CORNELL VEGETABLE PROGRAM TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

QUARTERLY HIGHLIGHTS APRIL - JUNE 2017

CORNELL VEGETABLE PROGRAM

A premier regional agricultural Cornell Cooperative Extension team that provides educational programs and information to growers, processors and agribusiness professionals, arming them with the knowledge to profitably produce and market safe and healthful vegetable crops.

- Together, the Cornell Vegetable Program made over 735 farm visits and phone/ email consultations
- 21 educational events were organized by the Cornell Vegetable Program this quarter
- 860 people attended meetings where presentations were made by Cornell Vegetable Program Specialists



MUTUALLY BENEFICIAL GREENHOUSE VEGETABLE INTEGRATED PEST MANAGEMENT WORKSHOPS

Cornell Vegetable Program (CVP) hosted and presented a workshop on Integrated Pest Management (IPM) in Greenhouse Vegetables on April 26-27 in Geneva, NY. Participants, including Cornell Cooperative Extension county Educators and commercial vegetable farmers, were instructed on IPM elements as well as creating an IPM plan. Farms in Ontario and Yates counties were used as educational sites, along with NYSAES high tunnels.

This collaboration between CVP and NYS Integrated Pest Management is part of a multiyear project funded by NESARE for \$154,711. The goal of the project is for 20 CCE Educators to co-train with growers in greenhouse vegetable IPM; with additional educational programming reaching 150 growers. CCE participants will gain knowledge, skills, and confidence to provide educational programming to growers. Likewise, the participating growers will gain the knowledge necessary to implement IPM techniques to manage disease, insect and weed pests, and reduce pesticide use in an economically profitable approach.



IPM group tour of Ontario County high tunnel during the Integrated Pest Management in Greenhouse Vegetables Workshop, 4/27/17. Photo: Judson Reid, CCE Cornell Vegetable Program



Cornell Professor Courtney Weber teaching IPM techniques at NYS Agricultural Experiment Station high tunnels, 4/26/17. Photo: Judson Reid, CCE Cornell Vegetable Program



RESEARCHING BEST MANAGEMENT PRACTICES FOR CLEANING VEGETABLE WASH EQUIPMENT

As the federal food safety regulations come into effect and more farmers are nearing their compliance dates, new questions have emerged concerning how to efficiently and effectively clean food contact surfaces. Many of the pieces of wash equipment being used by farmers come from designs created a half century ago, with a focus on cleaning the vegetables, not on cleaning the equipment itself.

Given the current demand for farmers to reduce the risk of microbial contamination in all aspects of vegetable farming, it is necessary to develop best management practices (BMPs) for cleaning vegetable washing equipment. The CVP is conducting a research project, funded by the Northeast Center for the Advancement of Food Safety, to assess current practices of cleaning wash equipment and to develop standard operating procedures for farmers to follow.

The CVP has purchased several pieces of equipment through the grant. With assistance from a Wayne County vegetable farmer who also has a degree in mechanical engineering, we are observing where in the machines vegetable debris gets distributed, what happens when the equipment is rinsed and where does the rinse water move the debris to, and how do you reach parts of the inside of the equipment to clean when you can't take it apart. Preliminary results have shown that cleaning the equipment effectively is even more difficult than imagined. Additionally, we are finding that cleaning the equipment thoroughly is very time consuming. So now, we are coming up with how to clean the equipment thoroughly and how to do it in a timely fashion that is cost effective.

This phase of the project will finish up this fall. Workshops will be included in winter and spring meetings. The next phase of research will be how to sanitize the equipment after cleaning it. Providing farmers with BMPs for cleaning and sanitizing will minimize the increased costs they will incur.



Using UV light to locate contamination hidden in produce wash equipment. *Photo: Robert Hadad, CCE Cornell Vegetable Program*

CORNELL COOPERATIVE EXTENSION'S NEW VIDEO SERIES KICKED OFF BY THE CORNELL VEGETABLE PROGRAM

Recognizing the opportunity for Cornell Cooperative Extension to create short, social media style videos related to common pests affecting NYS agriculture producers, regional ag team Videographer, Jim Monahan, and CCE's Communications Staff Writer, R. J. Anderson, created the concept of the Better Know a Pest video series. The idea was described to the Cornell Vegetable Program during a team meeting in April and the CVP jumped onboard, compiling a list of common New York vegetable pests that can be developed into videos to be included in the video series.

The **Better Know a Pest: Flea Beetles** video was created and released by the Cornell Vegetable Program on May 25 followed by the **Better Know a Pest: Swede Midge** video which was officially launched on June 12. Timing of the video releases and promotion relates to when the pests are impacting vegetable producers in our region. The videos can be found on the <u>Cornell Vegetable Program Facebook page</u> under Videos and in the Posts timeline, on the <u>CVP YouTube channel</u>, and embedded on our website under the appropriate crops and on our Pests page. Additional promotion of the new videos has occurred in VegEdge newsletter, via Twitter, and as the videos were shared by Cornell Cooperative Extension, area teams, county associations, and related businesses.



The Better Know a Pest:: Swede Midge video has been viewed by more than 300 people on the Cornell Vegetable Program's Facebook page and our YouTube channel, and has been shared by CCE Sullivan, ENY Commercial Horticulture Program and CCE Erie on Facebook.

3RD ANNUAL FRESH MARKET VEGETABLE FIELD DAY A SUCCESS!

