

Re●view



The Cornell Vegetable Program, a Cornell Cooperative Extension regional agriculture team, serves the vegetable, greenhouse, potato and dry bean industries in an 11-county region of Western New York. Our region accounts for more than half the acres of the New York vegetable industry, with 1,017 vegetable farms and an estimated farm gate value of more than \$250 million.

- Our team made more than 4,400 farm visits and crop consultations
- Our six specialists organized and gave presentations in 108 educational meetings with nearly 4,900 attendees
- 57 DEC pesticide recertification credits and 38 certified crop adviser credits were offered at our events

2015 YEAR IN REVIEW

"We can rely on the Cornell Vegetable Program to provide timely answers to our questions so we can implement proper pest management tools. This allows us to produce high quality vegetables while being environmentally sound."

— Mark Zittel, Amos Zittel & Sons, Inc, Eden, NY

"I'm really glad I took the time to attend [the Fresh Market Field Days]. The content and conversations stimulated new ideas and helped me to let go of some things I am doing...I'm coming away with more focus on what I want to accomplish and how to get there."

— Attendee at the 2015 Fresh Market Weed Management Field Days



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Photo: Dorcy Telenko

Air-dancer deterring birds from a fresh market sweet corn field.

Bird Repellent Tools Researched in Sweet Corn

Bird damage is a persistent problem for vegetable producers, particularly in fresh market sweet corn. Wildlife damage not only leads to rapid yield loss but the possibility of microbial contamination poses a huge food safety issue. In an attempt to help mitigate this pest, the Cornell Vegetable Program evaluated bird repellents on four farms. Avian Control, a chemical deterrent, and an “air-dancer” successfully dissuaded birds at all farms, increasing yield 1 to 19% (\$22-\$418/A) over untreated plots with bird damage ranging 2 to 30%. Average harvestable ears increased 4.2% with two applications of Avian Control and 9% with the “air-dancer” when compared to untreated areas in the same field. Success was highly dependent on application timing, placement, and crop maturity. The Cornell Vegetable Program will expand our research to further develop Best Management Practices for these repellency tactics in vegetables to diminish loss, increase profitability for our producers, and explore their use on other crops and wildlife.

Developing and Expanding Farm Food Safety Trainings

The Cornell Vegetable Program continues to be a leader in NYS for its work on food safety for vegetable farmers. In 2015, Vegetable Specialist Robert Hadad joined the Northeast Regional Post-Harvest and Extension Working Group, a group of Extension and research specialists that pools resources, shares and compares information, and collaborates on research to further develop farm food safety training in the region. Hadad acquired a \$36,000 training grant and led 9 food safety post-harvest handling trainings in New York and 3 other states for over 280 farmers and food hub employees. Additionally, in anticipation of the new FDA food safety rules being implemented in the fall 2015, Hadad became a certified trainer in the new educational training curriculum created by the Produce Safety Alliance.



Photo: Lynn Blivens, CCE Allegheny County

Demonstrating proper farm food safety techniques when using a greens washer/spinner.



“We participated in the [managing swede midge in organic systems] project in 2015... It has been helpful and educational, both the data sharing and also [Cornell Vegetable Program] on-farm discussions of the project and findings and thinking about potential management practices that could be implemented.”

— Lou Johns, Blue Heron Farms, Lodi, NY

Supporting Growth of the New York Table Beet Industry

There is a new generation of beet consumers. While traditional sliced and whole beets in cans or jars remain a steady commodity in NY, locally grown beets and beet products are on the rise. Beets have become popular in farmers markets, where varieties of different shapes, colors and flavors are popular, along with their greens. Processors like Seneca Foods are offering snack cups of diced pickled beets that are shelf stable. Love Beets USA products of marinated baby beets, vacuum-packed cooked beets and beet juices have become popular on the East Coast and a new facility is soon to open in Rochester, NY. Cornell Vegetable Program Specialists are an integral part of Cornell’s table beet research team, aimed at helping local growers meet the demand of traditional and emerging markets. Research trials were conducted in 2015 to address the two most pressing issues: weed and disease management. A newly funded Specialty Crops Block grant will help ensure that NY growers have the best management tools available.



Photo: Julie Kikkert

Leaf spot diseases on beets reduce yields and interfere with top-pulling harvest machines.

Pest Management Techniques in Winter High Tunnels

Production of winter greens in high tunnels and greenhouses has increased farm revenue and community access to locally grown food across our region. However, unique winter pest infestations restrict the economic potential of many farmers. To address this challenge, the Cornell Vegetable Program was awarded \$80,000 over 4 years from NESARE to research and promote natural pest management – varietal pest resistance, biological control, and biorational pesticide efficacy – in winter high tunnels. More than 20 on-farm research demonstrations were conducted. Natural pest management techniques were promoted through 100+ farm visits, 21 educational meetings attended by 516 growers, 6 newsletter articles, multiple Tweets, and an online aphid management factsheet. As a result of these efforts, 24 high tunnel growers adopted natural pest management methods with an average increase in revenue of \$2,465 per farm. An evaluation indicated 61% of increased on-farm revenue was directly attributable to participation in the program.



High Tunnel Vegetable Specialist Judson Reid speaking during a winter high tunnel meeting.

