

DECEMBER 2020

THE PRODUCE PAGES

Serving the fruit and
vegetable growers of
Eastern New York

Feature Farm Story

2020 Pivot May Be Here to Stay – Pleasant Valley Farm Continues to Embrace Change

Laura McDermott, CCE ENYCHP

Pleasant Valley Farm, located in Argyle, New York was where I made my first official farm visit as a Cooperative Extension educator in 1990. At that time, Sandy and Paul Arnold had made great progress on the 60 acres of former hay and pastureland that overlooks a beautiful little valley in the rolling hills of Washington County. I recall collecting a pre-plant soil sample for a future orchard and listening as they described an ambitious farm/life plan. The farmhouse at the time consisted of a pop-up tent camper, but that would be replaced by a large home soon enough.

Paul Arnold started growing vegetables on a 1 acre suburban plot in South Glens Falls

in 1986, after he had worked in the nursery/greenhouse business for several years. He purchased the South Argyle farm in 1988 and married Sandy Olmstead in 1991. Sandy, who has a bachelors' degree in Botany, had experience in the management and business development end of garden centers. Together, with the help of Paul's Dad, Bion, they built their home, all the barns, soil, greenhouses, high tunnels, wash station and coolers. They also installed electrical, plumbing, sewer and propane needed to run the farm. In addition to the original 60 acre farmstead they rent 120 acres from a neighbor. Pleasant Valley Farm currently grows crops on 4.5 acres each year, but the space allows for a rotation plan that is integral to their

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Sandy and Paul Arnold, owners of Pleasant Valley Farm, harvest greens in high tunnel. Photo: Robert Arnold

Cornell Cooperative Extension
Eastern NY Commercial Horticulture Program



The Produce Pages

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CCE ENYCHP Enrollment for 2021 is now open!

**Visit the following link to enroll:
enych.cce.cornell.edu/enrollment.php**

The *Produce Pages* is a monthly publication of the Eastern New York Commercial Horticulture Program. For more information about the program, please visit our website at <http://enych.cce.cornell.edu/>.

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.

(Continued from cover)

success as organic vegetable and fruit farmers. The primary aim for the farm over the past decade is to get smaller and more profitable which they are accomplishing as the cultivated acreage went from 7 to 4 acres without reducing sales revenues.

The Arnolds raise over 40 types of vegetables and fruits year-round using organic methods which are Certified Naturally Grown. [Pleasant Valley Farm](#) specializes in year round greens production, constantly perfecting their techniques since my original 1990 visit. This farm focuses on efficiency – and not just as a marketing tagline. Paul and Sandy rely on ‘lean principles’ to help strategize workflow. They also rely heavily on their customers to inform their truly market driven practices. They are making constant improvements, both in the area of crop research, and the use of technology. The integration of technology increased in 2017 when their son Robert graduated from RIT and started his own technical consulting business, [Smart Farm Innovations](#), which focuses on developing and supporting technology on small farms. Daughter Kim and her husband Peyton have been integral to the farms success and are now starting their own farm business.

The Arnolds take great pride in growing the highest quality organic produce as efficiently as possible, but that alone is not what keeps them going. Paul and Sandy are well-known across the northeast and the entire country for their generosity with information and time. They have spoken at dozens of conferences and workshops; they’ve organized farmer to farmer groups and have hosted many farm interns that have gone on to successful farming careers. Paul was instrumental in forcing attention toward the burgeoning Washington County vegetable industry in the late 1980’s. He conducted a farm by farm phone survey to help bolster under-reporting done by the Ag Census. The results justified increased funding for CCE positions and county ag budget allocations. PVF



An indoor winter market, itself an innovation, may relinquish importance to Pleasant Valley Farm as pre-ordering and home delivery take center stage (photo taken pre-pandemic). Photo: Robert Arnold

never missed a market in 34 years at the Glens Falls and Saratoga locations. Paul and Sandy served on boards of directors and helped start many markets in other cities and were instrumental in getting buildings built to help guarantee that the Markets would continue. They were also

the core founders of Pitney Meadows Community Farm in Saratoga Springs.

The majority of produce grown on Pleasant Valley Farm is sold at the Saratoga and Glens Falls Saturday Farmers’ Markets and the Wednesday Saratoga market which runs May to October. Approximately 10% of the crop is sold wholesale to farm-to-table chefs, restaurants, caterers, and stores. There has never been a formal CSA, although a small group of loyal customers purchase in a manner similar to a CSA.

When the COVID-19 pandemic hit in mid-March, Paul and Sandy were halfway across the world on a cruise of a lifetime. Robert and Kim listened to their customers and the emerging (and at times confusing) NYS Guidance to completely restructure the way they would market their produce. Food access was essential, and customers made it clear that they wanted high quality, locally grown vegetables and fruit that they could trust. But how to make this happen in a time of reduced human interaction? It took a week or more for many local Farmers Markets to implement the NYS Guidance. From an abundance perspective, vendors of winter and storage crops and pre-made food were the most impacted.

