Cornell Cooperative Extension | Cornell Vegetable Program

QUARTERLY HIGHLIGHTS ●●●Q2●●●

The Cornell Vegetable Program is a Cornell Cooperative Extension partnership between Cornell University and CCE Associations in 14 counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Monroe, Niagara, Ontario, Orleans, Oswego, Seneca, Steuben, Wayne and Yates in 2020.

The team of Vegetable Specialists provides educational programs and information to growers, processors and agri-business professionals, arming them with the knowledge to profitably produce and market safe and healthful vegetable crops.

800
farm visits and direct contacts

Working Together to Support New York's Essential Produce Auctions During COVID-19

Produce auctions are aggregation and distribution nodes for farmers to participate in the wholesale economy of vegetables, fruit and flowers. Eight NYS produce auctions conduct more than $8.1 million in business, between an estimated 6,000 growers and buyers. Six of these auctions are within the Cornell Vegetable Program region.

At the outset of the COVID-19 outbreak in New York, Cornell Vegetable Program Specialists Judson Reid and Elizabeth Buck actively reached out to our contacts in New York State Department of Agriculture and Markets to ensure that produce auctions were considered essential businesses. Once confirmed, the group widened to include educators from other regional teams: Lindsey Pashow from Harvest NY, and Crystal Stewart-Courtens from the Eastern New York Commercial Horticulture Program. This CCE team of educators divided the auctions amongst themselves to serve as primary contacts to ensure compliance with NYS Department of Health and CDC guidance.

By educating auction management, the CCE team was able to help these businesses begin their season on the right side of the regulations. Law enforcement and local public health agencies were contacted to ensure common understanding. Signage, COVID-19 policy, and NY Forward Business safety plans were provided with support to implement compliance.

Today, all eight auctions are operational, following health guidance, and experiencing robust sales. Further, we worked with the auctions to operate as distribution points for hand sanitizer and face masks for the agricultural community.

2020 Special Permit Pesticide Training Persevered Despite COVID-19

2020 marked the 21st consecutive year that the CCE Cornell Vegetable Program (CVP) and Lake Ontario Fruit Team (LOFT) offered Special Permit (SP) pesticide training for fruit and vegetable farms in western NY. A Special Permit allows non-certified applicators, mixers and loaders to handle select 10 federally restricted-use pesticides. It relieves the NY DEC requirement for "on-site direct" supervision of non-certified individuals when applying federally restricted-use pesticides. Typically, over 300 farm workers are trained over the course of 2 days in-person in Orleans and Wayne counties in early April. Obviously, COVID-19 prevented in-person training this year.

Fortunately, an alternative approach was approved by the DEC which allowed the farm supervisor/certified pesticide applicator to administer pre-recorded modules and written exam to SP trainees. A multi-disciplinary, CCE regional ag team quickly got to work, which included veteran/lead SP trainer, Christy Hoepting from CVP, veteran SP Spanish-language trainer, Libby Eiholzer from NWNY Dairy, Janet van Zoeren from LOFT, and Dan Donahue and Mike Besedow from ENY Commercial Horticulture Program. Within just 2 weeks, they produced a 7-module 3-hour pre-recorded SP training program that included a training material packet and 20-question exam, offered in both English and Spanish, and detailed instructions.

The course rolled out the week of April 13. Within the CVP and LOFT regions, 60 farms enrolled 259 workers for Special Permit Training. In total, across all regions including the Hudson and Champlain Valleys, 95 farms enrolled 451 workers. Ninety-eight percent of the SP trainees have passed their exams to date.

In-Person Food Safety Trainings for Farmers Go Virtual Amid COVID-19 Restrictions

Two farm food safety trainings were adapted to online formats:

1. Farmworker food safety training
2. Incorporating food safety practices into wash/pack activities.

The curriculums were developed by Robert Hadad and Caitlin Tucker of the CCE Cornell Vegetable Program (CVP), and was funded by the Northeast Extension Risk Management Education grant program.

