

# Cornell Cooperative Extension

## Eastern NY Commercial Horticulture Program

# QUARTERLY HIGHLIGHTS

JULY—SEPTEMBER 2021

### Northeast SARE Funded Project

**Laura McDermott, Berry Specialist**

Elisabeth Hodgdon and Laura McDermott have been collaborating with University of New Hampshire researchers in the first year of a three-year Northeast SARE funded project. This work is looking at perennial strawberries in an effort to discover the impacts of low tunnels, plastic mulch and a variety of winter coverings on the productivity of these plants. This first season two growers in Clinton and Washington counties installed replicated low tunnel plots on their farms. Results were mixed – fruit quality did improve under tunnels but the management of the tunnels is still a challenge. The plastic mulch trial is located at the Willsboro research farm where runner removal data has been collected. A variety of winter mulch covers will be examined at two farms and over two seasons. In addition to field work we are updating the Northeast Strawberry Production Manual. This guide is the premier guide for strawberry growers in our region of the US. *(Above: CCE team is busy removing runners from NE SARE plasticulture strawberry trial at Willsboro farm in late September.)*

### Field Meeting Brings Growers Together Around On-Farm Research

**Crystal Stewart Courtens, Vegetable Specialist**

A field meeting held at Philia Farm in Fulton County on August 5th attracted 37 attendees for two hours of programming about research trials, weed control, and pest management. The farm hosted an onion variety trial, a leek variety trial, a Cercospora Leaf Spot biofungicide trial on table beets, an OREI-funded mesotunnel trial, and a no-till vegetable production trial. Crystal and Natasha of NEYCHP were joined by Jan VanDerHeide of Bejo Seeds and Elizabeth Buck of the Cornell Vegetable Program as guest speakers.

In a nod to the fact that many growers still are not comfortable gathering in groups, even outdoors, the trial information was compiled into a resource booklet that is available to everyone within the region.

*Jean-Paul explaining the no-till trial including mechanical transplanter and roller-crimper.*



## In-Person Tree Fruit Field Meetings Held This Summer

### *Mike Basedow, Tree Fruit Specialist*

In August, members of the ENYCHP organized and led two separate tree fruit field days in the Eastern NY region. The first meeting was the Champlain Valley Orchard Field Afternoon, which was held on August 19th at Chazy Orchards in Clinton County. Although the remnants of a tropical storm were passing through the region that day, over 30 attendees braved the weather to attend the meeting. Attendees learned about disease management strategies from Dr. Kerik Cox, and David Strickland, a graduate student in Dr. Cox's lab. The statewide bitter pit prediction project led by Dr. Lailiang Cheng and Dr. Terence Robinson was featured, followed by storage recommendations based on prediction results from sap analysis sampling performed in July. Dr. Robinson and Mike Basedow showed attendees their precision pruning and thinning trial. At the second stop, growers saw and learned about our newly planted cold hardy rootstock trial, and Dr. Cheng discussed how rootstock influences bitter pit incidence in Honeycrisp. Attendees then heard from Dr. Awais Khan, who gave an overview of his new apple tree decline project. Finally, Dr. Greg Peck discussed integrated orchard weed management practices, and discussed cider apple production in Eastern New York. In between talks, growers had time to interact with the speakers and each other.

On August 25th, CCE-ENYCHP co-hosted a Hard Cider Summer Tour in the Capital Region with the NY Cider Association and the Cornell Hard Cider Working Group, of which Mike Basedow is a co-chair of; 80 people attended—twice as many as we had expected. Attendees included orchard managers, cider makers, along with aides from the NY State government. Tour stops included viewing the new cider presses and cider orchard at Samascott's in Columbia County, the cider cellar and cider apple orchard at Indian Ladder in Albany County, and concluded with a tour of the cidermaking facility at Nine Pin Cider in Albany.

