

### **REGIONAL COMMERCIAL VEGETABLE SPECIALISTS**

The Cornell Vegetable Program is a Cornell Cooperative Extension partnership between Cornell University and Associations in 14 counties – Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Monroe, Niagara, Ontario, Orleans, Oswego, Seneca, Steuben, Wayne and Yates – serving the commercial vegetable, greenhouse, potato and dry bean industries in New York.





Cornell Cooperative Extension Cornell Vegetable Program 14-County Region

This region accounts for more than half of all vegetable acres in the state with 1,229 farms, and a farm gate value exceeding \$200 million<sup>1</sup>.



farm visits and crop consultations made by the Cornell Vegetable Program team

## 83

educational meetings and presentations given by Cornell Vegetable Program Specialists



### 3,025

people increased their knowledge by attending presentations given by the Cornell Vegetable Program

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**33** research grants and projects managed by the Cornell Vegetable Program



### **Storage Crop Facility Schools**

Online Learning Opportunities Attract Local Growers and Interest from Other States

Large-scale potato and cabbage producers and smaller-scale mixed commerical veggie growers had the opportunity to participate in one of two vegetable storage trainings hosted by the CCE Cornell Vegetable Program. The Storage Crop Facility School for potato and cabbage growers included information on innovations in large-scale storage and considerations for upgrading old storage facilities. The second School focused on smaller-scale mixed vegetable storage and included presentations on cold storage construction on a small-scale, proper humidity and ventilation management, and considerations for storing mixed vegetables. Both online Storage Crop Facility Schools featured expert speakers from across the Northeast and Midwest and provided information on decreasing vegetable diseases, funding programs for farm storage facilities, food safety considerations, and the NYS Farm to School Program.

Since this was a virtual event, the programming attracted regional attendees as well as some from outside of the state. Forty-one people from 8 states attended the Large-Scale Storage School, and the Smaller-Scale Mixed Vegetable Storage School pulled-in 95 attendees from 13 states and 2 Canadian provinces. Feedback from attendees suggested that while some miss in-person meetings, many enjoy taking advantage of virtual learning opportunities like the Storage Crop Facility Schools.

As part of the greater Extension system, the Cornell Vegetable Program is excited to reach a wider audience for our educational events through online programming.



### Helping the New York Processing Vegetable Industry Stay Competitive

Many households stocked up on canned and frozen vegetables during the coronavirus pandemic, whereas food service and restaurant sales were down. New York is an important processing vegetable production region and supports two canning plants for Seneca Foods Corporation (Geneva and Leicester), two vegetable freezing plants for Bonduelle (Bergen and Oakfield), and the Love Beets USA facility (Rochester). Together, these facilities annually support more than 44,000 acres of New York grown processing vegetable crops: beets, carrots, green and wax beans, green peas, spinach, and sweet corn. Because of intense pressure from other production areas of the US and worldwide, it is imperative that New York yields and quality are at the highest possible levels to keep the industry viable in New York.

The CCE Cornell Vegetable Program Processing Vegetable and Table Beet Specialist maintains

communication and Extension programming with growers, crop consultants, and processor field staff. To kick-off 2020, a full-day Table Beet Workshop was organized and held as part of the Empire State Producers Expo in Syracuse in January. The workshop featured Dr. Irwin Goldman, beet breeder from the University of Wisconsin-Madison, a grower-panel, seed industry presentations, and Cornell faculty and graduate students. Once the field season commenced, crop scouting with insect, disease, and weed diagnosis and consultations took place. Crop alerts by phone, text messages and/or the VegEdge newsletter informed growers of critical issues to be on the look out for.

On-farm research projects proceeded as planned with grower-cooperators:

- Field testing a weather-based forecasting system for Cercospora leaf spot in table beets
- Beet variety trials to evaluate disease resistance, vigor of tops, and yield
- Growth regulators in carrots and beets to hold root size until harvest
- Evaluation of an electric discharge device (Weed Zapper) for weed control
- Support for surveys of herbicide-resistant weeds in vegetable crops

These projects are funded by various grower, state, and federal grants and are conducted in collaboration with faculty members at Cornell University and other institutions.



Processing Vegetable Specialist, Julie Kikkert, evaluates weeds after a Weed Zapper treatment.

## Supporting New York's Essential Produce Auctions During COVID-19

Unexpected Impacts on the Food System Spurs Greater Grower Reliance on Cornell Cooperative Extension Agriculture Specialists

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 Cornell Cooperative Extension 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. Further, the CCE team worked with the auctions to operate as distribution points for hand sanitizer and face masks for the agricultural community.

Due to their collaboration with the Cornell Vegetable Program for COVID-19 guidance, the produce auctions were able to respond to record demand for local flowers, fruits and vegetables. Anecdotally farmers shared that they sold out of bedding plants in the spring and experienced all time high wholesale prices for crops such as tomatoes (nearly (\$5/lb) and strawberries (\$12/qt). At one produce auction in the Southern Tier, week-to-week revenue was up \$27,000 compared to the same week in 2019, an 89% increase!