Over 40 growers and industry representative attended the 3rd Annual Fresh Market Vegetable Field Day in Batavia on June 26th. Cornell Vegetable Specialists Darcy Telenko, Robert Hadad, Christy Hoepting and Judson Reid along with Crystal Stewart from Eastern NY Commercial Horticulture Program, and Megan Burley, CCE Erie, offered a diverse day-long program. Growers toured CVP demonstration and research plots that included a sweet corn herbicide trial, sweet corn and pumpkin variety trials, stale-seed bed weed management programs in squash and root crops, organic disease management demonstration in tomato and cucumbers, and a state-wide research trial in garlic for soilborne disease management. In addition, Allison Chatrchyan director of Cornell Institute for Climate Smart Solutions spoke about new Climate Smart Farming tools and resources available to help growers manage climate risk. Julie Pacatte from the Batavia Development Corporation and Matt Gray, Batavia Brewing Co., spoke about the new Farm to Table initiative in Batavia and their program, FreshLAB, to connect local farms to new aspiring restaurateurs. Several industry representatives were also on hand to talk about their new products.

Growers commented that this field day was "excellent as always" and "provides new learning opportunities" for fresh market vegetables. "These field days are invaluable" they allow us to "network with other farmers to learn about new ideas, every year for example the new tools available for climate change as we learned about today."

When asked why they come to the field day, a grower stated "Who wouldn't want to be here?! It is a great way to see test fields in action, what's working and then take those ideas back and applying to our farm makes it meaningful for me to be here."



CVP fresh market research trials at Batavia and in Portland were partially funded by the Towards Sustainability Foundation.

A key component of this event was the support provided by industry organizations – major exhibitors included BASF, BioSafe Systems, Keyplex, NutriAg, and OroAgri. Participating Sponsors included Artic Refrigeration, Empire Tractor, SeedWay, Sigers Seed Co. and Stokes Seeds. Generous donations, support, and assistance were also provided by Amos Zittel & Sons, Inc., Bayer Crop Science, Bejo Seeds, Inc., Cornell Cooperative Extension, Dupont Crop Protection, Harris Seed, Partridge's on the Farm Market and Syngenta.

An <u>album of photos from the event</u> can be found on Cornell Cooperative Extension's Facebook page or by visiting the <u>CVP</u> <u>flickr</u> photostream.

The Cornell Vegetable Program will be hosting an end-ofseason Field Day on August 29, 2017 in Portland. We encourage all vegetable growers to attend as a number of Cornell vegetable faculty will be joining the event including the new Cornell Weed Scientist, John Wallace.



Cornell Vegetable Program Specialist Christy Hoepting (in red) listens intently to question while ENY Commercial Horticulture Program Specialist Crystal Stewart (on right) inspects garlic while a grower looks on. *Photo: R.J. Anderson, Cornell Cooperative Extension*



Cornell Vegetable Program Specialists Judson Reid and Darcy Telenko listen to Monroe County grower, Ed Fraser of Fraser's Garlic Farm, LLC during the Fresh Market Vegetable Field Day in Batavia. *Photo: R. J. Anderson, CCE*

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MUCK ONION GROWERS IMPLEMENT RESISTANT MANAGEMENT PRACTICES FOR ONION THRIPS

Onion thrips are the most economically important insect pest of onions, and when not managed the feeding damage that they cause can reduce bulb weight by 30 to 50%. When consecutive and multiple generations of onion thrips are exposed to an insecticide, the population develops resistance to it deeming it ineffective. Through a "research" scouting program, CVP Onion Specialist, Christy Hoepting and Cornell Onion Entomologist, Brian Nault encourage resistance management practices through weekly spray recommendations based on scouting data. In this program, they track thrips pressure in 20 commercial onion fields and work with 15 muck onion growers in the CVP region. In addition to the weekly interactions, Nault and Hoepting hold a pre-season meeting with the growers to review the previous year's results and to suggest slight changes to the program to improve efficacy and efficiency. Last year, scouting and spray record data indicated that one of the insecticides, Radiant was not as effective as it once was. Although individual farms were practicing resistance management strategies, after each field was treated with Radiant before harvest, the thrips moved from those fields to adjacent unharvested fields where they were also treated with Radiant, and so forth over a period of 4-6 weeks. Consequently, multiple consecutive generations of thrips were exposed to Radiant allowing resistance to develop. To disrupt this pattern, Nault and Hoepting recommended that onion growers refrain from using Radiant until August so that only one generation be exposed to the insecticide and to no longer use the lowest label rate of Radiant.

At this year's pre-season meeting, sharing of scouting data and spray records revealed that of the grower's thrips management programs, 100% used higher rates, 89% refrained from using Radiant until August, and when Radiant was used in this manner, it was reliably effective 100% of the time. In the Elba region, there was also a 23% reduction in total use of Radiant in 2016 compared to 2015. What made this especially impressive was that 2016 was a very challenging year to control onion thrips, and to resist using the top-performing insecticide under these conditions demonstrates the growers' priority to resistance management. At least one grower is already planning to not use Radiant at all in 2017 in an attempt to preserve its useful longevity. If New York onion growers can veer off onion thrips from developing resistance to Radiant, this will be a historical event in onion thrips management history!



Cornell Vegetable Program Assistant Cordelia Machanoff scouting onions. Photo: Christy Hoepting, CCE Cornell Vegetable Program

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:

• Novel Seed Treatments for Early Disease Control and Increased Profitability of the Table Beet Industry in New York, New York State Specialty Crops Block Grant, 10/1/17 - 9/30/19, \$99,834 (Pethybridge, Taylor, Kikkert)



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