Cornell Cooperative Extension

Eastern NY Commercial Horticulture Program

QUARTERLY HIGHLIGHTS

OCTOBER—DECEMBER 2024

Winter Spinach Production Research

Teresa Rusinek and Ethan Grundberg, Vegetable Specialists

Building on findings from research conducted over the past two winter growing seasons, vegetable specialist Teresa Rusinek and Ethan Grundberg are conducting further investigations to improve the quality of spinach grown through the winter in high tunnels. This field research aims to reduce incidence of tip burn in spinach caused by calcium deficiency and adverse environmental conditions. This year's research focuses on increasing spinach tissue calcium levels during transplant production by amending seedling media with gypsum (calcium sulfate dihyrate) and foliar applications of calcium fertilizer to seedling tissue. Tissue samples are collected and prepared periodically and shipped to Waters Ag Lab for analysis. A harvest evaluation will be conducted when the crop reaches maturity to assess tip burn severity and yield.

Cornell Cooperative Extension Specialists and New York Farmers Contribute to Successful New England Vegetable and Fruit Conference

Elisabeth Hodgdon, Vegetable Specialist

Every other year, cooperative extension services of all New England states and Cornell University organize the New England Vegetable and Fruit Conference in Manchester, NH. Eastern NY Commercial Horticulture Program specialists Elisabeth Hodgdon and Mike Basedow, as well as three ENY farmers, serve on the steering committee for the conference, providing input on programming and moderating sessions and farmer-to-farmer discussions. This year, the NEVFC was held on Dec. 17-19 and included 30 sessions on tree fruit, vegetables, berry, grape, organic growing, and soil topics, as well as 17 farmer-to-farmer round table discussions. The conference attracted more registrants than ever before, with 1525 people attending. 114 participants attended the conference from NYS, with many representing the ENY region. Several Cornell faculty and extension specialists, as well as NY farmers were featured as speakers. The conference is a great opportunity to network with growers and agricultural service providers from around the Northeast and to learn from peers about the latest in horticultural production. We look forward to planning the 2026 conference, which begins this winter.

ENY vegetable growers Mike Champagne and Marisa Lenetsky of North Point Community Farm in Plattsburgh discuss renovation of their wash-pack area during the leafy greens session.

Predicting Bitter Pit to Maximize Apple Grower Profits

Mike Basedow, Tree Fruit Specialist

Honeycrisp is a popular apple variety that has the potential to bring the highest returns by variety to the apple grower… if all goes well. Unfortunately, this apple is one of the most difficult to grow, and packouts can suffer from a number of disorders. Bitter pit one such disorder, which leaves fruit with bitter, sunken pits in the peel of the fruit. While growers can potentially increase their profitability with Honeycrisp by storing a portion of their fruit when supply is more limited, bitter pit has prevented a roadblock for stored fruit, as fruit that appear clean going into storage can come out a few months later with significant (30-50%) losses from bitter pit. The amount of bitter pit present can vary from year to year within a block, so it would be very helpful if growers could predict how much bitter pit to expect.

A group of Cornell researchers and extension personnel have been working on a multi-year ARDP funded project to field test a few bitter pit prediction tools. Throughout the summer and fall, we collected peel sap samples from fruit to give growers a relative prediction of bitter pit risk by block. In September, we used the passive method of bitter pit prediction to give ENY growers a predicted percentage of bitter pit they should expect if they were to store a block. These estimates were sent to growers in mid-September as they were harvesting the bulk of their Honeycrisp. We also separately harvested a small subsample a fruit from each block, stored them, and rated them near the end of December.

Once again, the models were in relatively good agreement between their predicted bitter pit risk and actual bitter pit after storage. This information was recently sent to the growers, so they could have an idea of what to expect as they open their storage rooms over the next few months for what they did store.

In addition to this project, we have also fielded questions from growers about various fruit disorders as storage rooms are opened up. While some issues have been traced to late harvests or prolonged cold temperatures, others have left researchers shaking their heads, suggesting a need to continue to look at all the various factors that bring on these disorders. Since storage is a crucial component to our apple industry, we are having Dr. Watkins speak at our winter conference in February to discuss his current best recommendations for long-term storage. We will also be hosting a Honeycrisp intensive workshop in March to further help growers produce Honeycrisp with the highest packout rates possible.

