



Cornell University
Cooperative Extension
Cornell Vegetable Program

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

CORNELL VEGETABLE PROGRAM HIGHLIGHTS

APRIL – JUNE 2014

Cornell Vegetable Program Welcomes New Staff

The addition of Extension Educator, Darcy Telenko, and Technician, Cordelia Hall, brings the Cornell Vegetable Program to full staff. Already, they have been out on farms in our region, meeting with growers and learning about commercial vegetable production in our area. Both of these full time positions were added to help us serve our expanding program. Darcy's primary role is to develop outreach and research programming in fresh market vegetable production. She has already been a featured speaker at local vegetable grower meetings, sharing her background in plant pathology and weed science. She has also been putting together a "Weed of the Week" column for the team's VegEdge newsletter.

Cordelia serves as a technician to support the programs of several of our specialists. She brings expertise in fresh market vegetable farming and is learning and assisting in our research programs.



Darcy Telenko (on the left) scouting peas with George Abawi, Cornell, and his summer scholar.

Photo: Julie Kikkert, Cornell Vegetable Program

Cornell IPM Program for Onion Thrips Reduces Insecticide Sprays in Onions

Onion thrips are the most economically important insect pest of onions, and when not managed the feeding damage that they cause can reduce weight by 30 to 50%. Applied research and educational programming by Cornell University and CCE Cornell Vegetable Program developed and implemented an integrated pest management program for onion thrips. The IPM program includes the use of scouting and spray thresholds, resistance management practices, proper adjuvants and avoiding non-combatable tank mixes with fungicides. In 2012, Hoepting scouted onion fields for two muck onion growers and made inclusive Cornell research-based recommendations accordingly. As a result, effective management of onion thrips was achieved with 40 to 57% fewer insecticide applications per field compared with the standard weekly spray programs. On average, the growers saved \$109 per acre in insecticide costs on 132 acres for a total of \$14,332 in savings. In 2014, implementing the Cornell IPM program has already resulted in delaying the first insecticide spray in direct seeded onions by 1 week compared to the previous two years; thus, a reduction of at least one insecticide spray. Also, in transplanted onions, Cornell's recommendation of two sequential insecticide applications of Movento in combination with penetrating surfactant and specifically not co-applied with chlorothalonil fungicide has resulted in sustaining the thrips population below the spray threshold for 2 to 4 weeks; thus, a reduction in 2 to 4 insecticide sprays. At least 50 acres of early transplanted onions were grown this year without a single application of insecticides for thrips control.



Effective management of onion thrips, an insect that causes severe feeding damage to onions, can be achieved with fewer insecticide applications based on research by our team.

Photo: Christy Hoepting, Cornell Vegetable Program

Helping Growers Manage Insect and Disease Pests

Vegetable growers can count on damaging insect and disease outbreaks every year. With new introductions from outside the US, and a changing climate expanding the range of domestic pests, there are new challenges in our region each year. Pest monitoring, trials, and grower alerts/ recommendations, help growers keep them under control without excess sprays.

Late blight (LB), a fungal disease of tomatoes and potatoes, has been a significant threat to growers and gardeners, since highly aggressive strains appeared from Mexico in the 1990s. Unprotected plantings can be destroyed in 2-3 weeks of wet or humid weather. Cornell Vegetable Program staff members are the “go-to” people for diagnosis and recommendations for general CCE Ag staff and Master Gardener coordinators, as well as for growers, consultants, etc., in the CVP Region. The CVP also provides essential resources to CCE staff in counties adjacent to the CVP Region (important since LB can easily spread to CVP growers from outside the region). The most updated recommendations are provided in VegEdge each week, on avoiding sources of LB (potato cull piles, saved/non-certified potato seed, southern tomato transplants), use of LB disease forecasting to time fungicide sprays, comparing effectiveness of fungicides, and on action to take if LB is found. The advanced LB Decision Support System (DSS), forecasting the need for sprays for specific farms sites, was adopted by 13 growers with ~4,000 acres of potatoes/tomatoes in 2013. Where growers are able to maintain recommended spray intervals LB is generally not a problem. Stretching the spray interval can result in LB breakthroughs which can rapidly get out of control. If organic growers choose to use OMRI-approved copper fungicides before LB appears they can generally control the disease. *(DSS training and user support was a USDA AFRI grant through Bill Fry, Cornell)*