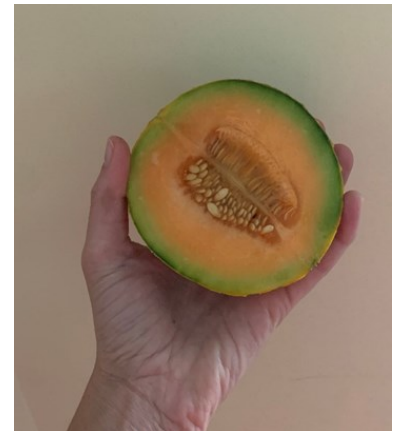
As the delta variant is sending us back to remote learning for the time being, we are happy we were able to, for a brief time, return to some in-person learning.

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## Evaluating Melon Varieties for Northern Climates

### *Elisabeth Hodgdon, Vegetable Specialist*

Growing long-season cucurbits can be challenging in Northern NY. Cool spring temperatures, and late spring and early fall frosts can cut the season short for cantaloupes and other melons. In summer 2021, technician Andy Galimberti and I collaborated with Northern Orchards in Peru to grow 12 different varieties of melons to determine which varieties grow best in our region. We grew standard cantaloupe varieties, as well as miniature cantaloupes and other small specialty melons. Smaller and personal-sized melons are becoming more popular amongst consumers because they are easier to prepare and serve. We transplanted the melons in late May, and harvested the crop in August and September. We measured melon weight and diameter, and described the flavor of each variety. Teammates Crystal Stewart-Courtens and Natasha Field conducted the variety trial in Washington County as well.



*'Sugar Rush' personal-sized cantaloupe.*

The fastest melon variety to ripen in our northern location was 'Diplomat,' a galia-type melon with green flesh. These melons had a sweet and tropical flavor. We harvested the first 'Diplomat' melon on August 13th. 'Divergent' cantaloupe followed 'Diplomat.' This variety was bred to withstand challenging growing conditions and organic production systems. Overall, the highest yielding melons were 'Astound' (4.1 lbs melons per plant) and 'Farthest North Mix' (3.4 lbs per plant). 'Farthest North Mix' produced the greatest number of melons per plant. This variety includes a mix of multiple genotypes bred for short northern growing seasons. 'Savor,' 'Diplomat,' 'Hannah's Choice,' and 'Sugar Rush' were the best tasting melons for sweetness and overall melon flavor. Overall, yields were lower than anticipated due to drought stress in the early summer. Although this trial was not replicated, our data serves as a preliminary screening for a replicated trial in 2022. Our variety trial results will help growers in our northern ENYCHP region determine which melons have the greatest yield potential and eating quality in our short season.

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## CCE Works as a Team to Help SerabaFarm's owner Achieve His Dream of Farm Ownership

### *Elizabeth Higgins, Business Specialist*

In 2019 RasAQ Abiola, an immigrant farmer from Nigeria, took CCE Regional Vegetable Specialist Amy Ivy's Beginning Vegetable Class. After the class, she forwarded him to CCE Regional Business Specialist, Liz Higgins, because he was seeking land and assistance in starting a farm near his home in New York City. Abiola had owned a farm in Nigeria and was eager to own a farm in the United States. Over the next year he worked with many CCE staff including Yolanda Gomez of Harvest NY, CCE Nassau County and CCE Putnam County in his quest to find the right property. After a long, and at times, frustrating search in the winter of 2020 he finally found a property for lease in Putnam County.

*(Continued on page 3)*



At that point he reconnected with Liz Higgins, and she worked with him to secure a more favorable lease from the non-farming landlord, helped him connect with funding resources and worked with him on his business plan and enterprise budgets. She helped him connect with USDA FSA, NRCS and Putnam County Soil and Water Conservation District. She also connected him to CCE educators with the Eastern NY program, the Capitol District Ag Team and CCE Putnam County and helped him address problems as issues arose. During the growing season, Putnam County Ag Educator, Jennifer Lerner, provided much needed on-farm assistance and guidance to his planting plan!

By the end of the summer Abiola had completed his business plan, applied for a USDA beginning farmer loan, applied for USDA NRCS EQIP funding for a high tunnel and other conservation practices and successfully planted and harvested his first crop at Serabafarm – all while commuting to the farm from his home in the city! He currently provides vegetables to a group of families in Brooklyn but is planning to expand his operation next year as he is able to secure funding and identify additional markets.

