



Fall Statistics

888 Farm Visits

635 Client E-mails

546 Phone Consults

48 Newsletters/E-alerts received by 27,410 total producers

25 Field Meetings, Trainings & Workshops

18547 Producers in Attendance

16 Webinars with 1113 Producer Participants

ENYCHP Fully Staffed!



The Eastern NY Commercial Horticultural program welcomed two new regional specialists to our area during the past quarter. Elizabeth (Liz) Higgins joined the team in early September and Ethan Grundberg began work in the lower Hudson Valley in early August.

Liz Higgins started her career in agriculture in policy analysis in Washington, DC. One of her assignments was as special assistant to the Administrator of USDA-AMS on the Final Rule of the National Organic Program. Liz has experience in rural economic and community development as the director of the Center for Rural Development at Louisiana Tech University and most recently worked with Cornell Cooperative Extension in both Ulster and Sullivan Counties as a program leader in Nutrition and Consumer Programs, Watershed Management and Agriculture and Natural Resources. Liz will be providing research and extension support to growers in Eastern New York in farm business management, business planning and risk management and agricultural economics. Liz is looking forward to working with eastern NY growers on a wide variety of projects. She can be reached at emh56@cornell.edu or 845-691-7151.



Ethan Grundberg grew up in eastern Iowa. After graduating from college he spent a year working in the northern coffee-growing region of Nicaragua where he honed his Spanish. He then moved to NYC to provide a community garden network with horticultural support. Ethan returned to academia to pursue his Master's Degree at the University of California, Davis specializing in agroecology and vegetable production. While there, he managed some of the university's certified organic research land and provided instruction in safe equipment use to student employees. Upon graduation, Ethan returned east to work for the New Entry Sustainable Farming Project. Most recently, Ethan worked as the farm manager at Allandale Farm, a 40 acre diversified vegetable farm in eastern Massachusetts that sold produce through a 400 member CSA, a roadside stand, and restaurants in the Boston area. He, his wife, and their three-year-old son are excited to call the Hudson Valley their new home. Ethan will be based out of the CCE Orange County office in Middletown. Don't hesitate to reach out to him at eg572@cornell.edu or 845-344-1234 with any questions!

Cornell University Tomato Trial at the Hudson Valley Farm Hub

Teresa Rusinek, ENYCHP

This was a field test of new hybrid lines developed for commercial release by Dr. Mutschler of Cornell University. These lines have been bred for resistance to Late blight, Early Blight and Septoria Leaf Spot. Dr. Mutschler's new hybrid crosses were screened to eliminate undesirable traits such as radial cracking and small fruit size. This is the second year we are running this trial at the Hudson Valley Farm Hub in Kingston. Field trials at the Hub and other locations (Freeville, Riverhead) allow us to evaluate disease resistance levels, overall fruit quality and yields as well as to select superior lines.

On August 31, 2016 growers from around the Hudson Valley region gathered at the Farm Hub to see how the varieties performed this growing season. Dr. Margaret McGrath from the Cornell Long Island Research Lab in Riverhead and Teresa Rusinek led groups through the trial and answered questions. Afterwards, growers enjoyed a tomato tasting that featured several new Brandywine Hybrids with disease resistance developed by Dr. Mutschler.



L to R: Meg McGrath addresses program participants during tomato variety tasting. Teresa Rusinek takes questions in the field.

CCE ENYCHP Cooperation with Beginning Farmer Training Program is Increasing

Crystal Stewart, ENYCHP

This season (first and second quarters) our team contracted to teach 120 hours of educational programming at the Hudson Valley Farm Hub, taught workshops for Stone Barns, Glynwood, Grow NYC and reached out to the Essex Farm. These relationships allow us to reach farmers at the beginning of their careers, providing research-based information and also solidifying Cooperative Extension as a trusted source of advice.

Special training for statewide NRCS service providers

Crystal was asked to host over 50 NRCS service providers from across NY in Schoharie County this quarter to help them understand how vegetable farms can create Tier-Two management plans.

These management plans, along with GAPS certification, will allow growers to qualify for promotion through a new state program highlighting the quality of New York farms as safe and environmentally



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Photos courtesy of the Hudson Valley Farm Hub

friendly. With this training, more NRCS members will reach out to vegetable and fruit growers, two traditionally underserved sectors of agriculture for NRCS because of their relatively small potential for negative environmental impact compared to animal agriculture.

