1,000+ farm visits and direct contacts

educational events featuring CVP Specialists

808 people attended CVP presentations at events

QUARTERLY HIGHLIGHTS • @ • •

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 2019.

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.







Keeping a Finger on the Pulse of Western NY Onion Pests

Onion Research Scouting Program Leads to Grower Pesticide Recommendations

The Cornell Vegetable Program (CVP) onion research scouting program started in all regions in early June – Elba, Wayne, Yates and Oswego. Every week for the entire growing season, CVP Onion Specialist, Christy Hoepting and three CVP technicians, John Gibbons, Emma van der Heide and Sarah Vande Brake, intensively scout 22 commercial muck onion fields. Hundreds of thousands of Botrytis leaf blight lesions and onion thrips are counted each week, and presence and severity of other diseases, insect pests and weed pressure duly noted. Essentially, effectiveness of growers' pest control programs are quantified and measured in real time.

Based on the CVP's findings, growers receive scouting reports and research/IPM-based pesticide recommendations with emphasis on managing pesticide resistance.

The onion research scouting program is how the CVP keeps their finger on the pulse of what is going on in the field, where research-based recommendations are implemented and adjusted, and often from where new research projects are initiated.





Potato Variety Trials Planted on Cooperating Farms in the Cornell Vegetable Program Region

Potato variety trials are underway in Wayne and Steuben County. The new CCE Cornell Vegetable Program Potato Specialist, Margie Lund, and Program Assistant, John Gibbons, pitched in with the

planting efforts! Fresh market potatoes were planted in a variety trial in Wayne County muck soils, and chipping potatoes were planted in Steuben County.

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. De Jong tests new varieties of fresh market and chipping potatoes for a range of desired qualities – overall yield, skin and flesh color and texture, tuber shape and size, number of eyes, and resistance to disease – in order to produce potato varieties that are adapted to grow in this environment as well as keep up with the changing needs of the regional fresh market and chipping potato industries. These potatoes are bred with New York growers in mind!

Last year's wet fall led to some difficulties at harvest for the trial, with many potatoes left in the ground due to the saturated soils. This year's wet spring has made it difficult to get the trial up and running but now that it is planted, we hope to find ourselves with drier soils at harvest time this fall.

> Walter De Jong, Cornell University professor of plant breeding and genetics. Photo: Jason Koski (UREL)



Onion Growers Attend Oswego Twilight Meeting Despite Drowning Onions and Flooded Trials

Spring of 2019 was unrelentingly cold and wet, which made for extremely challenging and frustrating planting conditions for onions. For many Oswego onion growers it was impossible to get the crop planted on time and much of the crop was planted late or not at all.

To top it off, on the last day of spring, Mother Nature cruelly dropped 3 to 6 inches of rainfall within 3 hours, which left most of the onion acreage in Oswego under water! This was the same day that the CCE Cornell Vegetable Program Oswego Onion Growers Twilight Meeting was scheduled. It was too late to cancel the meeting. Much to our surprise, 35 growers and allied industry representatives still came to the event. Unfortunately, the much anticipated tour of the herbicide trial had to be canceled, because it was under water.

Instead, CCE Onion Specialist, Christy Hoepting delivered an information-packed educational program on other topics including "fresh" research results from a herbicide injury bioassay and new 2019 fungicide recommendations for leaf diseases. Key findings from the herbicide bioassay were that injury caused by the pre-emergent herbicide Outlook was greatest in the variety 'Montclair' confirming previous grower observations, which was enhanced by cold soil, shallow planting depth and co-application with Prowl herbicide. It stimulated a great conversation about use of Outlook in onion, which will ultimately lead to continued research on this subject next year.



Outlook "looping" injury in seeding bioassay.

The most important news regarding fungicide use for onion leaf diseases is that Stemphylium leaf blight (SLB) resistance to Scala fungicide has been confirmed in New York. Unfortunately, Rovral and Merivon are also slipping against SLB, while Rovral and Scala appear to be slipping against Botrytis leaf blight. New fungicide programs that do not use of these fungicides and preserve the useful longevity of the remaining effective fungicides were recommended and are already being adopted.