In less than 72 hours the farm had moved entirely to pre-order on-line using [Airtable](#), an application that promised the farm a great deal of flexibility. This was the first time that the farm had used pre-order since taking orders over the phone in the 90’s. They surveyed all their customers to determine if folks would prefer home delivery or a pick-up location. They received over 70 responses by Friday morning, to an email sent late Thursday evening! Approximately 70% of orders during those first weeks were for home delivery. Only a \$1 fee was charged with a required \$15 minimum order, but it didn’t make a difference as all orders were over the minimum. Customers were very supportive of PVF’s efforts and were concerned about shut-down impacts on the farm.

According to Robert, the hardest part was finding a place for the pick-up to happen. They needed 12-15 parking spots for customers and delivery truck and the location needed to be close to downtown Saratoga. The Farmers Market pavilion buildings were being used by the police, but a hardware store allowed them access for one day. This one time option worked and allowed them to stay open while the Farmers Market determined the best way forward.

Within a week PVF realized that Airtable wouldn’t allow the flexibility to deal with individual orders, pick-up/delivery options and payment. They switched to a farm order system software suite, [Local Line, and continue to use Airtable for packing management](#). The checkout system allows photos and descriptions that are very easy for the farmer to edit. The payment was done at the physical point of purchase to remove complications with weighing produce, but over time this was changed to allow for pre-pay with credit cards. For more information about On-Line sales platforms, check out resources at [Cornell Small Farms](#) and [The National Young Farmers Coalition](#).

PVF continued full steam with on-line ordering, even as the markets returned to a version of normal. This new reality was a challenge, but their farm crew really stepped up and spent many months

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adapting and perfecting the system to fit customer's needs.

Customer response was overwhelmingly positive despite occasional packing issues, and home delivery success allowed PVF to not attend an entire mid-week summer market.

Lessons learned include not using paper bags! The plastic bag ban began on March 1, which complicated things. Paper requires that produce and pack line be completely – a rarity in this business. But customers appreciated the limited use of plastic and had no issue with the paper bags. Despite moving to mainly re-useable crates for pickup and delivery, bagging remains an option for customers. Receiving orders at the end of the harvest day (actually until 7:00am) was very challenging; they kept having to pull stuff out of the cooler to fulfill the last minute customers! Implementing a more farmer friendly deadline was a very positive change.

Going forward the Arnolds are committed to supplying their customers each week using home delivery and pre-order systems – both of which were brand new as of March 14th, 2020. This is

especially important this winter as they are reducing their presence at winter markets. Implementing the Covid-19 safety protocol is very labor intensive, and the risk posed by indoor markets has forced them to reconsider their product distribution systems and the allotment of labor. Pre-ordering and home delivery will allow them to meet their customers' demands.

Pleasant Valley Farm, like so many farms, represents farmer and small business innovation at its best. Farmers still need to be able to handle tons of details every single day, and recordkeeping is one of the most important. The importance of treating the farm like a business and investing in that business in both time and money. It is possible to make a very good living and raise a family off of a small acreage, organic farm. Reinventing how the local food system works – for customers as well as the farmers, is the foundation of Sandy and Paul Arnold's work over the past three and a half decades.

The success of Pleasant Valley Farm has been their willingness to pivot to their customer's needs and to never be afraid of change.



Left: Pleasant Valley Farm, Argyle, NY. Middle and Right: Assembling and tracking advance orders for home delivery or pick-up. Photos: Robert Arnold

Click the link for a great video that captures the frenetic pace of Pleasant Valley Farms 'Covid pivot' in mid-March 2020: <https://www.facebook.com/pvfproduce/videos/137675044315447/> The process is streamlined and much different now, but the video provides an amazing reflection.

Highlights from Research Adapting Reduced Tillage Systems to Muck Soils

Ethan Grundberg, CCE ENYCHP

With support from an internal Challenge Grant and a USDA Specialty Crop Block Grant, specialists Ethan Grundberg and Chuck Bornt have spent the past three years working with vine crop growers on the black dirt of Orange County to trial heavy residue reduced tillage systems on muck soil. While reduced tillage systems, where the pumpkin or squash crop is established in terminated cover crop residue, are fairly common on mineral soils in the region, few growers had tried to adapt the practices on the black dirt. Here are some of the primary findings from the research, much of which can be viewed in more detail in the three-part video series on the CCE ENYCHP YouTube channel: <https://www.youtube.com/playlist?list=PLK2Q-bw9Aiu5JzIGgKw-sLNxhMT71988F>

- **Weed pressure** was statistically significantly different in the best reduced tillage treatments compared to the conventionally tilled bare ground control. In 2020, had, on average, over 20 weeds per 3.33 square foot quadrat across five sampling dates. In contrast, the spring barley reduced tillage field averaged just under 5 weeds per quadrat, the fall barley and spring oats fields averaged just over 2 weeds per quadrat, and the winter rye reduced tillage field had the fewest weeds with just 0.1 weeds per quadrat.

