CORNELL VEGETABLE PROGRAM

# TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

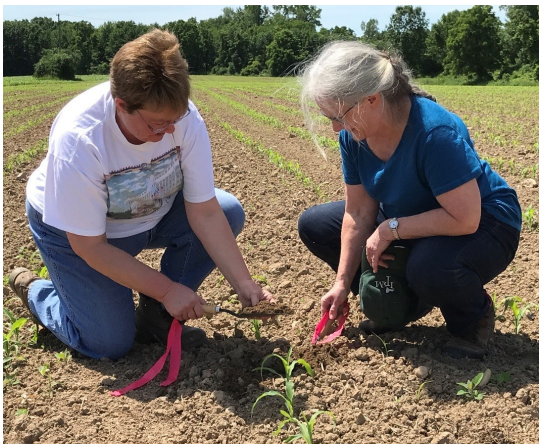
## QUARTERLY HIGHLIGHTS APRIL - JUNE 2018

## CORNELL VEGETABLE PROGRAM

**A premier regional agricultural Cornell Cooperative Extension team that 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.**

- Together, the Cornell Vegetable Program made 773 farm visits and phone/email consultations
- Cornell Vegetable Program Specialists gave presentations at 21 events hosted by the Cornell Vegetable Program, Cornell Cooperative Extension associations and other collaborative organizations
- 832 people attended meetings where presentations were made by Cornell Vegetable Program Specialists

## EVALUATING CHALLENGES AND SUCCESS OF ORGANIC PROCESSING VEGETABLE PRODUCTION



CVP Specialist Julie Kikkert and Abby Seaman, NYS IPM, check on the health of sweet corn seedlings. *Photo: Bryan Brown, NYS IPM*

In 2018, one of the region's vegetable processors, Bonduelle, has contracted with western New York farms to produce several hundred acres each of organic green peas, green beans and sweet corn. The crops are being grown on certified organic ground and may only use fertilizers and pest control products that are listed by the Organic Materials Review Institute (OMRI), a private, nonprofit organization that determines whether or not a product qualifies as organic under the USDA's National Organic Program. Some of the New York farms also grow conventional processing vegetables and others have never grown vegetables, but are experienced with organic field crops. Each farm is faced with unique challenges of soil conditions and fertility, weed management and pest control this year.

CVP processing vegetable specialist, Julie Kikkert, has teamed up with NYS Integrated Pest Management Specialists to visit the growers and fields throughout the season to check on crop progress. In addition to offering suggestions, the team is taking note of issues that are in need of further research and education. A winter review meeting with the processor field representatives and the growers is planned. In-season visits have been conducted with farms in six of the CVP partnering counties: Allegany, Cattaraugus, Monroe, Ontario, Orleans, and Yates. The harvested vegetables are trucked to one of the Bonduelle facilities in Genesee County, where they are washed and frozen. The organic market is another diversification and crop rotation opportunity for New York farms.

## EXPANDING EXPERTISE IN FARM FOOD SAFETY

This quarter, Robert Hadad attended the first full class in NY to be trained under the new Food Safety Modernization Act (FSMA) initiative called On Farm Readiness Review (OFRR). The goal of this new program is summed up by the phrase, "Educate Before You Regulate". Together with the New York Department of Ag & Markets inspection division, efforts will be made to visit produce farms, that choose to participate, over the next 3-5 years providing one on one educational assistance. The team of CCE and Ag & Markets specially trained individuals will help guide growers into compliance with the FSMA produce regulations before actual compliance inspections occur. The soft approach hopes to ease growers over the apprehension and frustration of yet another set of regulations they have to deal with. The OFRR trainers intend to work closely with growers to make the farm visits a conversation about food safety, pointing out best practices, and to answer questions as the action items of the regulations are followed.

The two-day training Robert attended gave him greater insight into the regulations so as to help him "speak the language" of the regulation but not sound regulatory. The training was both in the classroom and on-farm; scenarios were role-played in the classroom and trainees looked for how the farmers were practicing food safety on the farms visited.

Starting mid-summer, Robert will be joining with one or two Ag & Markets personnel and one or two CCE educators (also trained) to visit farms in our region. There are already 16 farms signed up. This program will have significant impact for growers. It will certainly help them move forward with implementing farm food safety practices. This will help make food safer for consumers and protect our food industry.