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## Deploying 'Laser Scarecrows' in Sweet Corn to Reduce Bird Damage

### **Chuck Bornt, Vegetable Specialist**

Controlling birds just before and at harvest is a huge problem for sweet corn growers. In a single day, birds can destroy an entire field worth thousands of dollars. Current strategies being used by many growers include the use of propane cannons, bird distress and/or predator calls, air dancers and actual shooting of birds with shotguns. These all have their limitations and timing is critical – too late or too early and they may not work and most often we see a reduction in control the longer these strategies are used in the same field or farm. Limitations to usefulness of these techniques exist in populated areas. Many towns have enacted noise ordinances that restrict or limit the use of noise deterrents. In an effort to deter birds from sweet corn especially in areas where noise deterrents cannot be used, Chuck Bornt has been working with Dr. Rebecca Brown from University of Rhode Island and former CCE Specialist Ali Nafchi to develop and evaluate the use of specialized “laser scarecrows”. These low powered laser beams can be programmed to turn on and off at dusk and dawn and the randomness of the laser beam pattern appears to keep birds from becoming habituated to the units. They can be programmed to avoid neighboring homes and don't make noise. They are portable and easy to use—they only require a 12 volt battery and a stand.

Research indicates they significantly reduce bird damage, especially when they are used with other devices such as the air dancers or propane cannons. The units being developed by Brown and Nafchi are also less expensive (\$450 - \$600 per unit with each unit covering about 1 acre) than commercial units that are available from BirdGard (\$10,000 per unit covering approximately 10 acres), one of the only manufacturers currently producing and marketing lasers for use in horticultural fields.



*University of Rhode Island Laser Scarecrow design with added solar panel deployed in a field of sweet corn in Rensselaer County.*

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## Biorational Fungicide Study Underway

### **Teresa Rusinek, Vegetable Specialist**

Brassica crops, like broccoli, are susceptible to a number of plant pathogens. Black Rot (BR), Downy Mildew (DM) and Alternaria Leaf Spot/Head Rot (ALS), are among the most common and destructive diseases of brassica crops grown in the Northeast. Production of marketable organic brassica crops in Eastern New York is limited by these pervasive diseases despite grower efforts to implement best cultural practices like crop rotation and improving air flow in crops by adjusting planting spacing. A number of low-risk “biorational” products are allowed in organic production and are labeled to manage these diseases. One of the obstacles organic growers face in managing the three diseases is discerning which, if any, of these disease control materials are effective.

With support from the Hudson Valley Farm Hub (HVFH), regional vegetable specialists Ethan Grundberg and Teresa Rusinek evaluated nine biorational fungicides in 2020 on broccoli produced at HVFH where BR, DM and ALS have all posed persistent production challenges.

Results from the 2020 trial were used to refine 22 biorational fungicide programs to be tested in 2021. Data is currently being gathered from the field plots.



# Long-Term Monitoring of Apple Harvest Maturity in the Context of a Changing Climate

**Daniel J. Donahue, Tree Fruit Specialist and Sarah Elone, Technician**

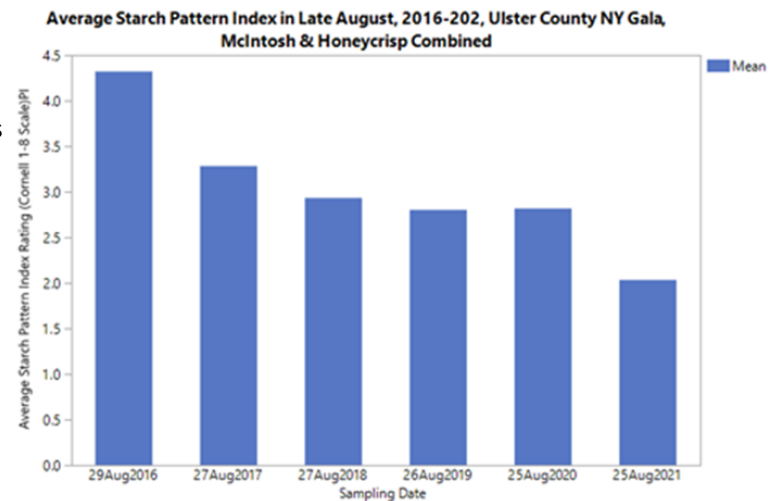
Climate change is a long-term concern for many in the Hudson Valley tree fruit industry. The challenge is how to adapt to a changing environment when the commercial lifecycle of a modern tree fruit planting is a minimum of 20 years with per acre establishment costs approaching \$20,000. One approach to collecting real-world data is to monitor the dates of apple harvest maturity over an extended period of time. While CCE has been collecting such data in random orchards for many years, orchard site selection consistency was lacking, making it difficult to compare numbers from year to year. A second factor has been the increasingly widespread use of plant growth regulators (PGR), applied pre-harvest to alter harvest date. Ethylene is the natural plant hormone that stimulates fruit and vegetable ripening. PGR's can either increase ethylene to stimulate ripening, or decrease a fruit's sensitivity to ethylene, effectively slowing maturity and delaying harvest. While there are sound horticultural and marketing justifications for deploying PGR's, from the standpoint of documenting the progression of "natural" or untreated apple maturity from season to season, they greatly complicate the collection of accurate comparison data. Depending on the PGR applied, the harvest date of an apple variety may be accelerated by a week, or delayed by as long as two weeks, a range of three weeks total!