- There was no significant impact on **crop yield** in the reduced tillage fields compared to the control. Grundberg and Bornt never anticipated an increase in yield, but transitioning to reduced tillage can result in short-term yield decreases as growers learn how to better manage the different fertility needs in these systems.
- **Soil staining** on squash was significantly different in the reduced tillage fields compared to the bare ground control. The most impressive impact of the reduced tillage systems to the growers and researchers was how clean the squash was at harvest. While the squash harvested in the control field in 2020 averaged over 12.5% of the rind stained with soil, the squash harvested in the reduced tillage fields averaged between just 3.6% to 6.4%.



A field of reduced tillage kabocha squash grown on a terminated spring oat cover crop in 2019.

While the grant that funded these trials has ended, please reach out if you are interested in trailing some reduced tillage production on your farm in 2021; we'd be pleased to support you and share some of the lessons that we've learned!

This project was supported by the U.S. Department of Agriculture's (USDA) Agricultural Marketing Service through grant AM180100XXXXG036. Its contents are solely the responsibility of the authors and do not necessarily represent the official view of USDA, NYFVI, or the State of New York.

Research in Plain English: NDVI Sampling

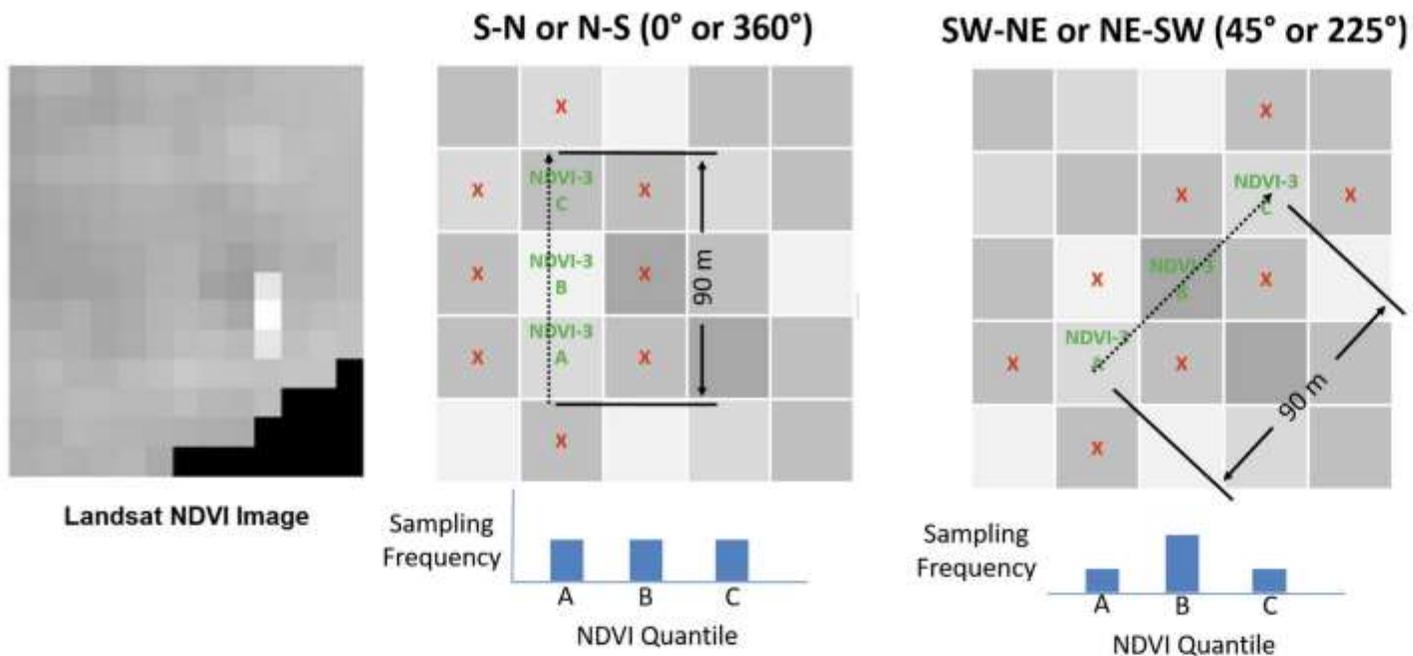
A New, Satellite NDVI-Based Sampling Protocol for Grape Maturation Monitoring

James M. Meyers, Nick Dokoozlian, Casey Ryan, Cella Bioni, & Justine E. Vanden Heuvel

Remote Sens. 2020, 12(7), 1159; <https://doi.org/10.3390/rs12071159>

Summary by Rebecca Wiepz. Tim Martinson, editor.