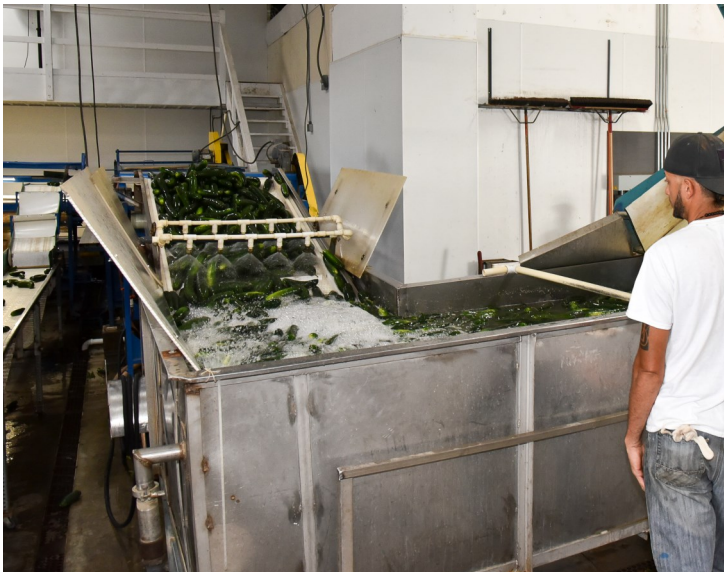
## TWILIGHT MEETING PROVIDES HANDS-ON LEARNING OPPORTUNITY

Vegetable growers and agri-business professionals attended an early season Fresh Market Vegetable Twilight meeting in Eden hosted by the Cornell Vegetable Program on June 19. Experts from the Cornell Vegetable Program (CVP), Cornell University, and NYS Integrated Pest Management (IPM) program provided information to the 28 attendees.

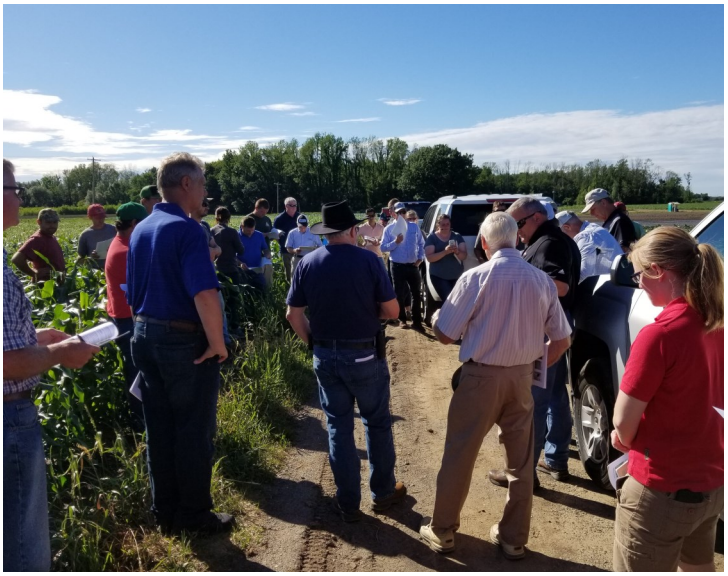
- CVP Specialist Darcy Telenko gave an update on early season disease management options for organic and conventional growers.
- John Wallace, Cornell, and Bryan Brown, NYS IPM, discussed weed management options for vegetable crops with a focus on cole crops.
- Marion Zuefle, NYS IPM, gave a hands-on workshop on how to scout and identify major insect pests in the sweet corn.
- Robert Hadad, CVP Specialist, gave and update on FSMA.

Growers were given multiple opportunities to discuss and ask questions. The event concluded with a barbeque dinner sponsored by agri-business. It was a hands-on learning opportunity that had in-season impact on NYS vegetable production as growers walked away with new tools that they could implement on their farms this season. We compiled some of the images from the meeting in this video posted on the CVP Facebook page.

Growers commented that this field day provided a great mix of information ad examples. One grower stated, "I'm really glad I took the time to attend. This is the best meeting I've been to in years." The content and conversations stimulated new ideas and gave many hands-on learning opportunities. A majority of the participants stated that they would like to see similar programming in the future.



Washing cucumbers at a western New York farm.
*Photo: R. J. Anderson, Cornell Cooperative Extension*

