

# Cornell Cooperative Extension Eastern NY Commercial Horticulture Program

## QUARTERLY HIGHLIGHTS

JANUARY—MARCH 2019

### Second Annual Eastern NY Fruit & Vegetable Conference

**Charles Bornt**

From February 19 through the 21st, 2019, over 300 growers, 62 companies, 15 CCE Eastern NY Commercial Horticulture Program staff, and 46 guest speakers descended upon the Desmond Hotel and Conference Center for the 2nd annual Eastern NY Fruit & Vegetable Conference. The conference showcased multiple concurrent sessions including tree fruit, small fruit, business management, vegetables, fertility, CSA marketing, irrigation, and grapes. Highlights of the conference included a presentation by CCE Director Dr. Chris Watkins on today's Cornell Cooperative Extension, and nationally renowned marketing specialist Dr. Tim Woods from the University of Kentucky discussing the changing trends in marketing and consumer preferences. Many other Cornell faculty members as well as growers and experts from Connecticut, New Hersey and Massachusetts presented information in sessions. The conference was further highlighted by a growing trade show with 62 companies representing products such as seeds, fertilizers, equipment, and so much more. Feedback from the grower attendees and vendors

has been resoundingly positive for this conference.



Attendees visit with trade show vendors during conference breaks.

### 2019 Fruit & Vegetable Conference

**February 19-21, 2019**

**The Desmond Hotel & Conference Center  
Albany, NY**

Our successful three-day conference consisted of:

- ◆ **328 attendees on day one**
- ◆ **188 attendees on day two**
- ◆ **78 attendees on day three**
- ◆ **62 vendor companies**
- ◆ **55 sessions**
- ◆ **46 guest speakers**

Participant evaluation comments:

*"This has been the best disease programming in a long time, especially regarding less common pathogens."*

*"What I learned was of a grand nature; the specific applicability of which will be up to my own creativity."*

*"This is an excellent meeting with very important info exchange."*

## High Tunnel Research to Support Winter Production

**Ethan Grundberg**

The rise in demand for year-round supply of local produce has led many vegetable growers in Eastern New York to invest in season extension infrastructure. While Amy Ivy and Teresa Rusinek have collaborated with Jud Reid from the Cornell Vegetable Program to research high tunnel fertility demands and best practices for summer tomato production, little work has been done to better understand nutrient demands and cycling in tunnels for winter grown greens.

With financial support from Northeast Sustainable Agriculture Research and Education (NE SARE) Partnership Grant, Ethan Grundberg collaborated with the Poughkeepsie Farm Project to study nitrogen availability and uptake in winter grown spinach, kale, and salad mix. Specifically, Grundberg was interested in the role that temperature plays in nutrient cycling in winter production and the economics of minimal supplemental heating in high tunnels. The Poughkeepsie Farm Project has identical side-by-side high tunnels with propane heaters, so the thermostat of one tunnel was set to 33 degrees and the other to 40 from November through March. Grundberg took soil nitrate samples from each tunnel weekly and submitted tissue samples from the crops every other week to assess nutrient uptake. Grundberg also tracked propane use in each tunnel while the farm crew tracked yield from research plots in the tunnels. While the data analysis is not yet complete, it does appear as if the added cost (2.14 times more propane was used to heat to 40 degrees than to heat to 33) of higher heating could be economically beneficial to winter lettuce growers. However, the additional yield measured in spinach and kale was not enough to offset the additional heating expense.

Amy Ivy investigated the question of nitrogen uptake and yield impacts from using different fertilizers for winter grown spinach at the Willsboro Research Farm. With funding from the Northern New York Agricultural Development Program, Ivy tracked the yield and nutrient content of plant foliage in plots fertilized with urea, bloodmeal, and alfalfa meal over the winter in an unheated high tunnel. Again, the data analysis is not yet complete, but the initial findings show almost no measurable difference in nitrogen uptake or yield across treatments, including the unfertilized control. These two research projects highlight the need for further investigation of fertility needs and management in winter high tunnels; the data generated through this work will be used as the basis for a proposal for multi-year state-wide funding to continue developing best management practices for winter high tunnel producers. ■



## Produce Auction Meetings Draw Crowds Despite Inclement Weather

**Crystal Stewart**

Our team supported two Mohawk Valley Produce Auction grower meetings in Montgomery County during this past quarter, with over 80 growers braving the weather to learn about the latest variety information, disease management strategies, and cultural information. During one meeting, Chuck Bornt shared information about his pumpkin variety trial, which is a favorite topic of the farmers who sell to the annual pumpkin auction. Laura McDermott and Crystal Stewart spoke at the second meeting, with Laura covering hot berry topics for 2019 and Crystal providing a 2019 disease outlook. Growers have been following up with questions, requests for farm visits, and requests to subscribe to the newsletters! ■

## Technology Prevails in US Strawberry

### Production

**Laura McDermott**

In early February Laura McDermott presented information at the 2019 North American Strawberry Growers Conference held in Orlando, Florida which was focused on technology in strawberry production.