[Figure 1 - Three-pixel NDVI-directed sampling starts with Landsat NDVI images of a vineyard (left). Each pixel represents 30 square meters, and the program selects 3 adjacent pixels that best represent the block. Note that the path of travel is always limited to a single vineyard row, which is straightforward for N/S or E/W rows (center). With rows at different angles (right) sampling can overlap adjacent pixels.]



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The takeaway.

- Traditional sampling methods, both randomized and spatially stratified, often require visiting many different locations in a vineyard, making them very inefficient.
- NDVI is normalized differential vegetation index, an indirect measure of leaf area and photosynthetic activity. This information is now readily available to growers through satellite images collected by numerous satellite platforms.
- The NDVI3 protocol uses Landsat imagery to identify a three pixel (30m x 90m) area along one vineyard row that best represents the range of NDVI reflectance over an entire vineyard, enabling the sample technician to limit sampling to a single location in the vineyard.
- This is particularly useful in environments with very uniform soil and climate, like the central valley of California, and where blocks are large.

Background.

Traditional sampling methods often require many locations in a vineyard be sampled, which requires excessive precision and time for those collecting the samples. While stratified sampling requires fewer locations, usually around four, it still results in technicians traversing a large portion of the vineyard. It's also difficult, using these techniques, to get a representative sample. Limiting sampling to a single row in the vineyard could significantly decrease sampling time, thus reducing costs.

Normalized differential vegetation index (NDVI) uses special sensors to quantify the spectrum of light reflected by plant surfaces. It is a good indicator of vegetation density and photosynthetic activity. The information needed to calculate this value is readily available for growers using available satellite technology.

This study compared two traditional sampling methods, a random one and a stratified one, with a new method that uses satellite images to select a single location which represents the entire vineyard, based on NDVI values for each pixel in a vineyard.

The experiment.

Three sampling protocols were used:

- R20: A randomized sample consisting of 1 cluster is taken from each of 20 random locations.
- CM8: Samples are stratified to represent each quadrant of a vineyard. To accomplish this, a technician walks 60m in each quadrant and collects 5 clusters. This is repeated for each of the four quadrants.
- NDVI3: A satellite image from the previous year is used to identify one location in each vineyard, in which a technician walks 90m down a row, collecting 20 clusters at a single sample location. Each pixel of the satellite image covers 900 square meters of land (30m x 30m). The sample location consists of

three pixels selected to represent the lower, middle, and upper third of the range of NDVI values for the vineyard.

Quality comparison.

To compare these sampling strategies, fruit composition was measured in each of the two seasons with CM8 (stratified) and NDVI3 being compared to R20 (random) as a quality reference.

In both seasons NDVI3 produced samples of the same quality as the random sampling, while the stratified technique only produced an acceptable sample in one season. Thus the NDVI3 protocol resulted in more efficient and accurate sampling than the currently popular stratified sampling method.

Additionally, NDVI3 represented the entire vineyard better than stratified or random sampling in 12/13 blocks. This means that samples taken this way more accurately represented the entire vineyard than either of the traditional sampling techniques.

NDVI3 stability.

Running the algorithm to select a sampling location can be time consuming, so the temporal stability of the location was compared in 24 different vineyards over four years. A selected location produced reliable results for up to four years, decreasing the necessary frequency of running the NDVI3 algorithm.

Conclusions and practical considerations.

This novel approach to grape sampling based on remote sensing data is functionally the same as or better than random or stratified sampling to accurately estimate vineyard fruit quality.

Overall this technique could dramatically reduce labor requirements for vineyard sampling throughout the season without decreasing sample quality. However, this experiment occurred in relatively large and uniform vineyards. A location with greater soil or climate variability, such as the Mid-Atlantic region, may require a sampling area of more than three pixels.

Rebecca Wiepz is a former extension support specialist with the statewide viticulture extension program in the Section of Horticulture at Cornell AgriTech in Geneva, NY. She is currently Superintendent of the Peninsular Research Station at University of Wisconsin-Madison.

Tim Martinson is a senior extension associate in the Section of Horticulture, based at Cornell Agritech in Geneva, NY.

Pandemic-Related Updates to DEC Pesticide Recertification Credit Procedures

Elisabeth Hodgdon, CCE ENYCHP

Back in April, the NYS Department of Environmental Conservation issued a statement outlining an enforcement discretion in response to the COVID-19 pandemic. The DEC recognized that the pandemic brought forth challenges for growers to earn recertification credits as in-person classes and exams were canceled, and online classes posed a challenge for those without reliable internet access. In response, the DEC allowed certified pesticide applicators to purchase and apply restricted use pesticides this season if their license expired in November 2019 or later without renewing their license. This enforcement discretion is set to expire on November 23, 2020.

What does the expiration of the DEC's pandemic enforcement discretion mean for certified pesticide applicators?

- If your license expired sometime between November 1, 2019 and November 23, 2020, you must earn and submit your recertification credits prior to February 23, 2021.
- If your license is set to expire after November 23, 2020, you may follow standard DEC recertification procedures.