With the interruption of group meetings, the CCE Cornell Vegetable Program (CVP) fresh market team made a commitment to support farmers with individual visits to the farms who were growing to respond to the market demand.

Sales Revenue Over 3 Weeks at Chautaugua Produce Auction



Farmers were challenged with a very dry summer, as well as high insect pressure. CVP Specialists tailored recommendations based on observations at each farm to keep yields bumping. These interactions also fueled our written materials for VegEdge newsletter. To quote one produce auction Board of Directors, *"Thanks for everything you've done to keep the [produce] auctions going this spring."* 



### Despite Pandemic, Farm Food Safety Remains in the Forefront

Educational farm food safety programming efforts had a full slate of in-person trainings, on-farm assessments, and On-Farm Readiness Reviews pending for spring, summer, and fall 2020. That all came to screeching halt on March 15 when all "live" meetings were put on hold. The new challenge facing the Cornell Vegetable Program was how to reinvent program presentations that provided the critical educational interactions typical of in-person meetings and convert over to online sessions.

Our original "live" presentations included activities that involved grower participation, designed to enhance the adult learning experience. Instead, we had to figure out new methods of incorporating interactive demonstrations in the 2-dimentional world of the online Zoom meeting. Once we discovered what tools were available through Zoom and the limitations, we revised our trainings to meet the challenges.

The effort resulted in three major trainings on wash/pack facility food safety practices and a full-day Good Agricultural Practices program. In all, over 70 growers attended and readily joined in the group activities included. Interestingly, with advertising for online programming, the word spread widely. Besides having growers from all 14 counties of the Cornell Vegetable Program region, farmers and farm workers from across New York and some from New England and other states participated in the online trainings. The virtual programming approach looks to be reaching more of our growers, perhaps fitting their schedules more reasonably. We will continue to explore new opportunities for delivering programming that includes greater interaction.

Throughout the year, over 100 farmers contacted the Cornell Vegetable Program for assistance with food safety issues. Two dozen were looking to improve/expand their wash/pack facilities, turning to our team for help in design, layout, and input on equipment purchases. Many wanted feedback on their food safety plans with 18 looking to achieve certification from GAPs/HGAPs audits. Access to new markets/buyers was the driving force. And at least 40 farms inquired about how the federal regulations were going to impact their operations, asking what they needed to do to get ready for inspections.

Implementing food safety practices, along with certification, led to greater selling potential and improved profitability for these farms.



### **Almost There!**

The Eastern Broccoli Project is Close to Reaching Its \$100 Million Goal

The Eastern Broccoli Project is a multi-state, multi-disciplinary, multi-year and multi-million dollar project that has the ambitious goal of increasing the Eastern broccoli industry to \$100 million. A major part of the project is to develop new varieties that can tolerate the hot nights of the Eastern US and not get all stressed out and produce unmarketable heads. CCE Cornell Vegetable Program Specialist Christy Hoepting has been a part of this project since its inception in 2007. Hoepting and her assistants rigorously field trialed newly developed broccoli varieties that are either just released or in the near pipeline. These variety evaluations have occurred across the Cornell Vegetable Program region on growercooperator farms. Varieties that are being tested now are significantly more heat-tolerant than they were 9 years ago when the project first started.

In its second-to-last year, the Eastern Broccoli Project is close to reaching its \$100 million goal and has seen an entire shift in the industry's standard varieties to new heat-tolerant ones. Wegmans is an important market for broccoli grown in our region. Bill Strassburg, Vice President of Strategic Initiatives at Wegmans was quoted as crediting the Eastern Broccoli Project with the supermarket's shift from 100% West Coast sourcing of broccoli to 80% East Coast sourcing.

# Mentoring the Next Generation to Work in Agriculture and Extension

Cornell Summer Intern Learns Valuable Lessons from the Cornell Vegetable Program

The CALS-CCE Summer Internship Program was designed to develop the skills and exposure of Cornell University's College of Agriculture and Life Sciences (CALS) students to off-campus research and Extension activities. In 2020, Cornell sophomore in biology, Taran Bauer from Penfield, NY was a summer intern with Cornell Vegetable Program Onion Specialist Christy Hoepting and her team. In just 8 weeks, Taran experienced field research in plant pathology, entomology, weed management (featuring herbicides), variety evaluation, nitrogen timing and post-harvest practices. Projects were predominantly in onion but also included cabbage, broccoli and garlic. Taran spent every Monday scouting onions and the rest of week participating in field research including much counting, measuring and rating plants/plots, trial set-up, harvest and data entry, as well as participating in Extension outreach activities.