The most exciting automation innovations are in the area of harvest assistance technology, but beyond harvest automation, robots and information technology will help automate pest scouting and disease detection. Drones can deliver pest predators to detected hot spots and high-resolution imagery can help with yield modeling and target fertilizer applications.

Novel plant disease management techniques were highlighted throughout the conference. Dr. David Gadoury of Cornell (see photo) discussed work on controlling strawberry pathogens using UV light treatments. Steam treatments for plants, pallets, and other equipment are being introduced onto commercial farms and nurseries.

Our work alongside Dr. Elson Shiels at Cornell using native entomopathogenic nematodes to control strawberry root weevils on NY farms was very well received. ■

## Introduction of the ‘Virtual Advisory Committee’

**Daniel J. Donahue**

CCE-ENYCHP team members Mike Basedow, Sarah Elone and Dan Donahue developed a “Virtual Advisory Committee” format with the objective of being inclusive, providing useful program direction to the tree fruit extension program while at the same time requiring a minimal amount of producer effort, and zero travel/meeting time. A secondary objective was to provide our ENYCHP members with a summary report of our previous year’s programming.

We implemented our “Virtual Advisory Committee” (VAC) survey during February and March of 2019. The Qualtrics on-line survey consisted of two initial questions to define the respondents location and role in the tree fruit industry, followed by a bulleted two page program activity report tailored to the northern and southern Eastern New York subregions. The respondent was then asked to answer seven additional multiple-choice questions on subjects such as program delivery technology, and the prioritization of educational and applied research topics. Thirty-two respondents started the survey, and twenty-one stayed with it to completion. The participation rate exceeded our past experience with physical meetings. Most surveys were completed within 15 minutes. We learned from the responses that E-Alert email messages and the more formal monthly *Tree Fruit News* newsletter were very popular, and there is also substantial interest in future instructional videos and podcasts. Our stakeholders are very pleased with the winter ENYCHP Fruit & Vegetable Conference held in Albany. The most popular educational and research priorities were integrated pest management (IPM), farm labor, new varieties, and tree fruit mineral nutrition. Our plan is to repeat the VAC next year with a goal of fifty completed responses. ■

## New Farm Management Master Class—2 Day Intensive Program

**Elizabeth Higgins**

Farmers in Eastern New York report a dual labor squeeze—labor is one of their highest costs, but is also increasingly hard to come by. These two dynamics are causing many farms, including long-term established growers, to look at managing labor in the same way that they approach managing other farm resources—by intentionally using management research, tools from other business sectors, and training opportunities.

For the past two years Liz Higgins has been working to bring some of these resources to farms in our region. In partnership with the Cornell Ag Workforce Development Program, Liz offered a 2 day advanced program on HR management “Effective Management of Farm Employees New Farm Management Master Class” for 50 farm owners and farm managers in New York. The program was so popular we had to turn people away, but plan to offer it again in the fall of 2019.

What makes this work different than other recent Cornell programs on HR? First—we are focusing on fruit and vegetable production. Much of the past work in this area has been focused on the Dairy



Ag Labor Management Master Class in Hyde Park, NY on March 5-6 (above)

industry, partly because it tends to have a more stable workforce, with hierarchical management structures and lots of Immigration and OSHA oversight, and partly because its dairy and we work for Cornell.

Second—we are not emphasizing legal compliance issues. These are important, but complying with the law, while a necessary condition for a good workplace, does not make you a great or effective manager of people. The trainings we have been offering emphasize effective communications, characteristics of a good manager, providing clear job directions and job expectations and motivational techniques. These are the critical components to create a work environment that attracts and retains employees. ■

# Development of E-Alerts Customized for Individual Farms

**James Meyers**

ENYCHP Specialists use ‘E-Alerts’ to deliver timely information to growers. Typically delivered in the form of an email, these alerts allow specialists to provide information that most relevant to the current moment in time and not appropriate for newsletters which are delivered less frequently and on less flexible schedules.

Grape E-Alerts always include spatial maps with seasonal weather data intended to help farmers place the current season in context with previous seasons. For example, a map of accumulated growing degree days (GDDs) year-to-date across Eastern New York and a map of the differences in GDD accumulation compared to the previous season, offer some insight into current conditions and decision making.