Although the DEC's emergency allowances are set to expire, few in-person courses offering pesticide recertification credits are likely to be held by Cornell Cooperative Extension this winter due to the ongoing pandemic. There will be many opportunities to earn credits via online learning opportunities, however. ENYCHP specialists are currently working with educators across NYS and in New England to offer DEC credits at virtual conferences including the upcoming High Tunnels After Dark conference sponsored by the University of New Hampshire (categories 1a, 3a, 22, 23, 24, and 25), at the Empire State Producers Expo in January, and at our team's annual winter meeting in February (categories and numbers of credits TBD). There will likely be additional virtual programs offered during the winter as well—check our "events" page in Produce Pages and online for additional credit earning opportunities offered by CCE and other regional extension systems.

In order to offer credits through Zoom and other virtual meeting platforms, CCE educators will ask growers to adhere to specific protocols to verify their license numbers and identity through email and use of audio, video, and polling or other features in Zoom. If you have questions regarding use of Zoom internet and device requirements and how to earn credits at online events, please reach out to an ENYCHP specialist for assistance.

CCE ENYCHP 2021 Enrollment is now open!

2020 has been a challenging year for us due to the COVID—19 pandemic, but we continue to conduct on-farm research, farm visits, virtual outreach, and hopefully soon, in-person meetings. **As our supporting counties budgets are stressed, your financial support through enrollment is especially needed this year!**

The benefits of enrollment include:

- ENYCHP Newsletters/E-Alerts
- Text Alerts
- Telephone/Email Consultations with CCE Specialists
- Reduced Registration Fees
- Direct Mailings
- In-field Educational Opportunities
- Conduct and Coordinate On-Farm Research Trials in the Region



Enroll here: enych.cce.cornell.edu/enrollment.php

CCE ENYCHP 2019-2020 Annual Report—Complete Report on Pages 8-11

Chuck Bornt, CCE ENYCHP

First, we hope this newsletter finds you and your family happy and healthy. Secondly, we would like to take this opportunity to thank our many grower and industry cooperators as much of the work you are about to review would not have been accomplished without you and your support. On behalf of the entire Cornell Cooperative Extension Eastern NY Commercial Horticulture Program, I would like to thank you for allowing us to be your educational, outreach and research provider for the last year. We thought we would take this opportunity to share with you our 2020 Annual Report so you can familiarize yourself with the programs and research the team did during the past year. The information highlights the more impactful programs and research and does not reflect all of the programming that we did nor does it reflect the many hours each educator and technicians spent this year with on-farm visits, scouting, data collection and consultations.

If you have questions about any information in the report, please do not hesitate to reach out to Laura McDermott (518-791-5038) or Chuck Bornt (518-859-6213) as we are always happy to assist and we look forward to being your source of horticultural knowledge and outreach in 2021.



SERVING AN INDUSTRY WITH A FARM GATE VALUE OF \$182 MILLION



195 MEETINGS & TRAININGS



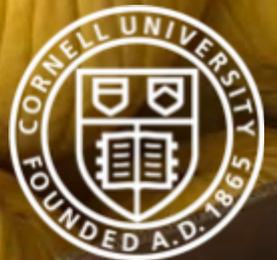
8,684 MEETING/TRAINING ATTENDEES



47K+ NEWSLETTERS & REPORTS

Cornell Cooperative Extension Eastern NY Commercial Horticulture Program 2020 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.



PROGRAM HIGHLIGHTS

Essential Field Trials Continue Despite NY Pause

Many field trials continued this season, despite the NY Pause. These included bitter pit management of apple, orchard weed control, insect exclusion netting, high tunnel vegetable production, and a variety of novel pest and bird management projects. The applied, on-farm research is what makes the ENYCH regional CCE program so valuable to growers—it's real world information that helps inform farms decision-making.

One example of field trials involved bio-fungicides, which are marketed to growers as low-risk, environmentally friendly alternatives that enhance the performance of conventional fungicides; however, the extent of efficacy under typical field conditions and on specific crops has not been thoroughly examined. Brassica crops are important fresh market crops widely grown in the region, but they are susceptible to fungal and bacterial diseases. In response, Teresa Rusinek and Ethan Grundberg conducted the first year of an efficacy trial of commercially available bio-fungicides with a long term goal of developing crop protection programs to help alleviate fungicide resistance.



Variety trials are another example of applied research that is utilized by growers. Leeks, sweet potatoes, and Irish potatoes were some of the crops evaluated this season, and Chuck Bornt and Teresa Rusinek collaborated with Wallkill View Farm on a seedless watermelon variety trial. This evaluation combined traditional fruit evaluation with customer acceptance input that was done at the farm stand. Customers were given a simple questionnaire to help identify the melon, what they thought of it, and if they would purchase it again. This information will be collated by CCE and shared with Eastern NY growers to identify new melon varieties to grow. While customer evaluation is not typically part of our variety trial protocol, the information is critical to the success of markets and we hope we can do more of this type of critique in the future.