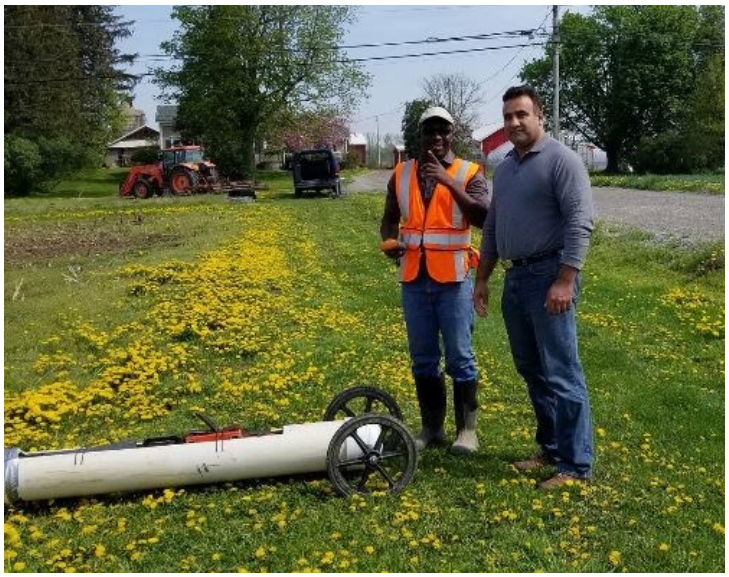


The Fresh Market Vegetable Twilight Meeting in June brought together growers and agri-business professionals and provided a hands-on learning opportunity.
*Photo: Darcy Telenko, Cornell Vegetable Program*

## PRECISION AG SPECIALIST EMBARKS ON TECHNOLOGY FOR WNY VEGETABLES

Dr. Ali Nafchi, newly hired precision agriculture specialist for CCE has been out in the field this summer meeting with vegetable farms to learn production practices in New York and where his expertise can be helpful. Much like field crop production, precision agriculture in vegetables aims to address variations in the production system to enhance plant growth and quality. Precision agriculture tools can improve crop management by precisely utilizing the amount, timing, and manner of inputs based on variability. Water and nutrient management are key to enhanced vegetable crop profitably, and are directly related to the properties of the soil. In a typical production field, soil properties are highly variable. Site-specific management of soil variation within a field is a key to enhanced profit and productivity. Soil electrical conductivity (EC) measurement is a potential tool to indirectly infer bulk soil properties. Many studies have shown good correlation between EC measurement in soil with soil properties (such as; soil texture, drainage conditions, organic matter level, and soil salinity) that affect crop productivity. Information like EC, as one of the "precision agriculture decision-making tools" can help growers decide the type/amount of fertilizer, lime, seeding rate, seeding depth, and irrigation scheduling. There are two methods to measure soil EC in the field. Commercially available sensors are contact or non-contact sensors.

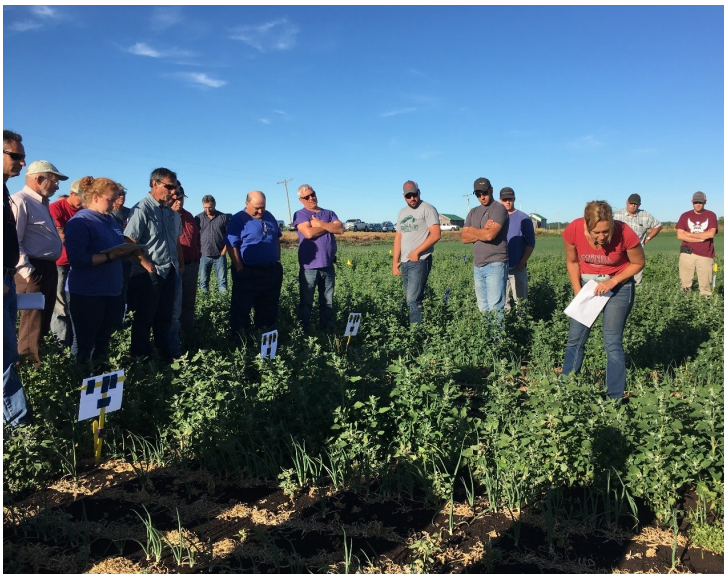
As an ongoing project funded by New York Farm Viability Institute, CCE's Dr. Nafchi, and Dr. Erasmus Oware, University at Buffalo, are working on a project to map and create management zones in a field with variability utilizing an electromagnetic conductivity (Non-contact). They have several sites on farms in the CVP region that are being monitored this season.



Dr. Oware, University at Buffalo, and Dr. Ali Nafchi, CCE, preparing an electromagnetic induction instrument to gather soil information in a vegetable field which will be used to generate a digital soil map to create management zones in that field.
*Photo: Darcy Telenko, Cornell Vegetable Program*