The highlight of Taran's internship was the "hammer" onion thrips trial. When scouting, Taran observed how one of the growers was struggling to control thrips in a field located in a "hot spot." Thanks to the extra set of hands (and eyes for counting thrips) by having Taran this year, Christy was able to set up a trial in the scouting field with the objective of finding an insecticide combination that could control thrips under high pressure (i.e. a new "hammer"). Taran counted hundreds of thousands of thrips and entered all the data. Indeed, a new "hammer" was found, the new results were promptly shared with the grower, and he used it. Then, Taran personally witnessed the onion thrips plummet

in the scouting field. It was exciting for Taran to go from seeing the problem to doing the research and actually finding a solution and then seeing the immediate benefit.

Aside from learning about the logistics in conducting field studies, Taran's summer internship highlighted how much work is involved in developing effective and affordable pesticide programs. It instilled in him that the key to ensuring a new scientific discovery is useful in the field is to have a deep understanding of the end user/growers and the importance of taking a grassroots approach to addressing production issues in agriculture. He learned the importance of trusted relationships between the scientist and grower in communicating scientific information and how much effort is invested in this aspect.

Taran is committed to pursuing a career in agricultural science with his greatest interests in plant pathology and genetic engineering. Maybe someday he will develop an onion variety that is tolerant to Iris yellow spot virus using genetic engineering? Whatever future scientific agricultural contributions he makes, he will never forget the lessons he learned during those hot days he spent counting onion thrips in the Elba muck during the summer of 2020.



## Onion Growers Adopt New Recommendations for Fungicide Resistance

Stemphylium leaf blight (SLB) can rapidly defoliate and slash yields of an onion crop when uncontrolled. SLB's astonishing capability to develop fungicide resistance has made keeping this aggressive leaf disease under control very challenging. Since 2015, Cornell has documented SLB resistance to varying degrees in Fungicide Resistance Action Committee (FRAC) groups 2, 3, 7, 9 and 11. Going into the 2020 growing season, only three active ingredients (a.i.) within FRAC 3 and one sub-class of FRAC 7 were efficacious on SLB. To preserve useful longevity of these a.i.s, Cornell recommended a strict fungicide management plan.

Ensuring successful implementation of this rather complicated plan, Cornell Vegetable Program (CVP) Onion Specialist Christy Hoepting conducted extensive educational programming on SLB fungicide resistance.

- At the Empire Expo in January 2020, she provided a deep dive into principles of fungicide resistance.
- She developed quick guides that led growers through the decision process steps to design their own spray program.
- New recommendations were detailed in three VegEdge articles.
- Through the CVP onion scouting program on 14 farms, she provided individually-tailored fungicide recommendations every week for 10 weeks.

Onion growers whole-heartedly adopted the new fungicide recommendations for SLB resistance management. In 2020, 73% and 100% of the 18 different spray programs did not exceed more than the recommended three applications per FRAC for FRAC 3 and 7, respectively. Of these applications, the growers rotated among different active ingredients within the same FRAC group 100% of the time. Impressive adoption rates of complicated spray programs demonstrate onion growers' commitment to manage fungicide resistance and the important role Extension has to ensure they make informed decisions.



### New Partnership Supports Agricultural Entrepreneurship in New American Communities

Vibrancy, determination, joy, and a striking sense of community warmly greet everyone arriving at Providence Farm Collective. Located in East Aurora, Providence Farm Collective is a beginning farming incubator that mentors growers and provides community organizations with access to agricultural land. The 100+ growers that work the ground there are from refugee, immigrant, and minority urban communities in Buffalo.

Recognizing the need to provide more formalized training and on-going technical support in vegetable production, Providence Farm Collective invited the Cornell Vegetable Program to partner with them on their Beginning Farmer and Rancher Development Program grant entitled "Growing Tomorrow's Farmers: Beginning Farmer Training and Farmland Access for Socially Disadvantaged Populations", which began in September 2020. The Cornell Vegetable Program will co-develop and deliver two series of eight workshops on vegetable production fundamentals and hands-on skills, and support growers with twicemonthly field visits as they practice what they've learned. At the end of three years, growers will be equipped with the knowledge and skills they need to start their own farm businesses and provide their communities with culturally-relevant foods that were raised following IPM informed, culturally-appropriate production practices.