One hundred percent of the participants that completed an evaluation (18 out of 35 participants) rated the meeting as "Excellent".

Timely, Accurate Pest Identification Saves Crops and Profits

Proper management of diseases, insects and weeds are important for all vegetable growers. For large farms with crops that are grown on hundreds or thousands of acres in the region, costs for pest control quickly add up to tens of thousands of dollars. Additionally, proper farm management requires the ability to make quick decisions and to prioritize which fields need immediate attention amongst many activities that are occurring during spring. Early 2019 brought many challenges to local farms because the wet conditions impeded field preparation and planting, while the cool temperatures delayed crop growth. Furthermore, the spring created several atypical pest challenges.

Western New York is a leader in table beet production with roughly 4,000 acres grown for Love Beets USA and Seneca Foods, Inc. The extended cool, wet season brought on widespread bacterial leaf blight which threatened crop establishment. The Cornell Vegetable Program (CVP) had growers on alert through newsletter articles and personal contacts, noting the weather was a perfect storm for the disease. Growers seeing their beet fields becoming purple and with spotted leaves were ready to start spraying with a fungicide against a more common disease, Cercospora leaf spot (CLS); however, Cornell research and scouting provided the knowledge that CLS was not present, nor was the weather conducive for the disease. CVP Processing Vegetable Specialist Julie Kikkert checked out the problem and identified the disease as bacterial leaf spot, not CLS. The industry was alerted and advised that the priority was to treat young plants with copper sprays while older plantings would grow out of the leaf spotting as the weather became warm and dry. This way, the growers could save their fungicide sprays if and when CLS actually appears. Research being conducted in collaboration with Cornell faculty continues to test disease forecasting models, pathogen biology, fungicide resistance, and novel methods for disease control.

Similarly, in early June an unusually large number of late planted vegetable crops were in the ground when black cutworm caterpillars were very active. The CVP received several calls on a variety of crops including processing green peas, sweet corn, beets, potatoes, and onions. In an extreme case, one grower lost 50+ acres of young table beet seedlings as the cutworm caterpillars were voraciously feeding with crops seemingly disappearing from fields overnight. CVP assisted in diagnosing the problem, consulted with Cornell entomologists, and sent out a timely pest alert to broadacre table beet growers with information on how to scout the fields and treatment options. A follow up article in the weekly VegEdge newsletter alerted all growers about black cutworms, and to be on the lookout for common "true" armyworms which were also active at the time. This action saved growers thousands of dollars in lost crops and replanting costs, such as experienced by the beet grower with the initial problem.



Cornell Vegetable Program Increases Yield on Erie County Farm by Nearly 50%; Success Story Featured on Local News

CVP has worked with Journey's End urban farm in Buffalo for several years on integrated pest management, farm economics and high tunnel soil nutrient management. Our work continues in this guarter as Judson Reid conducted a pest management workshop that educated participants on the biology of cucumber pests with biological and cultural control options. Further workshops focus on transplant, irrigation and trellising of high tunnel crops. The farm is currently on a biweekly scouting schedule with CVP Program Assistant Caitlin Vore inspecting crops for pests and diseases while working with farm managers on sustainable control options. Multiple grants have funded these efforts including the Towards Sustainability Foundation and Federal Capacity Funds.

The results? Over the previous 2-year period total yield (in lbs) increased by 48%, with roughly an equivalent increase in revenue. Participants in this program benefit by developing job skills and a sense of integration and ownership. To quote farmer Bir Rai "The goal of every human being in this world is to eat...When I came here Journey's End provided me some training...I am able to make some money, which is good." The success of the project attracted the attention of local media, with Spectrum News producing a video that appeared on television and the internet.



Yield Comparison 2016/2018

We would like to acknowledge our excellent partners Megan Burley, strawberry and cutflower farmer from Burley Berries & Blooms (and former CCE Educator), as well New Shoots farm managers Jenna Walczak and Lauren Dawes.



New Produce Growers Gain Knowledge through Monthly Meeting Series

It's the second Wednesday evening of the month. Where are most of the new produce growers in Allegany, Cattaraugus, and Wyoming counties? They've made a long trek to a peer's farm to spend their evening with Cornell Vegetable Program staff.