A full truck bed of Honeycrisp apples in onion bags, to go to storage for bitter pit prediction sampling.

Sweet Potato Variety Trial

Chuck Bornt, Vegetable Specialist

Vegetable variety trials have been a staple of the CCE ENYCHP for many years and are still one of the top requested projects requested by our growers. Listening to what growers want and making those connections with the industry representatives is key to having a successful variety trial program. Growers can read from the catalogs or listen to their seed salesperson, but for many, seeing these varieties in person is much more important. For example, in the last several years, growers have asked for a purple sweet potato that would do well in our climate. In response, we evaluated 1 variety in 2021 that was not well suited for our environment. However, with persistence in 2023 and 2024, breeders from North Carolina State University and Louisiana State University were able to breed and send along 2, purple skin, purple fleshed sweet potato varieties that in ENY variety trials, have done very well. Purple Splendor and Purple Majesty have really performed well in trials and are now being commercially offered. Now that we have good recommendations for purple sweet potatoes and have the data from several years of trials to show growers, I suspect the acreage of purple sweet potatoes to increase steadily over the next several years and if you haven't already seen them on your favorite local farm stands, you will very soon!

Purple Splendor sweet potato from 2024 CCE ENYCHP variety trials.

How Cold is Too Cold? Grapevine Cold Hardiness Monitoring and Why It Matters

Jeremy Schuster, Grapes/Viticulture Specialist

Winter in many regions in the northern hemisphere is a cold, harsh, and unforgiving affair. It's a time of year when most warm-blooded mammals go to great lengths to find shelter and preserve body heat, winter sports enthusiasts being an exception, particularly when the temperature is well below freezing. While we can seek shelter to warm up and sit out the coldest temperatures; plants, in particular grapevines, have developed a different method to surviving the coldest temperatures by doing into dormancy.

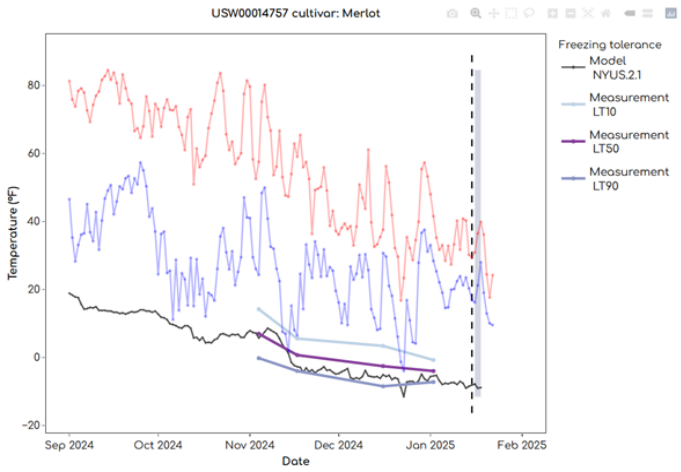

Figure: Merlot cold hardiness models

Dormancy begins with a process called acclimation, during which blockages form in the vascular tissues (called tyloses). This process helps reduce the vine's water content during the dormant period, allowing it to withstand the cold. The degree of cold tolerance before damage (winter injury) occurs depends on several facts, including the variety, maturity of the vine, physiological stage of dormancy, and the proceeding weather patterns. The potential damage caused by cold temperatures dropping below the cold tolerance of a vine is called winter injury and causes tissue death throughout the vine from the bud to the whole plant. Hence the importance of monitoring the cold tolerance of different grape varieties.

At Cornell research stations across the state, including the Hudson Valley Research Lab, the critical temperature for tissue death is monitored using a procedure called differential thermal analysis. This process involves the controlled freezing of bud samples, which are collected every other week from November to March. If temperatures fall below the tolerance threshold for a specific variety, growers can adjust their pruning plans to account for dead buds. For example, on December 23, 2024, temperatures dropped below the threshold for Merlot in the Hudson Valley, resulting in a loss of up to 50% of viable buds. This means that when pruning growers will have to leave 50% more buds than usual to achieve a similar crop. In the Hudson Valley, as part of a cold hardiness monitoring project, samples from Cabernet franc, Pinot noir, Lemberger, and Chardonnay in addition to Merlot are collected every other week for monitoring. There are plans to expand this work in the future to include more varieties of interest to grape growers in Eastern New York. In cold grape-growing regions both in New York and around the globe, winter injury is one of the most destructive widespread weather events that can affect a vineyard.