The farmworker training program, originally a classroom/on-farm session following a very detailed PowerPoint presentation, teaches farmworkers the important practices they must follow to reduce microbial contamination on the farm. We took this format, broke it down into smaller sections, and added narration. The new 5-part video series, "Essentials of Food Safety for Farmworkers" is now available on the CVP YouTube channel. We have promoted the new resources through VegEdge and Facebook and through the Northeast Center Advancing Food Safety Clearinghouse resource where the info has been the 5th most viewed resource since its posting.

We revised the wash/pack presentation, which included hand-on activities and educational demonstrations, and offered the presentation as a "live" virtual training for growers within our WNY region in early June. Twenty-two growers and farmworkers joined us. Lively discussion and important questions were asked by the participants. Since the class, Hadad has been contacted by 6 of the attendees asking more questions with 2 also asking for review of their wash/pack facility operating design/practices. Three more have asked for a review of their farm food safety plan. This interaction is hugely important, beyond monetary value, as growers move to improving their production practices making the food they grow safer for their customers.

The virtual training has been offered to Extension educators in the North Country, Southern Tier, and Eastern NY.

Fresh Market Potato Variety Trial Established

Fresh market potatoes have been in high demand this spring, in large part from increased consumer demand due to COVID-19. Surges like these highlight the importance of New York State's fresh market potato industry, and their need for high quality potato varieties. This June, Cornell Vegetable Program Specialist Margie Lund and Technician John Gibbons helped plant the fresh market potato variety trial in Wayne County muck soils. These trials are part of a long-standing potato breeding program at Cornell University, now headed up by Dr. Walter De Jong in the department of Plant Breeding and Genetics. The potatoes tested in these trials are new varieties that are bred for a range of desired qualities. In fresh market potatoes, the trial has a large focus on overall tuber appearance – tuber skin and flesh color and texture, the number of eyes, and tuber shape and size – as well as a focus on overall potato yield and resistance to diseases. All potatoes grown in these trials are grown with the New York farmer in mind, produced to grow well in New York's climate, and meet the needs of the regional fresh market potato industry.

Fresh market potato variety trials are planted by hand. Here are all the varieties tested in the 2020 trial, lined up and waiting to be covered with soil.

Improved Disease Management Tools for the New York Table Beet Industry

Cercospora leaf spot is the most prevalent and devastating leaf disease of table beets worldwide. Individual spots begin on leaves and form spores, which disperse throughout the field by rain and wind. In severe cases, complete defoliation of the crop can result. Loss of foliage is especially problematic for large acreage growers who depend on top-pulling machines to harvest the crop.

The CCE Cornell Vegetable Program (CVP) in partnership with Cornell faculty over the past eight years, conducted research to combat Cercospora leaf spot on local farms. In 2014, a severe outbreak on a Genesee County farm led to the discovery that the fungus had become highly resistant to the most commonly used fungicides at that time. Fast forward to 2020, the result of those eight years of intensive research has provided local growers information on several additional conventional and organic fungicides to use, with a new highly effective product registered for use this year. Registration of these products requires intensive data on the product efficacy on specific crops and pathogens, which our program supplied.

Another exciting development for 2020 is the release of a Cercospora leaf spot decision support system to predict the risk of disease development based on relative humidity and temperature data. The system is available in a beta-format on the website of the Network for Environmental and Weather Applications (NEWA), managed by the NYS Integrated Pest Management Program (IPM) at Cornell University. Table beet managers can select their local weather station from the network and receive the risk of Cercospora from the past three days and the forecast for the next five days. They can then make a decision if a fungicide application is necessary. In many cases, a spray is not required. In our research, using the forecasting method we were able to eliminate one spray per season, a cost savings for the growers and reduction in the carbon footprint.