These growers have gathered for an installment of a summer long, hands-on crop management course. With dozens of crops each needing different management plans, literal hoards of insect pests, carpets of weeds, and plant diseases blowing on the wind, produce growing is tough!

Though growing fresh market vegetables may seem a daunting undertaking, the Genesee Valley Produce Auction continues to attract new growers from a three county region. Many of these individuals are first time produce farmers and belong to plain communities. Particularly, vegetable farming offers younger community members a unique opportunity to change career paths, develop an economically viable business, and fulfill a goal of working from home.

The CCE Cornell Vegetable Program (CVP) supports the successful development of these enterprises and strengthens the Southern Tier grower community through our monthly field walk educational program. Attendees are a diverse mix of long-time and beginning farmers, organic and conventional producers, English and plain community members, and auction and non-auction marketers. This blend of growers promotes the development of a peer network and facilitates the transfer of production techniques and growing system approaches.

CVP staff teach growers essential integrated pest management knowledge and scouting skills at each field walk. Building from there, CVP discusses control options and preventative horticultural techniques to help growers make effective, economical management decisions, strengthening the relationship between Cornell Cooperative Extension and area growers.

A Cornell Cooperative Extension partnership between Cornell University and CCE Associations in western and central NY counties.

Newly Funded Grants & Projects

Your Trusted Source for Research-Based Knowledge

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

Women in Agriculture: Voices, Experience, Skills (WAVES), Farm Credit's Northeast AgEnhancement Program, \$2,000 (Buck, CCE Erie)

Female "Farm-hers" account for 37.8% of all farm operators in NY and manage 33.1% of New York's farmland. Yet at many agricultural meetings, farming women's voices are drowned out. To address this, CVP and CCE are running a free monthly women's discussion group from April to November; 6 of the meetings focus on vegetable production. Each meeting features an industry leading Farm-her host sharing her expertise on a business and farm management topic. CVP, CCE Erie, and Cornell researchers give production lessons and facilitate group discussion.

Goals: Facilitate the development of a peer-resource network; highlight the accomplishments, business acumen, and production skill of established farm-hers; share IPM & crop management techniques from expert-hosts & CCE to the whole group

Management of Phytophthora Blight in Cucurbits and Peppers, Pennsylvania Vegetable Marketing and Research Program, Pennsylvania Vegetable Growers Association, \$4,000 (Buck, Vande Brake). Grower Cooperators: Matt Merle, Nate Harris, Agles, Jeff Hurtgam

Phytophthora Blight is a long-persistent, highly destructive, soil and water-borne disease of many vegetable crops. This pilot project aims to move the Phytophthora Blight management and observational research capacities into the age of digital agriculture through GIS mapping.

Project Objectives: Identify zones of high and low disease risk within a field or farm to increase treatment plan efficiency and efficacy; document areas at risk for Phytophthora introduction based on topography, water run-off, vehicle flow patterns, and irrigation water sources; build layered field history maps that will include the past cultural and chemical controls to determine the most successful management approaches for that specific farm/field; create maps that will interface with existing tractor RTK programs to prepare for future precision ag management techniques

Improving Soil Nitrogen Management in Winter High Tunnel Systems, Specialty Crop Block Grant, 10/1/19-9/30/20, \$86,551 (Reid, Vore). Collaborators: ENY Commercial Hort team's Elisabeth Hodgdon, farmers in 6 NYS counties, CU Department of Horticulture's Thomas Bjorkman, Cornell Willsboro Farm Manager, Mike Davis, and Betsy Leanord, Organic Farm Coordinator

Goals: Increase the productivity and quality of high tunnel specialty crops, specifically tomatoes and winter spinach, and improve the sustainability of high tunnel soils through development of Best Management Practices for winter cover cropping and development of nitrogen recommendations for winter greens in cold soils. Results will be disseminated to growers through field days, winter conferences, social media posts, and trade publications.

Seminis/Monsanto Onion Variety Nitrogen Bacterial Rot Project, Monsanto/Bayer, 4/15/19-2/29/20, \$15,000 (Hoepting)



