterprises

**EDUCATED CONSUMERS**
Able to make well-informed food choices

**SCHOOL-BASED AGRICULTURE EDUCATION**

*Goal: Educate students on agriculture and strengthen their connection to the agriculture present in their community.*

- All students would experience hands-on activities designed to cultivate their knowledge and interest in agriculture to be future informed consumers.
- Agriculture is integrated into local school curriculum and meets Common Core standards.
- Youth learn how the food they eat and the fibers they wear get from farm to table/closet.

**EXPERIENTIAL LEARNING**

*Goal: Through hands-on opportunities youth and adults learn about working farms and food businesses*

- Offer or partner with existing programs to coordinate internships in agriculture, food systems and nutrition education for students.
- Working with Master Gardeners and other initiatives, youth learn how to grow and prepare their own food.
- Youth learn for themselves, and teach others, about the relationship between food, health, their community, and the environment.

**JOBS AND THE ECONOMY - WORKFORCE DEVELOPMENT PROGRAMS**

*Goal: Help youth and adult learners develop the skills and knowledge they need to build sustainable local food systems.*

- Youth and adults work together to grow vegetables for donation to local food pantries and for sale throughout the county in partnership with food community leaders. Workshops and discussions about nutrition, sustainable agriculture, food systems, leadership, diversity and service are also an integral part of the program.
- By exposing students to a diverse array of nutritious and flavorful foods, and by bringing awareness to growing their own food and farming’s environmental benefits, students will be encouraged to make healthy choices for their bodies and for their communities.

**15**
Seasonal lessons were created to be delivered to grades K-4

**Nearly 4,000**
Youth received Ag & Food System Education Programming in school

**6**
Schools gardens planted and maintained
MARKETING ASSISTANCE WORKSHOPS

CCE Washington County hosted a series of marketing workshops designed to assist the region’s farmers and food producers to have a stronger presence in the marketplace and sell more product. The series included six workshops that were free and open to the public. They were held at the Washington County Fairgrounds and attracted on average 12-15 people per two-hour session. Staff members, Jessica Ziehm and Rebecca Breese, organized the workshops and served as presenters, and also invited guest speakers and a panel of peers to weigh in and provide additional insight. Topics that were covered: social media, farm tours, storytelling, online sales, and becoming retail ready.

The goal of these marketing workshops was to help small business owners become more efficient and effective in their marketing efforts and give them the confidence and skill set to be more successful. Overall response from participants was positive. While some producers attended several workshops, others only attended the topic of their liking. Feedback from the series include, “Both speakers were very knowledgeable and answered all questions thoroughly.” Another participant noted “I enjoyed meeting people I can network with.”

The series attracted farmers from all sectors of agriculture, some from outside the county, as well as some non-agricultural business owners. The success of these workshops and the positive response received has encouraged CCE to offer a similar series again in 2020.

AG CENSUS

In March, CCE Washington County shared the extensive collection of data and statistics presented in the 2017 U.S. Census of Agriculture. The Census is the only source of uniform, comprehensive and impartial data for agriculture, and CCE recognized the importance of not only sharing the survey results, but to package them in a way that was easy for the public to understand and acknowledge the significant role agriculture plays in Washington County.

In doing so, CCE staff educated the public about the top ten trends and notable statistics contained within the Census of Agriculture. In addition to social media posts, articles were also written for local papers highlighting Washington County agriculture.
2019 Annual Report

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
Program Highlights

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 Irrometer 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.

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-Courtens 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.
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.

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.

2018 OPERATING BUDGET
Supporting County Association Shares: $539,030.00
ENYCHP Grants & Funds¹: $446,807.00
Cornell University Federal Funds²: $186,000.00
Harvest New York³: $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

2019 Collaborators
NY Apple Research and Development Program
NY 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
NY 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
NY 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

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Cornell Cooperative Extension
Eastern NY Commercial Horticulture Program
The Capital Area Agricultural and Horticultural Program (CAAHP) Regional Agriculture/Horticulture Team

The Capital Area Agricultural and Horticultural Program (CAAHP) provides education through workshops, newsletters and consultations, utilizing traditional and electronic means to:

- Improve business profitability and performance
- Assist producers in attaining goals for a better quality of life in their business and work environment
- Guide and support environmental stewardship
- Support growers in developing markets for their agricultural products

162
Certified applicators attended Pesticide Recertification Day

15
Farm women attended the Annie’s Project workshop series

115
Farmers attended the Winter Green-Up 2019 Conference

1,735
Subscribers received the weekly CAAHP E-Newsletter

23
Beef farmers attended the 2019 Beef Quality Assurance

100
Producers attended the Growing Industrial Hemp meeting