Tree Fruit Workshops and Special Permit Training Go Virtual in Response to COVID-19

ENYCHP Tree Fruit Specialists Mike Basedow and Dan Donahue adapted their planned spring and summer workshops for the world of virtual programming. Stone fruit pest management, precision bloom thinning, precision air blast spraying, summer fruit disease management, and harvest and storage management were some of the topics presented to growers using the Cornell Zoom platform. In addition to hosting these meetings live, meetings were recorded and uploaded to the team's YouTube channel. Between live views and YouTube hits, the combined views for recordings is well over 1000. Dan Donahue coordinated an 8-person multi-disciplinary team of CCE regional specialists to revamp the 20-years running CCE/NYSDEC Special Permit pesticide safety training program. CCE staffers and Ms. Julie Suarez of CALS government relations in coordination with NYSDEC staff negotiated, developed, and implemented a virtual Special Permit training program that included 3-hour instructional videos in Spanish and English, packets of instructional and testing material, as well as the required legal permit paperwork customized for each of the 95 participating farms and 540 trainees. In the end, NYSDEC Special Permits were issued in a timely fashion, the safety training needs of non-certified sprayer operators were effectively addressed, and these essential farm employees were able to safely get the job done. While we hope to return to in-person programming in the near future, we plan to continue to offer a wide array of online programming to allow our research-based information and support for education to be accessible to as many growers as possible.



Cornell Cooperative Extension

Eastern NY Commercial Horticulture Program

Podcasts Provide Rapid Support to Produce Farms Facing COVID-19 Challenges

As the COVID-19 pandemic placed constraints on providing in-person training and growers had pressing questions and concerns that were difficult to address in a timely manner through newsletter articles, vegetable specialist Ethan Grundberg worked to develop a series of audio episodes for the Eastern New York Vegetable News Podcast to discuss impacts of the novel coronavirus on vegetable farms in the region. Grundberg interviewed colleagues Liz Higgins to discuss economic impacts of the pandemic and economic assistance programs; Elisabeth Hodgdon to review food safety and sanitation considerations; agricultural workforce development specialist Rich Stup to discuss employee management; and Erin Enouen, a grower in Kerhonkson, who had pivoted to online sales during the pandemic. As of mid-October, the podcast episodes have been listened to a total of 2,275 times in 2020 alone. <https://soundcloud.com/easternnewyorkvegnews>



Eastern NY Vegetable News Podcast

CCE Provides COVID-19 Safety Guidance and BMP's for NY Farms

At the start of the growing season, all farm businesses in New York needed to write and implement "NY Forward" COVID-19 safety plans. The plans cover physical distancing, hygiene, sanitation, health screening, and other important aspects of running businesses to reduce the risk of COVID-19 for farm owners, employees, and customers. In May, a statewide COVID-19 safety plan task force was organized and ENYCHP specialists Liz Higgins and Elisabeth Hodgdon worked on the team to create plan writing guidance documents for farms and retail operations. In June, two webinars were held to introduce growers to safety plans and answer questions relating to COVID-19 safety. More than 300 participants attended the two webinars. Throughout the growing season, ENYCHP specialists continued to provide individualized recommendations and support for farms around the state as plans were implemented. Following a similar collaborative strategy, Laura McDermott worked with Cornell Small Farms and Cornell Dept of Horticulture faculty to develop Best Management Practice (BMPs) protocols for You Pick and Agritourism farms. ENYCHP hosted webinars for several hundred farmers statewide to explain the BMP's and how official NYS Guidance could be adopted to their unique farm situation.

ENYCH Helps Growers Access COVID-19 Funding

CCE ENYCH provided critical support to NY growers by helping them navigate the new and constantly changing landscape of federal disaster funding. Ag Business Educator, Elizabeth Higgins worked with Cornell's Government Affairs Office and NYS Farm Bureau to monitor available programs and advocate for changes in USDA CFAP funding and state programs to better assist specialty crop growers. Liz led efforts to educate farmers and CCE educators about the SBA programs and USDA CFAP 1 and 2 programs for specialty crop growers. The materials she developed, including factsheets, webinars and bi-weekly newsletter articles and podcasts were distributed through ENYCH commodity newsletters reached thousands of growers and technical assistance providers statewide. In addition, the materials were disseminated through the Cornell Ag Workforce site, the Cornell EDEN site, the Cornell Small Farms Program and other CCE Associations. Partly as a result of her efforts, fruit and vegetable farms in the 17 county ENYCH region received \$4.2 million in CFAP 1 payments and specialty crop growers in NYS received \$13.9 million. Apples, onions and squash were the primary crops receiving payments, but a wide variety of crops in our region were covered, including lettuce, potatoes, parsnips, garlic, herbs, greens and carrots.

