Cornell University
Cooperative Extension
Cornell Vegetable Program

Serving Allegany, Cattaraugus, Erie, Genesee, Monroe, Niagara, Ontario, Orleans, Seneca, Wayne & Yates Counties

CORNELL VEGETABLE PROGRAM HIGHLIGHTS
JANUARY – MARCH 2015

Successful Winter Meetings Prepare Vegetable Growers for the Upcoming Season

Over 60 farmers attended the Cornell Vegetable Program (CVP) winter meetings in Erie and Niagara Counties in February. CVP and Erie County hosted a two-day event starting with a high-tunnel school that included presentations from Cornell Vegetable Team members Judson Reid and Elizabeth Buck. Topics ranged from site selection and structural considerations to cultural and disease management. The day was rounded out by an experienced grower panel discussion regarding the benefits and risks of high tunnel use on their farm. Day two of the Erie Vegetable meeting and the Niagara meeting addressed a number of the major vegetable pest and production issues. They included presentations from Cornell's newest plant pathologist, Sarah Pethybridge; NYS IPM coordinator, Abby Seaman; and Darcy Telenko and Judson Reid from the Cornell Vegetable Program. Growers heard topics on weed biology and herbicide resistance management, disease biology and management, marketing produce, beneficial insects, and rotations for organic vegetable production. One of the growers in attendance commented on the "excellent meeting and topics." Both conventional and organic growers that attended these meetings stated that they learned new and useful information for pest management on their respective farms.

Program Aide, Elizabeth Buck, speaking at the Erie Vegetable Growers Meeting in February
Photo: Darcy Telenko, Cornell Vegetable Program

Workshop Readies Growers for Annual Battle Against Weeds

A single plant of red root pigweed that escaped control last year may have shed over 100,000 seeds into the soil which are ready to sprout this season or in years to come. Weeds are a constant pest in crop fields and in the U.S. alone, losses from weeds in all crops is estimated at $4 billion yearly and that doesn't include the $15.5 billion spent on control measures. Weeds reduce crop yields, interfere with harvesting operations, and may be poisonous or allergenic to humans or livestock.

Cornell Vegetable Program Specialist, Darcy Telenko, speaks to workshop attendees about the current status and management options for herbicide resistance.
Photo: Julie Kikkert, Cornell Vegetable Program

To ready growers for the upcoming season, the CVP hosted a workshop on weed management for processing vegetable and dry bean growers on March 11, 2015. Fifty eight growers, processors, and crop consultants from throughout the CVP region met in Batavia to gain expert advice and discuss weed management strategies. Cornell University Professor of Weed Ecology, Dr. Toni DiTommaso taught the group about weed biology and methods to reduce the weed seed bank in the soil which included cropping and tillage practices. Dr. Robin Bellinder, Cornell Vegetable Weed Scientist, discussed the ins and outs of herbicides available for peas, dry beans, snap beans and lima beans. Lastly, CVP weed specialist, Dr. Darcy Telenko informed the group about the growing concern over herbicide resistant weeds and what to do to avoid this problem. Ninety-five percent of the participants rated the workshop as good or excellent. Growers said that they would implement new practices on their farm such as better or more diligent weed scouting, light tillage to reduce young weeds, weed seed bank management, and use more diverse strategies for weed control. One participant wrote that it was "the best meeting and speakers in years!" The Batavia Daily News covered the workshop and ran the story "Record Cold No Help in Weed Battle" on March 12, 2015 http://www.thedailynewsonline.com/article_ebb7c0a8-c87b-11e4-8bce-33e124210da4.html

New Food Safety Workshop Series Launched

The Cornell Vegetable Program launched a new food safety workshop series in March. This is a USDA-ERME funded project that focuses on produce washing, facility design, sanitizers, and post-harvest handling. Through surveys following GAPs trainings, we discovered that hurdles for small growers that stall the progress of implementing food safety plans, are post-harvest water, washing, and facility design.

Portable vegetable wash station designed by Robert Hadad.
Photo: Cordelia Hall, Cornell Vegetable Program

This focused workshop dispels misconceptions that exist among many small growers who often feel overwhelmed with the process. The impression is that they need a special building to house their wash line and packing, that it must be expensively fitted with stainless steel tables and sinks, and that because they are small or organic that using sanitizers isn't necessary. Farmers are shown how to put together a low-cost and low-tech facility space. We demonstrate the design and flow of harvested produce from the field, through the cleaning process, the proper use of sanitizers, building low-cost equipment, and post-harvest handling for improved quality of what goes into storage or directly to market.