## WEED CONTROL FEATURED AT ELBA MUCK ONION TWILIGHT MEETING

The change from increasing to decreasing day length during the summer solstice is what triggers bulbing in onion. CVP Onion Specialist, Christy Hoepting could not think of a better way to celebrate this very important day for onion than with a twilight meeting featuring tours of herbicide trials on the longest day of the year. To set the stage for bulbing, effective weed control is critical to producing healthy plants, because onion seedlings are such poor competitors with weeds. Weed infestations can drastically reduce onion yield; in extreme situations, onion crops have had to be disked up due to uncontrollable weeds. This year, the Annual Elba Muck Onion Twilight Meeting on June 21st featured the latest results from Hoepting's extensive onion herbicide research program. There were 36 people at the twilight including onion growers from the muck onion growing regions of Elba (Genesee/Orleans Cos.), Wayne and Oswego Counties, as well as allied representatives from the pesticide, seed and distribution industries. An outstanding 11 of these companies also sponsored the meeting allowing it be offered free of charge. There was something for everyone among three on-farm field trial demonstrations, which showcased both pre- and post-emergent weed control options with 11 different herbicides and 10 different weed species in over 50 individual treatments. Many participants thought that the meeting was excellent and are very appreciative of Hoepting's diligent herbicide work. It was an excellent demonstration of how to improve weed control by pushing the envelope with early application timing and tank mixing herbicides together. Also featured were the relative performance of different herbicides and pipeline products, and crop safety. Invaluable sideline discussions among growers, especially from different regions were rampant. Growers indicated that the meeting generated several ideas as to how to improve weed control on their own farms, and they are especially excited about the new pipeline product bicyclopyrone, which could revolutionize weed control in muck grown onion.



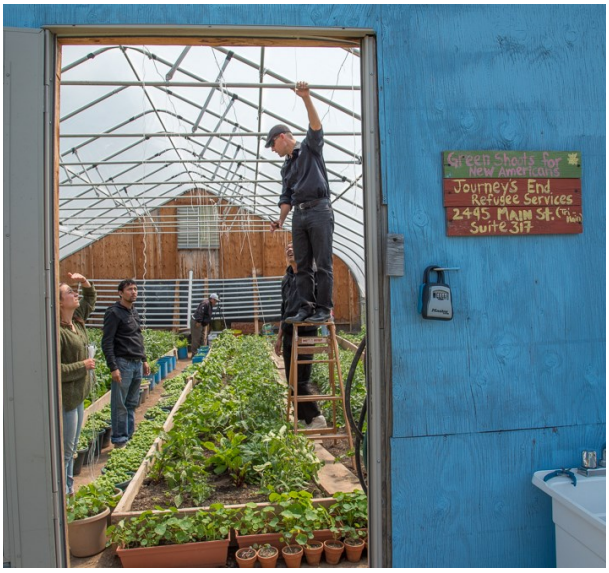
CVP Specialist Christy Hoepting showed attendees of the Elba Muck Onion Twilight Meeting her extensive onion herbicide trials. Discussions provided valuable weed control strategies.
*Photo: Caitlin Vore, Cornell Vegetable Program*

## WORKING WITH URBAN FARMERS TO DEVELOP HORTICULTURAL SKILLS AND DEPLOY NEW PEST MANAGEMENT TACTICS

The Cornell Vegetable Program continued to reach new audiences as well as provide value to long term farms within our region in the 2nd quarter. Working with urban agriculture in Erie County, the Cornell Vegetable Program developed a series of workshops highlighting crop plans, enterprise budgets and horticultural skills such as pruning, trellising and fertilization. Watch a video created by CCE about this project.

Four demonstration plots at urban farms were established with a focus on evaluating vegetable varieties for agronomic traits and pest susceptibility. The CVP worked with CCE Erie County and urban farmers to establish these trials and is currently collecting data on disease resistance in these plots. Crops include tomatoes and cucumbers with disease of concern being Late Blight, Early Blight and Downy Mildew. A networking meeting with CCE educators from other regions was held May 10 to highlight the collaborations on 4 Erie County farms.

An on-farm workshop has been planned to demonstrate the benefits of best management practices for urban farmers. The program will focus on crop establishment and mid-season production options to maximize crop health and production. CVP team members and County Ag Educators will lead the interactive meeting and be available to discuss current field season issues with growers August 22.




CVP Specialist Judson Reid teaching urban farmers how to trellis tomatoes.
*Photo: R. J. Anderson, Cornell Cooperative Extension*

Our goal is for urban vegetable farms to adopt and deploy new pest management tactics by planting resistant varieties and/or improved timing of more effective bio-rational products, leading to 50% reduction in disease and 25% greater yield and quality. Contributing CVP staff include Judson Reid and Caitlin Vore; with Darcy Telenko successfully securing funding from the Towards Sustainability Foundation. CCE Erie's Megan Burley has been an integral partner.

## NEWLY FUNDED GRANTS

Each year, the Cornell Vegetable Program is tasked with generating a certain percentage of our operating funds, or Program Grants and Funds (PGF), through research grants, sponsorships, and meeting registration revenue. This quarter, we are pleased to have received the following grant funds:

- **Supporting the expansion of the New York table beet industry through tools for quantifying risk of root decay**, NYSAES Research Venture Fund, 4/1/18 - 3/31/19, $31,371 (Pethybridge, Kikkert)