Figure 3 CFAP1 Payments by ENYCH County (for Specialty Crops)



Third Annual Eastern NY Fruit & Vegetable Conference a Success!

On February 25 & 26, 2020, over 350 growers, 52 companies, 15 CCE ENYCH Program staff and 51 guest speakers attended the third Annual ENYCHP Fruit and Vegetable Conference in Albany. Two days of tree fruit, vegetable, small fruit, grape, hemp and food safety training took place for over 34 hours of educational training. A Farm Beverage tasting was a new addition enjoyed by the attendees. In a post-conference survey, one grower commented, "the program should be an example to other agricultural programs outside of our area" and one vendor commented that this is one of the best shows they attend from around the entire northeast.

Produce Auction Has Best Year to Date, Brings in New Growers

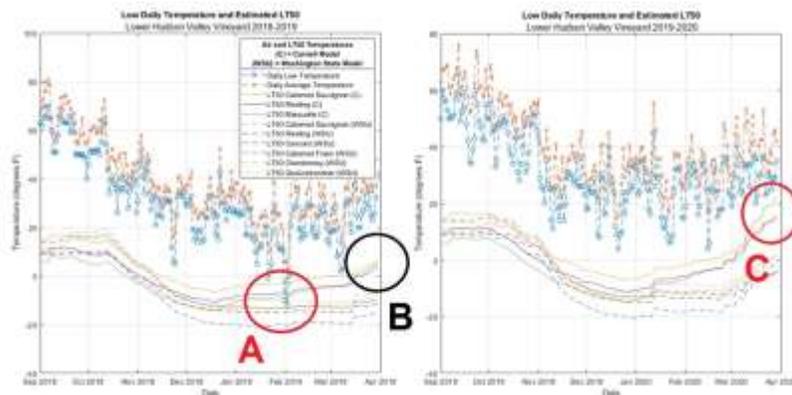
The Mohawk Valley Produce Auction in Montgomery County exceeded one million dollars in annual sales in 2019, and this spring completed a \$250,000 infrastructure expansion to continue the positive trend. The winter grower meeting supported by our vegetable team had record attendance in the winter of 2020, with many new faces looking to start growing produce in the Mohawk Valley. To support the expansion by new produce farms entering the state, Crystal Stewart-Courtens committed to holding in-person office hours at the auction every Tuesday from 10-11 am. This steady presence will provide growers from the plain community with easier access to timely, research based information. The Auction also has a membership in the team, and receives newsletters which are posted on a bulletin board. With significant support from the regional teams, all produce auctions in NYS were able to operate at full capacity despite Covid-19. The teams helped auctions develop safety protocols, post applicable signage, and understand the implications of operating an essential business during the pandemic. The auctioneer at the Mohawk Valley Produce auction reported during a conversation in June, "We would not have been able to open the auction this year without you". Not only did the auction operate, it had its best year to date with the expanded building accommodating tractor trailers from the Hudson Valley and beyond.



PROGRAM HIGHLIGHTS CONT.

New Tools for Better Predicting Bud Cold Hardiness and Budbreak

Researchers in Geneva have recently developed a new grape physiology model for predicting how buds acclimate to winter temperatures and subsequently de-acclimate. These models were added to Jim Meyers ENYCHP daily vineyard reports this winter, giving every grower daily information about potential winter damage, and budbreak estimates to guide pruning practices to compensate for potential losses. This spring, a prediction of early budbreak has been used to inform decisions regarding frost mitigation activities, such as dormant spraying to delay budbreak and sprays that may temporarily increase bud hardiness prior to a predicted cold event. The tools have also been used to improve site selection recommendations.



A demonstration of the bud hardiness model predicting (A) substantial winter injury during January and February in 2019; (B) a fairly typical budbreak date in Spring of 2019; and (C) a budbreak date for Spring 2020 that is well ahead of 2019.

2020 Collaborators

- Cornell Farmworker Program
- Cornell Institute on Climate Smart Solutions
- Cornell Small Farms Program
- Garlic Seed Foundation
- Glynwood
- Grow NYC
- Hudson Valley Farm Hub
- Hudson Valley Research Laboratory
- Louisiana State University
- Michigan State University
- National Institute of Food & Agriculture
- NE Sustainable Agriculture Research & Education
- New World Foundation
- New York Apple Association
- New York Farm Viability Institute
- New York State Vegetable Growers Association
- Northeast Organic Farmers Association-NY
- Northeast SARE
- Northern NY Ag Development Program
- NY and NE Integrated Pest Management
- NY Apple Research and Development Program
- NY Center for Agricultural Medicine & Health
- NY Farm Bureau
- NYS Berry Growers Association
- NYS Dept of Agriculture and Markets
- NYS Dept of Environmental Conservation
- NYS Dept of Health
- NYS Dept of Labor
- Onion Research and Development Program
- Orange County Vegetable Growers Association
- Pennsylvania Dept. of Agriculture
- Produce Safety Alliance
- University of Maine
- University of New Hampshire
- University of Rhode Island
- University of Vermont
- US Dept of Agriculture
- US Dept of Labor