For 2019, I have developed a version of E-Alert that is customized for the specific location of each farm. These alerts provide hyper-local spatial weather maps and extended historical context (e.g. multiple year comparisons of year-to-date accumulated GDDs, precipitation, damaging winter low temperature, etc.) It is hoped that these custom E-Alerts, currently derived from weather data available through Cornell’s Northeast Regional Climate Center (NRCC) and Cornell’s Network for Environment and Weather Applications (NEWA), will enhance grower communication by expanding on time-sensitive communications with detailed location-sensitive context.

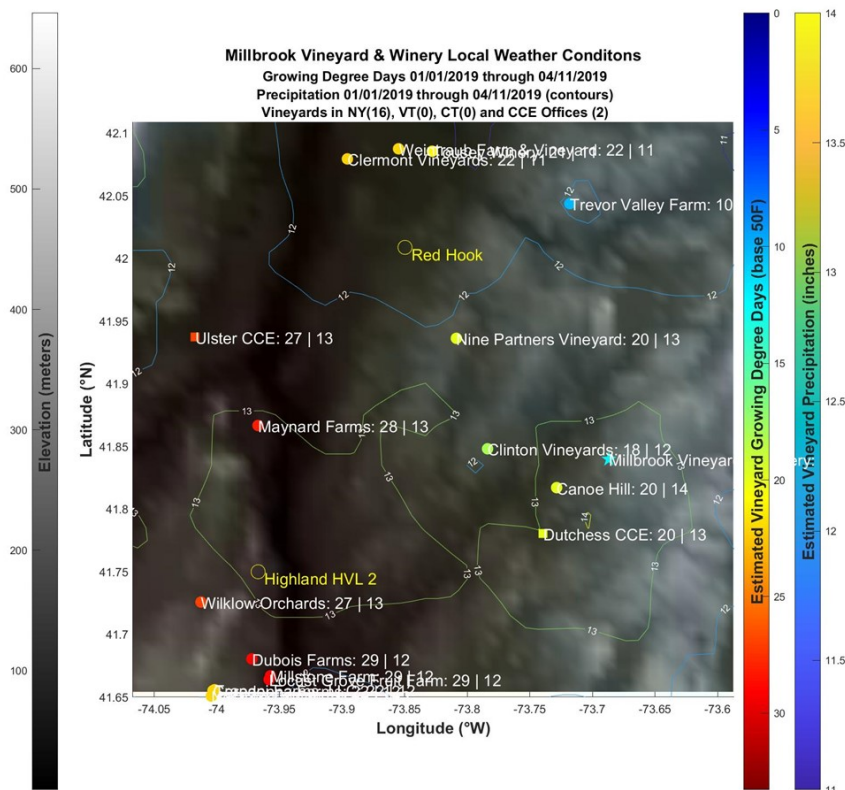


Figure 1 – Example of a customized weather map for Millbrook Vineyard, indicating accumulated year-to-date GDDs and accumulated precipitation, while also providing comparative data of nearby farms in the context of each farm’s latitude, longitude, and elevation. Locations of nearest NEWA weather stations are also indicated to assist in choosing the best station for use in grape pest forecasting.

# Online Learning Opportunities for New Fruit Growers

**Michael Basedow**

This winter we conducted seven online fruit production webinars for new fruit growers. Classes were held online via Zoom webinar on Wednesday evenings from Mid-January through late February. Approximately 40 enrolled and engaged students attended. These students learned the basics of fruit growing, along with business planning; site selection and preparation; fruit varieties and rootstocks; training systems, pruning, and thinning; pest management; and harvest management.

In addition to lectures by Mike Basedow and Anna Wallis, we were

also joined by guest lecturers including Dr. Terry Bradshaw of the University of Vermont, and Dr. Lailiang Cheng and

Craig Kahlke of Cornell University and the Lake Ontario Fruit team. Several fruit growers from the Eastern NY region also joined us to serve as case study orchards to share their experiences with the students. Several students from the course are starting or are planning to start orchards in New York.

After the completion of the course, many students expressed interest in having additional programs hosted online, and we were also receiving interest from other individuals in Eastern NY in pruning old, abandoned orchards. To serve these needs, we hosted an evening online pruning workshop, focusing closely on how to restore neglected trees. The advertisement was shared with county ag/horticulture educators and master gardener coordinators throughout the 17 county Eastern NY region and was attended by 29 individuals. The group was comprised of students from the beginner’s tree fruit course, other beginning fruit growers around the region, and interested private landowners.

The live webinar was recorded and hosted on Cornell’s Video on Demand (VOD) system. The link is publicly available and searchable within the video on demand website and has been watched 23 times since the end of March. We plan to continue hosting online webinars and recording them to provide flexibility for our busy learners and allow more people in our region to receive the educational content they are seeking, regardless of the weather.