To date, trainings have been held in Ontario and Seneca counties with 60 attendees. The response from farmers has been hugely positive. They stated that seeing how the principles of food safety can fit into their smaller-scale operation alleviates their fear and encourages their acceptance of the practices. Four farmers are adapting the PVC modular wash table design to fit their space. One farmer will be building two so that one can be used as a pre-rinse table near the field. Another farm couple built their own salad greens spinner and improved on the design greatly. The overall result of the project is better quality produce and safer food for consumers.

Improving Soil Health – Grower Discussion, and the Cornell Soil Health Test

Increasingly variable and extreme weather makes good soil health more important than ever for profitable vegetable production. The level of grower interest is high. The Cornell Vegetable Program recently received a USDA-NRCS Conservation Innovation Grant (CIG) to organize grower soil health discussion groups, and to sample growers' fields for the Cornell Soil Health Test, to pinpoint constraints to crop production. Soil Health sessions were organized for the Producers Expo in Syracuse, January 21, attended by over 76 growers and others. A nationally renowned grower spoke on cover crops and reduced tillage for vegetables. There was also a striking demonstration of the effects of good vs. poor soil management on soil-water interactions. Eighty percent of respondents (27% of attendees) replied that they'd learned something new, and would increase acreage or diversify cover crops, sample for a Cornell Soil Health Test, or try reducing tillage in 2015. The Specialist participated in a planning meeting on March 5 for a pilot Grower Soil Health Alliance for Genesee and Orleans Counties. Some of the best growers in the region support an Alliance to attract funding for field research of interest to growers. The first Finger Lakes Grower Soil Health Discussion Group was organized and met March 26. There was lively discussion of soil management practices among the 15 participants, and the group will meet again in August. Sampling soils for the Cornell Soil Health Test will begin as soon as soils begin to dry.

Organic Dry Bean Discussion Group Launched

Based on reports from 2 dry bean canners of a shortage of organic dry beans in the Northeast, the Cornell Vegetable Program organized an Organic Dry Bean Discussion for February 9, 2015 in Canandaigua. All conventional and organic growers, shippers, and canners were invited. Twenty-six growers, shippers and canners participated in the meeting, in person or by WebEx. While there is substantial organic dry bean production in the Midwest, there is very little in NYS, though it's been growing slowly. As a result, prices for organic red kidney and black beans are currently three times higher than for conventional dry beans, due to rapidly increasing demand, and short supply. Many attendees were organic field crop growers, who learned about growing edible dry beans. The conventional growers learned about organic production and record-keeping requirements. All learned of the time-consuming cleaning required to switch from conventional to organic dry beans at the elevator. Maximizing the effectiveness of weed control with cultivation by properly adjusting equipment was explained. The group was enthusiastic about the opportunity to network. Contact information was distributed to all those interested after the meeting. The elevators capable of handling organic dry beans should have a larger supply to clean and market this fall. A meeting is planned for late November 2015.

Cornell Vegetable Program Receives Funding to Prevent *Brassica* Crop Losses from New Invasive Species, Swede Midge, on At-Risk Small-Scale Organic Farms

Swede midge is a tiny fly that is threatening the viability of organic production of *Brassica* crops, especially broccoli and kohlrabi, in New York and the Northeastern U.S. The midge lays eggs in the growing parts of these crops and secretions of the feeding larva cause swelling, scarring and distortion of these plants, resulting in sometimes gross crop losses. CVP Specialists Julie Kikkert and Christy Hoepting worked intensively on swede midge just after its first detection in North America in Ontario, Canada in 2000; they were the first to detect this invasive insect in the United States in New York in 2004 and worked closely with Cornell Entomologist, Tony Shelton to develop best management practices and award-winning educational programming to mitigate economic losses from swede midge, including use of systemic insecticides and wide crop rotations. To date, there have been no reports of economic losses from swede midge in conventional production in the U.S.

Swede midge trap monitoring.
Photo: Christy Hoepting, Cornell Vegetable Program

Unfortunately, reports of Brassica crop losses due to swede midge in small-scale organic farms have increased since 2009. Small-scale organic farms are favored by swede midge, because of their small size and high proportion of acreage cropped to *Brassica* crops in multiple plantings, making long and widely spaced crop rotations challenging and ineffective. Currently, there are no organic methods that provide effective control of swede midge.