STAFF

ENYCHP Specialists

- Charles Bornt, Vegetables
- Ethan Grundberg, Vegetables
- Elisabeth Hodgdon, Vegetables
- Teresa Rusinek, Vegetables
- Crystal Stewart-Courstens, Vegetables
- Maire Ullrich, Vegetables/Hemp

- Laura McDermott, Small Fruit
- Michael Basedow, Tree Fruit
- Daniel Donahue, Tree Fruit
- James Meyers, Viticulture/Grapes
- Liz Higgins, Business

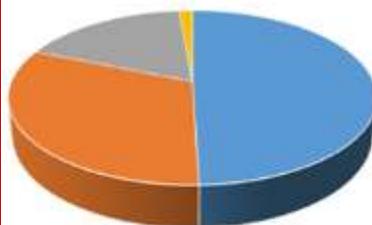
Technicians

- Sarah Eve Elone
- Natasha Field
- Andy Galimberti
- Sarah Tobin

Administrative Staff

- Chelsea Truehart
- Marcie Vohnoutka

2019 OPERATING BUDGET



- Supporting County Association Shares: \$539,030.00
 - ENYCHP Grants & Funds¹: \$344,547.00
 - Cornell University Federal Funds²: \$190,000.00
 - 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

Cornell Cooperative Extension
 Eastern NY Commercial Horticulture Program

Cornell Cooperative Extension is an employer and educator recognized for valuing AA/EEO, Protected Veterans, and Individuals with Disabilities, and provides equal program and employment opportunities.

Important Information

2020 Vegetable Variety Trial Highlights

Wednesday, Dec. 9, 2020 from 10:00-11:30am via Zoom

Join ENYCHP Vegetable Specialists for an hour and a half review of beefsteak tomatoes, leeks, seedless watermelon, peas, Irish potatoes, and broccoli with special guest Sandy Menasha from CCE Suffolk County.

To register: <https://cce-enychp.teachable.com/p/variety-trial-highlights>

High Tunnels After Dark

Tuesdays, Dec 1, 8, and 15 from 5-7pm via Zoom

Join University of New Hampshire Extension for their virtual high tunnel conference on Tuesday evenings in December. Cost: \$25 for the entire series, or FREE if you would like to present one slide during their grower innovation "lightning round." Pesticide recertification credits will be available for New England growers who attend live (NY DEC credits TBD; check back for updates).



Tues, Dec. 1. 5-7 PM. Keynote and Kickoff: Dave Chapman, from Long Wind Farm in East Thetford VT, will present: "Low tech tunnels to high tech greenhouses: choosing technologies that work for you", and "Important business considerations for tunnel producers".

Tues, Dec. 8. 5-7 PM. Diseases & Insects in High Tunnels: Cheryl Smith (UNH) presents "Diagnosing problems in high tunnels", and Anna Wallingford (UNH) and Cheryl Sullivan (UVM) present "Common and uncommon insect pests of tunnels and best practices to manage them".

Tues, Dec. 15. 5-7 PM. Soil, Pest and Crop Management in Tunnels: Jonathan Ebba and George Hamilton (UNH) present "5 tips to getting good spray coverage in tunnels", Becky Maden (UVM) and Bruce Hoskins (UME) present "Adjusted high tunnel fertility guidelines: how are they working in practice?", and "Varieties for high tunnels" will be presented by seed company representatives.

In the **Lightning Round**, presenters have one photo or slide, and present an idea in just three minutes. Maybe you have a favorite tool, and interesting technique for pruning, or a new crop or technology that you tried. To pitch your idea, please email becky.sideman@unh.edu.

To register: <https://extension.unh.edu/events/webinar-high-tunnel-conference-session-1>

CCE is a partner on an RIT project that is creating new methods for manufacturing plastic mulch and promoting its field break-down. The project aims to tightly match new product development to grower preferences, on-farm use patterns, and current economic constraints surrounding plastic film use. This 5-minute survey is being used to collect that data – we'd greatly appreciate your input! https://cornell.ca1.qualtrics.com/jfe/form/SV_3mxuWOVIZlaxGvj

Tons of GREAT Virtual Educational programming this year – Don't miss out!

December 8-10 – [Great Lakes EXPO](#)

January 11 – [Becker Forum](#)

January 12-14 – [Empire State Producers EXPO](#)

January 18-20 – [North American Strawberry Growers Annual Conference](#)

February 8-11 – [Mid Atlantic Fruit and Veg Conference](#)

February 22-25 – [North American Raspberry and Blackberry Conference](#)

May 1-4 – [International Strawberry Symposium](#) – a Hybrid event, live conference in Italy (hopefully!)



Cornell Cooperative Extension
Eastern NY Commercial Horticulture Program

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