## Translating Reporting Numbers to Value

### ENYCH Team

County CCE Associations are key partners in the success of Cornell Regional Teams and the ENYCH Program is no exception. We know that the county funding you provide to support the work of the team could be used in a lot of different ways and, in most cases, you have worked very hard to get and keep that funding stream. So what do you get for your allocation to ENYCH?

If ENYCH did not exist, much of the service that we provide to growers through direct contacts—calls, emails, and on-farm visits—would either (a) not be addressed or (b) farmers would seek those services in the private market. In addition to direct contacts we offer highly subsidized trainings and programs for farmers. On average, we charge \$20 or less for our programs. By comparison, most adult education (non-degree) classes and workshops at community colleges are at least \$100. Private trainings are significantly more expensive.

So what is this assistance worth? Liz Higgins calculated that this quarter ENYCHP assistance was worth almost \$300,000! A conservative \$85/hr consultant rate was assumed. This is based on an external market-rate consulting services if CCE ENYCH regional team staff were not available. Also assumed was an average education program subsidy of \$50/farm—which is probably low. The county contributions help to keep these services affordable for farmers in Eastern NY.

It is also important to note that very few fruit and vegetable private consultants are available in our region with the depth of knowledge, training and resources that CCE provides. In fact, CCE (and the land grant extension system) provides the underlying basic data and information used by most other organizations that work with farmers. In addition, CCE regional team

educators also do research, write newsletters, present at conferences and meetings, and provide expertise to local, state and federal agencies and non-profit organizations. ■

### January—March 2019 (Q2) CCE ENYCHP Outreach Statistics

Individual Contacts	Number of farm contacts	Number of farmer hours	Value at \$85/hr
Emails (1 hr)	307	307	\$26,095
Phone calls (1 hr)	352	352	\$29,920
Farm visits (4 hrs)	156	624	\$53,040
Training Programs	Number of farmer attendees	Subsidy per attendee	Subsidized training value
# of farmers attending (79 programs)	3808	\$50	\$190,400
<b>Total Market Value of Direct Farmer Services (Q2)</b>			<b>\$299,455</b>
<b>County Association Contribution (Q2)</b>			<b>\$134,758</b>



## Winter Growing Woes: The Importance of diagnostics

### Teresa Rusinek

High tunnels are utilized by vegetable growers throughout Eastern NY to overwinter or grow crops for late winter/ early spring harvest. A number of production issues may “crop up” during this time. ENYCHP specialists strive to provide growers with information early on to avoid crop loss; however, farm visits are often necessary to diagnose problems and help growers take adequate management steps. As an example, Teresa Rusinek assisted an Ulster County Farmer growing winter spinach in high tunnels to diagnose Cucumber Mosaic Virus (CMV). There are other types of virus that can affect spinach. Some of these viral pathogens spread mechanically while others such as CMV are vectored by insects. Rusinek collected samples of the suspect leaves and sent them to Cornell virologist Marc Fuchs for confirmation. The grower was able to contain the outbreak by controlling the aphid insect. ■

## Moving Forward with Food Safety and Modernization Act (FSMA) Training Efforts

**Elisabeth Hodgdon**

I joined the Eastern New York Commercial Horticulture Program team in January. As part of my new role, I will be taking the lead in coordinating our team's food safety training efforts. In February, I had the pleasure of taking the Produce Safety Alliance's "train-the-trainer" two day course in Owensboro, Kentucky at the Daviess County Cooperative Extension office, led by Don Stoeckel and Donna Pahl Clements. Don and Donna were excellent trainers, and the energy and passion they have for food safety is contagious. We learned about all aspects of the Produce Safety Rule, including proper hand washing techniques, safe manure application protocols, and using sanitizers in wash water.

As a certified "trainer," I am now able to teach the FSMA course that is required by growers subject to the Produce Safety Rule. My goal at the end of the year is to

become a "lead trainer," which involves an additional exam and review of qualifications and teaching records, so that I can oversee grower courses. Back in March, I taught my first module at Harvest New York's FSMA grower course in Franklin County. I'm looking forward to gaining more experience teaching at our team's upcoming two courses this April in Acra, and in Warrensburg in July. Every time I attend a grower course, I learn something new from the teaching styles of other trainers, as well as the experiences of growers in making innovative changes on their farms to meet regulatory requirements.



New trainers at the Produce Safety Alliance's "Train-the-Trainer" course in February in Owensboro, KY (I am third from the left in the front row). Photo courtesy of the Produce Safety Alliance



*The Eastern NY Commercial Horticulture Program is a Cornell Cooperative Extension partnership between Cornell University and the CCE associations in Albany, Clinton, Columbia, Dutchess, Essex, Fulton, Greene, Orange, Montgomery, Putnam, Rensselaer, Saratoga, Schenectady, Schoharie, Ulster, Warren, & Washington.*