Root Crop Trial, year two: In September we held the second annual root crop trial meeting at the Hudson Valley Farm Hub in Kinston. Approximately 50 growers attended this meeting and were able to see yield data and sample all 16 varieties of carrots and 13 varieties of beets. This information will be shared along with yield data at the Empire State Expo and our local winter meetings.

Post Harvest Management: Blueberry Trial

Annie Mills, ENYCHP Technician

This summer CCE educator Laura McDermott and I completed a preliminary trial for post-harvest management of blueberries. With the help of Samascott Orchards and Love Apple Farm in Columbia County and Stanton's Feura Farm in Albany County, we were able to test two different products for on-farm modified atmosphere packaging of blueberries. Modified atmosphere packaging is designed to help reduce the respiration that occurs within the fruit, thus slowing its degradation process and lengthening the life as marketable fruit. We are hoping that packaging like this can aid farmers in extending the season for their fresh berries, therefore allowing them to sell more fruit.

The two modified atmosphere packaging products we tested were plastic bags, each large enough to hold one flat of berries. One bag was a heat sealed bag, donated by Multisorb Technologies and the other was a zip lock type bag, donated by ViewFresh. At each farm we tested one flat of blueberries in each bag and left a third flat untreated. All three flats were stored in cooler for roughly 4 weeks at the farm where they were picked. After four weeks, we evaluated the blueberries on each farm for fruit quality and marketability. Since the storage conditions on each farm varied, our comparisons were made mostly between each treatment at the farms, rather than between the farms themselves. During this preliminary trial, we evaluated qualities of the fruit such as weight change of each flat of blueberries, visual appearance (shrink, moldiness), taste, disease, SWD oviposition, and brix.

There was little discernable difference between berry conditions of each modified atmosphere packaging product, but overall, berries in the bags rated better than non-packaged berries in most categories. For example, at first glance and under the microscope, the berries in the bags showed far less disease such as botrytis and anthracnose. This indicates that the potentials of modified atmosphere packaging. During the winter we hope to communicate with growers about how to further test products intended for post-harvest use and develop a larger trial that will determine the practicality of these products.



Field technician Annie Mills sealing one of the modified atmosphere packaging bags with one of the cooperating growers.

Projects at the Cornell Willsboro Research Farm!

Amy Ivy, ENYCHP

The Cornell Willsboro Research Farm is part of the Cornell Agricultural Experiment station, located in Essex County. Members of our team work in collaboration with the farm to run various trials. The winter hardy wine grape trial is in its tenth year and we have been running various high tunnel and field trials there for over 8 years with farm manager, Michael Davis.

Our summer projects wrapped up in September and we will be analyzing the data this fall. This year in the high tunnel we ran a pruning and training trial on cherry tomatoes using 3 different systems. To evaluate efficacy, we tracked the time spent and yields of each system. We also ran a cherry tomato variety trial comparing some popular varieties that are prone to leaf mold to leaf mold resistant varieties, using 5 varieties in total. Both trials were harvested 3 times a week from July 13 to September 10.

In addition to the tomato projects we had a smaller demonstration trial of peppers and eggplants in the tunnel. We grew a common field variety and one of the newer, specialized varieties of each crop to see if there was a difference in performance. We have submitted a grant proposal based on this experience to further study the pepper varieties next year.

The Willsboro Farm is unique in that it has both clay loam and sandy loam soils. We planted the same summer cover crop demonstration in both soil types then held grower field meetings in July, August and September for growers to see the performance and differences of each crop in the different soils. We also grew individual crops in long 4" diameter PVC pipes and then opened them at the grower meeting to see the remarkable differences in root growth and structure between the various crops.



Above: Amy Ivy harvesting the cherry tomato pruning and training trial in late August. Photo by E. Morton



Left to right: cowpea, teff, sorghum-sudangrass 6 weeks after planting. Although the teff has little top growth, its fine roots also reached the bottom of the tube.

Farmers Market Pricing Updates

Jesse Strzok, ENYCHP

My Average Weekly Farmers' Market Prices has finally come to an end after collecting and analyzing data during the 2nd and 3rd quarters, with collection help from CALS intern Lindsey McMahon and others from regional teams.