The decision support system ensures that fungicides are only applied during periods of risk and helps to protect currently labeled fungicides from becoming non-effective because of fungal resistance. In early March, our team visited with managers from two large table beet farms and the two processors to teach them how to use the decision support system. Julie Kikkert, the CVP beet specialist, began scouting local fields in June and detected the first case of Cercospora on June 24th. The grower was alerted. This prompted the publication of an article in our VegEdge newsletter, and direct email to all table beet growers. Interested growers will receive an email twice per week with the Cercospora risk forecast for convenience. Alternatively, they can go to the website for the forecast at any time. Timely fungicide applications with the most effective products will result in better disease control, improved crop yield and harvestability, and help to keep the industry profitable in NY.

Table beets, sometimes known as red beets, have experienced a revival in recent years because of the recognized health benefits, popular new varieties in different colors (gold, white, red and white striped) and milder flavors, and convenience packs, etc. According to the Census of Agriculture, the number of farms in New York that grew table beets more than doubled from 2012 (257 farms) to 2017 (610 farms). In western NY, fresh table beets are popular at a variety of markets because of attractive color for displays and ability for winter storage. Western NY is also home to two processors. Seneca Foods contracts thousands of acres of beets for packing into cans and glass jars. LoveBeets also contracts large acreages for their convenience packs and juices.

Newly Funded Grants & Projects

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This quarter, we are pleased to have received the following grant funds allowing us to advance our commitment to the New York vegetable industry.

Evaluation of In-furrow Drenches and Foliar Applications of Growth Stimulants for Control of Pink Root – Part II, New York Onion and Research Development Program (NY ORDP), 4/1/2020-3/31/2021, $8,710 (**Hoepting**)

Weed Management in Muck-Grown Onions, New York Onion and Research Development Program (NY ORDP), 4/1/2020-3/31/2021, $10,000 (**Hoepting**)

Onion Variety Bulb Rot Project, Seminis/Monsanto/Bayer, 5/1/2020-2/28/2021, $15,000 (**Hoepting**)

Developing a Sustainable Management Plan for Stemphylium Leaf Blight in Onion, Federal Capacity Funds (FCF) for Research and Smith Lever Funds for Extension, 2020-2023 (3 years), $64,317 (**Hoepting**) + $90,000 (Hay)

Control Alt Delete: Enhancing Resiliency of Broccoli Production by Mitigating Alternaria Leaf Blight and Head Rot in the Eastern United States, USDA-NIFA-SCRI, 10/1/2020-9/30/2024, $4M (Bhabesh et al. including **Hoepting**, collaborator)

Managing Herbicide-Resistant and Other Difficult-to-Control Weeds in Field and Vegetable Crops Using Electrical Discharge Systems, New York Farm Viability Institute (NYFVI), 4/1/2020-3/31/2022, $71,865 (Sosnoskie, Brown, Hanchar, **Kikkert**)

Training and Technical Support to Help Small Vegetable Farms Meet the Cleaning and Sanitization Requirements of the Produce Safety Rule, USDA-NIFA FSOP, 10/1/2020-9/30/2023, $442,613 (Grubinger, including **Hadad and Tucker**, collaborators)

Summarizing and Extending Information from Existing Produce Safety Research, USDA-NIFA FSOP, 10/1/2020-9/30/2023, $384,968 (Newbold (NECAFS), including **Hadad and Tucker**, collaborators)

Laser Technology Aided Agricultural Wildlife Damage Management, New York Farm Viability Institute, 2020-2023, $102,440 (**Nafchi,** Zuefle, Bornt)

Application of Laser on Birds Damage Control, USDA, 2020-2023, $444,790 (**Nafchi,** Bornt, Brown, Kluever, Klug, and D. Brown)

Specialists at Cornell Cooperative Extension have designed and pre-tested a laser scarecrow (LS.CCE) in 2019. We plan to refine the design of the LS.CCE, based on farmers' needs and results from field trials. We will educate farmers on this new technology and enable them to use this under a "Do It Yourself" type program. We will work with growers to evaluate different treatments of the LS.CCE on their farms.

Unfortunately, given the uncertainty surrounding COVID-19, and due to an abundance of caution, in addition to supply chain interruption, we may need to postpone our tests to 2021.