In 2016, "reference" blocks were established in Ulster and Columbia Counties with the intention of consistently following the maturity of untreated Gala, McIntosh, and Honeycrisp apples over a period of years, hopefully at least ten. The Columbia County reference orchard ceased production after the 2020 season and was replaced starting in 2020 by a new reference orchard established in Northern Dutchess County. The graph below shows the combined status of Gala, McIntosh, and Honeycrisp Maturity in the Ulster County reference orchard over the course of six seasons, 2016-2021 (Fig. 1).

Fig. 1. Starch Pattern Index (SPI) ratings on the Cornell 1-8 scale for Gala, McIntosh, and Honeycrisp (combined) over a six year period from 2016-2021 in the same orchard. No harvest management PGR's were applied. The lower the SPI rating (X axis), the slower the conversion of the apple's starch to sugar, suggesting slower progress of harvest maturity.

The six years of data from this reference orchard, suggests that the SPI varies from year to year and the trend favors slightly slower maturity development, not the accelerated development one might expect from a warming environment. 2016 was an unusually hot and dry growing season in the Hudson Valley, and these conditions are reflected in the more advanced maturity of the 2016 crop.

Our intention is to continue this testing for ten years, longer if possible. Ultimately a question for the commercial producer is that if the growing season is warming, and maturity advancing, perhaps the farmer can successfully grow a long-season variety such as Granny Smith which is currently a marginal choice in the Hudson Valley. A second question is "if the growing season is warming, how does this effect my thinning and harvest management PGR programs?". At this point the jury is still out but perhaps we'll have a better understanding in a few years' time.



## Muck Onion Growers Receive In-Person Update on Critical Production Issues

**Ethan Grundberg, Vegetable Specialist**

CCE ENYCHP specialists Maire Ullrich and Ethan Grundberg teamed up to organize a one-hour long outdoor lunch meeting for conventional onion growers in the black dirt region of Orange County in late July. Onion growers face a number of quickly changing production



challenges, but much of the emphasis of the meeting was on shifting fungicide programs to reflect emergent research results from Cornell Plant Pathologist Dr. Frank Hay on gene mutations and resistance development in the *Stemphylium vesicarium* (the causal pathogen of the most serious foliar disease of onions known as Stemphylium leaf blight) population in the state. Grundberg also shared research results from trials evaluating the impact of different adjuvant chemistries on pesticide performance that have been funded both by the Orange County Vegetable Growers Association and the Onion Research and Development Program. The 40 growers in attendance were also able to receive pesticide applicator license recertification credits for their participation.



## July—September 2021

**674** Phone Consults

**584** E-mail Consults

**642** Farm Visits

**12** Field Meetings

**377** Attendees at Field Meetings

**16** Webinars/Distance Learning

**197** Participants in Distance Learning

Daily, personalized, farm-specific vineyard  
report addressing weather and pests—

delivered to **195** growers for a total of

**17,355** unique reports



*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, Schoharie, Ulster, Warren, & Washington.*

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