Perhaps some of you saw the average farmers market prices of different commodities available each week. How was this information we collected and analyzed useful to us (you, me, and the farmers)? Most notably, this information was not available anywhere else – the USDA collects and provides key wholesale and retail data, but not for farmers' markets in our region (yes, it is available in certain areas - <https://www.ams.usda.gov/market-news/local-regional-food>). Our data could be directly used to price commodities in real-time, but also to find trends, new markets, make forecasts and update enterprise budgets allowing for better business decisions.

During Ag In-Service we will be presenting on this topic to faculty and extension educators state-wide. To see these weekly updates please visit our ENYCH website or send me an email – js3234@cornell.edu

2016 Fire Blight Outreach & Education in the Champlain Valley

Anna Wallis, ENYCHP

Third
Quarter
Report
2016

Executive Summary: A ‘perfect storm’ of weather events this spring caused an epidemic of this bacterial disease in the Champlain Valley. While it has previously been reported in this region, in most seasons conditions are not conducive to infection, and growers have virtually zero experience managing it. Extension responded with farm visits to diagnose disease, e-Alert notices detailing management strategies, consulting with experts and individual farmers to provide recommendations, a fire blight workshop in early August to provide an overview of the circumstances and management strategies.

Issues/Needs and Audiences: Fire blight, caused by the bacterial pathogen *Erwinia amylovora*, is one of the most destructive diseases of apple trees and most intensively managed pests for the apple industry worldwide. Historically, apple growers in the Champlain Valley have only managed this disease in isolated blocks in only a few seasons, but in the 2016 growing season, a ‘perfect storm’ of weather events (most notably a warm bloom period) led to extensive infections in nearly every major orchard in the region. Fire blight can spread rapidly in through an orchard and between orchard blocks, carried by rain, insect vectors, and cultural practices (sprays and pruning), and has the potential to kill many trees in a very short period. With relatively no experience in managing this disease, growers needed immediate support making management decisions to control the pathogen and save trees.

Extension Responses: Extension responded immediately through multiple outlets. Numerous farm visits including many repeat visits, were made to diagnose disease and follow up with management recommendations. Extension specialist, Anna Wallis, consulted with experts and specialists at Cornell University, the Hudson Valley Research Lab, other academic institutions, farmers, consultants, and other industry members to determine the best management strategies for both the general region and for specific farms. Detailed management recommendations were provided through ‘e-Alert notices’, a previously established outreach publication. E-alerts are email notices that are sent to enrollees of the ENYCHP tree fruit program 1-2 times weekly throughout the growing season to address relevant orchard management information (pest management, weather, pruning, etc). In addition, a Fire Blight Workshop was held in Plattsburgh in the first week of August to provide an overview of the circumstances and management strategies.

Accomplishments and Impacts:

Over 20 site visits (including repeat visits) were made to provide diagnostic and management recommendations, each with follow-up emails and/or phone calls. At least 10 growers received site specific recommendations. Numerous plant samples (385 total statewide, predominantly from Wayne, Clinton, Orleans, Monroe Counties) were sent to Dr. Kerik Cox, Associate Professor of Plant Pathology and Plant-Microbe Biology at Cornell University, for diagnosis and antibiotic resistance testing. No resistant strains were found. At least 15 e-Alerts were produced throughout the growing season containing updates and recommendations. 35 participants attended a Fire Blight Workshop held on August 2nd in Plattsburgh NY, at which Dr. Srdjan Acimovic, pathologist at the Hudson Valley Research Lab, provided a detailed overview of season conditions and management recommendations. Several new research experiments were established on commercial farms and at the HVRL. Extension specialists and faculty are currently drafting proposals to fund research in fire blight biology and management, directly related to this season’s problems.

Collaborators:

Dr. Srdjan Acimovic,
Dr. Kerik Cox, Dr.
David Rosen-
berger, Dan Do-
nahue, Jim Eve



Srdjan Acimovic, the new tree fruit pathologist at the Hudson Valley Research Lab, gives a presentation in Plattsburgh about fire blight management. Photo: A. Wallis

Cover Crop Demonstration: Not What Grandpa Used to Plant!