In 2015, Hoepting secured funding from Northeast SARE and Cornell Towards Sustainability Foundation for a project to gain tremendous insight into the population dynamics of swede midge as it relates to management practices via intensive pest monitoring. Additionally, new disruption tactics will be studied on-farm including insect exclusion netting and garlic oil repellant. She will partner with 6 farms in 5 counties along the periphery of the hub of conventional *Brassica* production in Western NY and educational efforts are intended to reach all of the at-risk small-scale organic growers in New York. This is the first major outreach program targeting organic growers, and it is anticipated that it will launch several more projects that seek to reduce economic losses caused by swede midge to organic growers.

Produce Auctions – Benefiting Farmers, Buyers, and Unrelated Businesses in the Area

Currently, there are six produce auctions in New York State. These auctions are aggregation points that allow local farmers to sell their produce in wholesale lots to buyers from across the region. The CVP has supported the development and growth of these auctions since their inception and acts as the educational lead for 5 of the 6. To document the economic impact of produce auctions on agriculture, local businesses, family farms, and produce buyers, CVP working with HarvestNY and CCE Seneca interviewed 18 of the top sellers and buyers at the Seneca Produce Auction in Ovid, NY.

Of surveyed farmers 88% devoted additional acreage to growing produce with 66% citing the existence of the auction as the reason for the shift. This represents an increase of ten times the input costs, on average a total of $4,500 per acre. The presence of the auction benefits unrelated businesses in the county since 75% of buyers reported that they patronize other local business weekly when they come to the auction. On average, they reported spending $1,653 over the course of the auction season at these other business!

100% of the growers cited Cornell Cooperative Extension as an important information resource. This resource is accessed through a number of channels, including CCE newsletter, produce auction winter and/or summer meeting, in-person visits from CCE staff, and phone calls with CCE staff.

A new Cornell Vegetable Program video highlights the economic impacts of produce auctions. Watch it now!

Newly Funded Grants

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

- **Determining the magnitude and distribution of Western Bean Cutworm, and risk to dry beans in major production areas in New York,** (PI – MacNeil), $2,759 funded by the NYS Dry Bean Industry, 7/1/2015 – 6/30/2016.
- **Comparison of new and standard dry bean varieties in an on-farm strip trial,** (PI – MacNeil), $3,281 funded by the NYS Dry Bean Industry, 7/1/2015 – 6/30/2016.
- **Slugs in Processing Peas**, (PI – Kikkert, Hoepting, Reiners, Ballerstein), $4,784 funded by New York State Vegetable Research Association/Council, 4/1/2015 – 3/31/2016.
- **Evaluation of Novel Bird Repellants in Vegetable Crops,** (PI – Telenko, Hadad), $14,908 funded by Northeast SARE Partnership Grant.
- **Climate Smart Team,** (Telenko), $6,000 funding through Cornell Institute for Climate Change and Agriculture.
- **Optimizing management of new invasive species, swede midge on small-scale organic farms,** (PI – Hoepting), $14,994 funded by NESARE Partnership Grant, 4/1/2015 – 3/31/2016.
- **Prevention of *Brassica* crop losses from new invasive species, swede midge on at-risk small-scale organic farms,** (PI- Hoepting), $10,000 funded by Toward Sustainability Foundation Organic & Sustainability Systems Research, Teaching and Outreach, 2/1/2015 – 1/31/2016.
- **Fostering adoption of the Cornell Onion Thrips Management Program and gauging its success,** (Nault, Hoepting and Leach), $39,326 funded by New York Farm Viability Institute (NYFVI), 6/1/2015 – 5/31/2016.
- **Available soil nitrogen in summer cabbage and winter wheat succeeding summer cabbage,** (Hoepting and Reiners), $5,500 funded by the Cabbage Research and Development Program, 4/1/2015 – 3/31/2016.
- **Onion foliar disease management in New York,** (Pethybridge and Hoepting), $15,000 funded by the Onion Research and Development Program, 4/1/2015 – 3/31/2016.
- **Weed management in muck-grown onions,** (Pethybridge and Hoepting), $15,840 funded by the Onion Research and Development Program, 4/1/2015 – 3/31/2016.
- **Advancing Season Extension and Protected Culture Efficiency,** (Reid), $13,813 funded by the NNY Ag Development Program.

- **Together, over 1,100 farm visits and phone/email consultations were made by our Vegetable Specialists**
- **27 educational events were organized by the Cornell Vegetable Program during this quarter**
- **Over 2,550 people attended meetings where presentations were made by our Vegetable Specialists**

For more information about our program, contact Julie Kikkert at jrk2@cornell.edu or 585.394.3977 x404 or visit our website

http://cvp.cce.cornell.edu