### **GROWER SUPPORT**

A & L Garlic – Adam McAllister

Abe Datthyn & Sons – Kevin Datthyn, Mike Johnson

Alan Tomion Farms – Alan Tomion, Paul Tomion

Amos Zittel & Sons, Inc. – Mike Wright

Bauman's Farm Market – Bob Treier

Bejo Seeds, Inc – Jan van der Heide, Dennis Ferlito, Jason Plate

Bezon Farms – Joe Bezon

Bickford Farms – Bob Bickford

Big O Farms, Inc. - Max Torrey

Blowers Farm – Greg Blowers

Bowman Farms Inc. – Larry Bowman

Breslawski Farms, Inc. – Nicholas Breslawski

Brewster St. Farm – Lauren Dawes and Company; Journey's End Refugee Service

Brubaker's Produce – Arlan Brubaker

Bushart Farms, LLC – Brent Bushart, Brian Bushart

C. Mark Farms - Cory Mark

Certis USA – Judy Collier

Conable Farms – Dan Conable

CY Farms – Chuck Barie, Emma Long

Dewey Produce – Mark Dewey

Dunsmoor Farms, LLC - Joe Burghart

Duyssen Farms – Dan Duyssen

Evergreen Farms – Eugene Hoover

Farm Fresh First, LLC – Mike Gardinier, Roger Ward, Buzzy Lowe

Fenton's Produce LLC – Paul Fenton

Fisher Hill Farm – Phillip Munson

Fraser's Garlic Farm, LLC – Ed Fraser

Fresh Ayr Farm – George Ayers

G. Mortellaro & Sons, Inc. – Matt Mortellaro

Gakwi:yo:h Farms (Seneca Nation of Indians Agriculture Dept) – Mike Snyder, Will Printup

Gianetto Farms Inc. – Nick Gianetto

Greater Buffalo Urban Growers Industry Group

Groundwork Market - Mayda Ponzatides

Henderberg Farm – Charles Henderberg

Henry W. Agle & Sons, Inc. – John Agle, James Agle

J. Hurtgam Farms – Jeff Hurtgam

Jacobson Farms, Inc. – Adam Jacobson

John Dunsmoor Farms Inc. -John Dunsmoor

John R. Wallace Farms – John Wallace

Johnson Creek Produce - Levi Stauffer

Johnson Potato Farms LLC – Eric Johnson, Mark Johnson

Joseph DiSalvo Farms, Inc – Joe DiSalvo III

K.S. Datthyn & Sons – Eric Tuttle

Kirby's Farm Market – Chad Kirby

Kludt Brothers Inc. – Gary Kludt

Kreher's Poultry Farms – Josh Jurs, Emily Reiss, Brett Kreher, Mike Kreher

L-Brooke Farm – Grady Vincent, Patty Kent

Leverenz Farms Inc. - Dave Leverenz

Love Beets – John Henderson, Daniel Cross, Simon Wood, Robin Leous

Maple Lane Produce – Nelson Nelson, Ruth Hoover

Mele Garlic Farms – Mike Mele

Morgan Brothers Farm – Mark Morgan

Munsee Farms – David Munsee

My-T Acres, Inc. – Jason Gaylord, Pete Call

NRCS - Soil Conservationsist – Nicole Kubiczki

NY FarmNet Consultant – Karen Baase Old Home Farm – Chad Amsler,

Anita Amsler

Pedersen Farms, Inc. – Rick Pedersen

Pleasant Valley Farm – Paul Arnold, Sandy Arnold

Preferred Grain, Kyle Farm – Chuck Kyle

Providence Farm Collective - Beth Leipler

Reeds Farm – Bruce Reed

Reukauf Farm – Charles Reukauf

Root Brothers Farms – Robin Root

Sam Kostarellis

Seneca Foods – Jeff Johnson, Jay Westfall, Jerome Kingston

Sensenig Farm – Curvin Sensenig

Sorbello & Sons – David Sorbello, Dylan Sorbello, Rayne Sorbello

Spoth's Farm Market LLC – Kevin Spoth, Edward Spoth

Syngenta – Larissa Smith

Tomion Farms – Bruce Tomion

Torrey Farms, Inc. – Travis Torrey

Triple G Farms, Inc. – Guy Smith, Peter Smith

Urban Fruits and Veggies – Allison DeHonney

Vacco Farms Inc. – Carmen Vacco

Voelpel Farms Inc. – John Voelpel

W.D. Henry & Sons, Inc. – Ryan O'Gorman

Walstead Farms – William Wals, Donna Walz

Weiss Farms – Anthony Weiss Wild Acres Family Farm – Don Wild Williams Farms, LLC – John Williams Willow Bend Farm – Ann Prescott

Wilson Garlic and Produce, LLC – Greg Wilson The Cornell Vegetable Program works with Cornell faculty and Extension educators to address the issues that impact the New York vegetable industry. The team offers educational programs and information to growers, processors and agribusiness professionals in pest management, variety evaluation, cultural practices, market development, and farm food safety.

### **2020 OPERATING BUDGET**



<sup>1</sup> USDA National Institute of Food and Agriculture Smith Lever Funds

<sup>2</sup> New York State funds

<sup>3</sup> Includes funds from industry, state and federal grants, event registrations, sponsor support, and Cornell Vegetable Program reserve accounts

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### Cornell Cooperative Extension Cornell Vegetable Program

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