Chuck Bornt, ENYCHP

As a follow up to Chuck Bornt's participation in a three day northeast regional SARE workshop discussed in the first quarterly report, he along with Dr. Paul Salon, a Northeast Soil Health Specialist with USDA NRCS and Dave Wilson, a former agronomist with King's AgriSeeds, put together a SARE proposal for a cover crop demonstration trial that was accepted and received funding. The purpose of the demonstration trial was to expose growers to new cover crops or multi specie mixes that are becoming increasingly popular, but are not commonly known by most growers. In total, over 40 different crops were planted. Crops included, several different millets, mustards, legumes and grains including black oats and Florida rye. These individual species or mixes were planted 3 times from early summer to early fall (August 5, August 25 and September 15) following early sweet corn at Stanton's Feura Farm in Feura Bush (Albany County). By incorporating different species and mixes at different times we hope to determine which kinds might perform better under our climatic conditions. Another interesting and novel approach with this trial is that all these cover crops were established no-till into the standing sweet corn after it was harvested. This is also a departure from the normal tillage that many growers would do in order to establish a cover crop. All too often we hear that one of the major constraints for growers to establish cover crops is a lack of time to get everything done that needs to—successful no-tilling of cover crops into standing crops could dramatically increase and change the diversity of cover crops being grown. This would ultimately help to improve soil health and the overall health of each farm's agroecosystem. A field day is planned for early October in which growers from across commodities will be welcomed to learn about these different cover crops and tour the plots. During the winter months more information will be provided in newsletters and winter meetings.



The view from the atop the John Deere 750 No-Till Drill as we drive through standing sweet corn planting cover crops



Cover crop seedlings a week after planting coming up through the sweet corn residue.

Topsoil Soil Moisture Status in ENY Apple Orchards was monitored during 2016 and Reported to ENY Growers as a Basis for Irrigation Recommendations.

Dan Donahue, ENYCHP

Being a perennial crop, apple trees benefit from a well-developed root system that can probe deep into the soil for water and nutrients. However, apple trees are not immune to the negative effects of drought and this season's dry weather was certainly a challenge. As part of a larger NYS Apple Research and Development Program grant project to study multiple strategies to control Bitter Pit in the Honeycrisp apple, Cornell Cooperative Extension ENYCHP Fruit Specialists Anna Wallis and Dan Donahue implemented a soil moisture status monitoring program in eastern New York apple orchards.

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Thirty-Six electronic soil moisture sensors were installed in representative ENY orchards. The sensors were designed to measure soil water tension at a soil depth of eight inches. Soil water tension is a standard measure of the “force” required by the tree to pull water molecules away from the soil particles, and into the roots. Modern, high-density orchards are planted to trees on dwarfing rootstocks that grow only 3-5’ apart, to a height of 8-12’. These compact trees are an equally compact root systems heavily concentrated in the top 12” of the soil profile.

Electronic soil moisture sensor installed in an apple orchard, attached to the electronic sensor reader for measurement.

Compact root systems, combined with shallow and gravelly Hudson Valley soils, can lead to the onset of drought stress earlier than one might expect for a tree. A significant proportion of these high-density apple orchards are irrigated by either trickle or overhead systems. While trickle systems are literally managed by the flick of a switch, and often automated, setting overhead irrigation in orchards requires the constant movement of pipe to accommodate equipment such as tractors, sprayers, and mowers. Data from the sensor network was communicated to ENY growers via *E-Alerts* on eight occasions over the course of the 2016 growing season. By supplying growers with specific data on the actual water status of local orchards, expensive irrigations systems can be managed re effectively to maximize the investment return on labor and equipment by maximizing tree health and crop value.

Specialists Tour Bejo Seeds

Amy Ivy, ENYCHP



In late September Amy, Crystal, Jesse and Teresa attended Open Days at Bejo Seeds headquarters in the Netherlands. They showcased varieties of various crops and their seed handling facilities. Bejo has seeds grown around the world and all of them come through this one processing plant north of Amsterdam to be tested, sorted and packaged.



On a field trip to a large carrot grower (middle) we watched them plant daffodils as a crop rotation (right).

Left: This is a demonstration of the difference between germination rates in primed and unprimed spinach seeds. Priming is a pre-germination step offered as an extra service on select seeds.