The Western bean cutworm (WBC) is a Western US pest of corn and dry beans that has been moving east, with steady population increases since it first appeared in NYS in 2009. In MI, where WBC appeared earlier, dry bean growers suffered significant quality losses before they began to spray. The CVP has done WBC moth trapping on 8-9 farms throughout the dry bean region of Western NY since 2010. In 2011 moth counts surpassed the trigger for scouting in one county, and have remained high there in later years. The grower sprays insecticide once and few WBC and no damage has been seen. Moth counts just reached the trigger in a second county in 2013 but few WBC were seen and there was no crop damage. Cooperating growers, bean dealers and all CVP bean growers receive updates and recommendations on whether action is needed. Project conducted in cooperation with Western NY Crop Management and Wyoming CCE. *(Supported by a NYS Dry Bean Industry grant)*



Cornell Vegetable Program Technician, John Gibbons, checks for Western bean cutworm moths in a pheromone trap near a dry bean field.
Photo: Carol MacNeil, Cornell Vegetable Program

The Cornell, replicated on-farm fresh market muck potato variety/breeding line trial, conducted every year, evaluates susceptibility to common tuber diseases, as well as evaluating marketable yield and quality. About 25 growers view the trial each August to get preliminary results to help them choose between varieties. *(Supported by the Empire State Potato Growers)* Early potato stems are occasionally infested by European corn borer (ECB) larvae, especially if corn is common nearby. Bacterial infection in the damaged area results in the loss of the stem. ECB moth trapping began on 5 farms this year to see if moth counts correlate with potato stem injury, which could provide an early warning on the need to spray.

Bacterial diseases of onion bulbs have become a major problem, with no effective control. Soils were sampled on three CVP farms this year for detailed analysis at Cornell to determine whether soil microorganisms favored or were antagonistic to the pathogenic bacteria. One of 12 fields sampled statewide had antagonistic microorganisms, providing hope that a bacterial disease control method may eventually be developed.

Varied Audiences Attend Customized Food Safety Trainings

In June 2014, Cornell Vegetable Specialist and food safety trainer, Robert Hadad, was invited to do a training of Burmese and Bhutanese refugees in Buffalo on the subject of farm food safety for the urban farmer. CCE Erie County works with refugees providing assistance and training on urban farming and marketing. An educational workshop on food safety considerations in the urban setting was conducted. There were 16 in attendance requiring the use of two interpreters for each of the groups' languages. The goal is to assist these individuals to eventually move from farming within the city and marketing through their communities to finding more land outside of the city yet still be able to provide fresh produce back to their neighborhoods.

Just 2 weeks later, Hadad participated in a one-day GAPs training in Allegany County for Amish farmers who are selling primarily at auctions. Several of the auctions have started to get pressure from buyers for the farmers to at least get training in farm food safety to start with. With the assistance of the Cornell National GAPs program and the Produce Safety Alliance, we partnered with Allegany and Steuben County CCE offices to hold the training on very short notice. Sixty-seven people attended the training. Many of the Amish community present were Old Order so we had to give the training without the use of PowerPoint capabilities or electronics. The audience was totally engaged in the training and had many questions. They realized that their markets were changing and they have to change a bit as well. At the end of the training, each farmer was given a certificate of completion. With the certificate, they would be able to show this to the buyers at auction allowing for their products to be sold this year. Next year they realize that they will have to complete our two-day training and fully write and implement a farm food safety plan. The evaluations were all positive. When queried about economic ramifications of food safety and GAPs for their operations, the responses indicated that completion of the training meant increased sales of \$8,000 to \$100,000. For the group this equates to over \$400,000.

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:

- **Advancing Season Extension of NYS Vegetable with Soil and Water Best Management Practices**, Federal Formula Funds (Judson Reid, PI), \$37,500 – This grant is noteworthy because it represents perhaps the first successful award for a regional specialist (as PI) from this source. Our objectives are to educate NY high tunnel vegetable growers on BMPs of soil and water management and document their implementation and on-farm impact. These begin with regular soil, foliar and water testing; and continue with crop rotation. The results of these tests, when couple with effective extension education on appropriate management will lead to decreased input costs and increased quality in yield; leading to improved economic performance of the tunnel system.
- **Increasing Profitability for the New York Onion Industry via Introduction of Novel Mild Onion Hybrids Adapted to NYS**, New York State Specialty Crops Block grant (Mutschler, Hoepting and Ullrich), \$99,806, 10/1/2013 - 8/30/2014
- **Enhanced Farmer Training in Food Safety Focusing on Post-Harvest Handling, Sanitation, and Water**, USDA Northeast Center for Risk Management Education (Hadad), \$38,000
- **Integrated Pest Management (IPM) for Greenhouse Vegetable Producers**, NESARE (Lamb and Reid), \$139,641

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- **Together, over 977 farm visits and phone/email consultations were made by our Vegetable Specialists**
 - **14 educational events were organized by the Cornell Vegetable Program during this quarter**
 - **Nearly 1,000 people attended meetings where presentations were made by our Vegetable Specialists**
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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>



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