Strawberry Seminar in Cornell Small Farm Program's BF122: Berry Production Course

Heather Kase, Small Fruit Specialist

In conjunction with Harvest NY's Anya Stansell and former CCE Resource Educator Jim O'Connell, CCE ENYCHP Small Fruit Specialist delivered an approximately 1.5 hour-long seminar on Strawberry 101. This included information on site selection considerations, pre-planting tasks, planting strategies, cultivar selection, integrated pest (and disease) management, and other information regarding strawberry production. This information served as new information to beginner strawberry farmers, or a refresher for current strawberry farmers. A presentation was given via Zoom to growers across all of New York State. Questions were then answered by all collaborators. This was the Week 5 seminar within the 6-week long Berry Production course.

Heather, Ethan, and Liz are frequent presenters for Cornell Small Farms courses; Mike co-teaches Tree Fruit Production with Janet van Zoeren (CCE LOFP). Visit https://smallfarms.cornell.edu/online-courses/ to view the course offerings.

Collaboration with Cornell Small Farms Program's "Futuro en Ag," Initiative Delivers Technical Post-Harvest Handling Content to Latino Farmers

Ethan Grundberg, Vegetable Specialist

ENYCHP vegetable specialist Ethan Grundberg was invited to present on post-harvest handling of fresh produce at the second annual Conferencia de la Comunidad Agrícola Latina del Noreste held in Stony Point, NY in December. The conference was organized by the Cornell Small Farms Program's Futuro en Ag group and drew over 100 attendees who participated in two days of interactive workshops in Spanish or presented with simultaneous interpretation. Grundberg collaborated with Raul Carreon, the Distribution Logistics and Food Safety Manager at the Hudson Valley Farm Hub, to facilitate and interactive two-hour long workshop session in Spanish covering basic principles of post-harvest handling, proper cooling and storage, and more. Grundberg's efforts to support the Spanish-dominant grower community in the region have resulted in a formal partnership with the Futuro en Ag program beginning in 2025.

Photo Courtesy of Cornell Small Farms

Vegetable Seed Production Work to Continue in ENY

Crystal Stewart-Courtens, Vegetable Specialist

As my Northeast SARE grant to train vegetable farmers in regional seed production wraps up, an exciting new seed project is beginning. I am co-PI on a USDA-NIFA Organic Research and Education Initiative grant to study the agronomy of seed production and develop best practices for the northeast. This extensive national project will result in the first research-based factsheets for seed production locally and will help growers continue to make good decisions about seed crops to add to their vegetable rotations. As our knowledge of seed production in the region increases, so does our long-term food security.

We will complete three years of replicated trial work as part of this grant and will present our findings locally and regionally during this time. Stay tuned for more exciting developments!

SAVE THE DATE

For the 2025 Eastern NY Fruit and Vegetable Conference!

Wednesday February 19, and Thursday February 20, 2025 | The Desmond Hotel and Conference Center — Albany, NY

Session Topics:

Tree Fruit—Small Fruit—Grapes—Special Robotic Weeding Presentation– Vegetables– Bedding Plants and Transplants—H2A on the Small Farm—Marketing—Funding Opportunities

Register for 2 days packed with research updates, pesticide recertification credits, the trade show, and more!

https://bit.ly/2025-eny-winter-conference

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Eastern NY Commercial Horticulture Program

October—December 2024

204 Phone Consults

133 E-mail Consults

131 Farm Visits

19 Field Meetings and Trainings

1074 Meeting and Training Attendees

3 Webinars/Distance Learning

81 Distance Learning Participants

10 Tree Fruit E-Alert reports and **4** Tree Fruit maturity reports delivered to **748** growers;

5 Business Report: The Bottom Line delivered to **1584** ENYCH subscribers;

2 Grape Newsletters delivered to **290** fruit growers;

And **4** Berry News e-newsletters delivered to **605** growers.

For updated values: https://bit.ly/Oct-Dec-2024-CCEENYCHP-metrics

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.

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