"Participating in the [winter high tunnel pest management] project has made me take my blinders off. Slowing down enough to emphasize pest management and reprioritizing tasks to get management things done in a timely fashion, helped lead to work environment improvements on my farm...There is an increased quantity of high quality produce." — Cattaraugus County grower



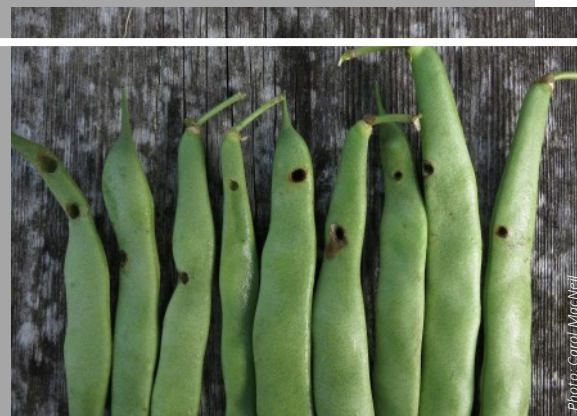
Excessive leaf dieback caused by Stemphylium leaf blight

Unravelling New Puzzling Leaf Disease of Onions

Over the past 5 years or so, large-scale muck onion growers have been seeing an aggressive disease blight the leaves causing excessive leaf dieback so that the plants die prematurely. In essence, the onions are "dying standing up" instead of maturing and falling over. Immature mortality results in reduced storability and bulb quality. In 2015, Cornell Vegetable Program Onion Specialist, Christy Hoepting teamed up with Cornell vegetable Plant Pathologist, Sarah Pethybridge, to ascertain the cause of this new affliction of onion. First, statewide survey results indicated that the disease Stemphylium leaf blight (SLB) was a major pathogen associated with excessive leaf dieback of onion. Several on-farm small-plot fungicides trials conducted by Hoepting identified that certain fungicides were much more effective at controlling SLB than others and that SLB appears to be the major plant destructor when it is associated with downy mildew. Next, Pethybridge will screen the SLB isolates collected from the 2015 survey for resistance to fungicides and Hoepting and Pethybridge will develop an effective fungicide program that will preserve the longevity of useful products.

Alerted Dry Bean Growers to Invasive Pest Threat

The Cornell Vegetable Program has been organizing a Western bean cutworm (WBC) moth trap network across six dry bean production counties since the pest first appeared in 2011. WBC moth traps allow us to monitor moth populations, anticipate threats, and alert growers to spray insecticides when scouting thresholds are met. In 2015, seven out of ten fields surveyed reached the scouting threshold (100/trap), with one trap catching over 500 moths, triggering an alert for the first time in NYS. Intensive scouting for Western bean cutworm pod damage began. Pod damage is caused when the WBC larvae invade the pods to eat the beans within, making the beans unmarketable. Damage was only found in one late dry bean field and several growers may have been spared damage by spraying insecticide based on our timely alert. *Funded by a NYS Dry Bean Industry Committee grant.*

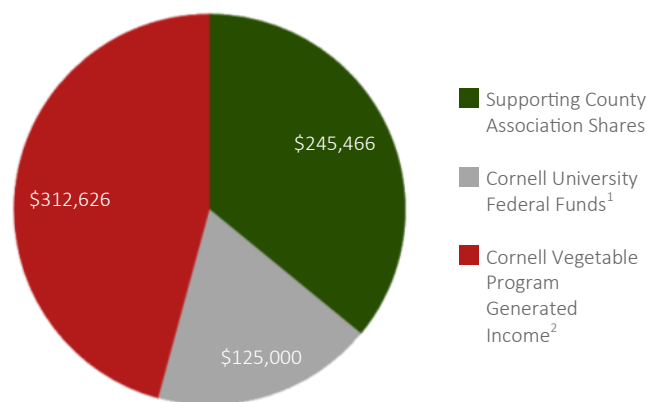


2015 Western bean cutworm damage to dry bean pods in WNY.

The Cornell Vegetable Program is one of the premier regional agricultural Cornell Cooperative Extension programs in New York, serving a large multi-county region in the western part of the state. The team's Vegetable Specialists work together with Cornell faculty and extension educators statewide to address the issues that impact the industry. The Cornell Vegetable Program 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, contributing to the viability of farms and the economic wellbeing of New York State. Specifically, our program focuses on food safety, variety evaluation, market development, pest management, and cultural practices.



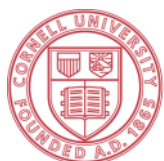
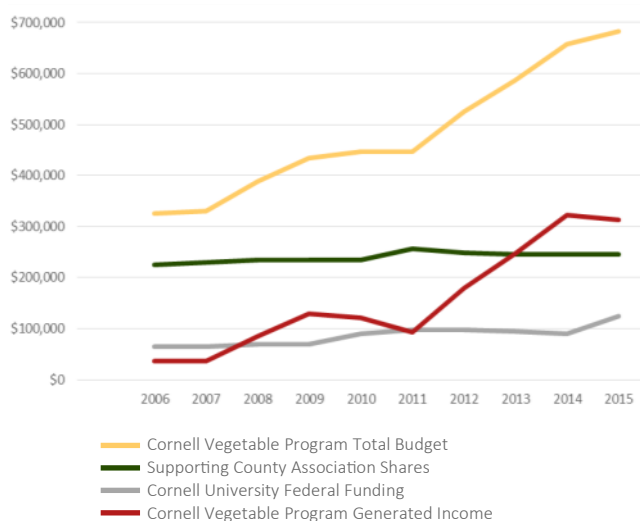
2015 OPERATING BUDGET



¹ USDA National Institute of Food and Agriculture Smith Lever Funds

² Includes funds from industry, state and federal grants, event registrations, sponsor support, and Cornell Vegetable Program reserve accounts

FUNDING TRENDS



Cornell University
Cooperative Extension
Cornell Vegetable Program

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SPECIALISTS

ROBERT HADAD vegetable specialist
food safety & quality, organic, business & marketing, and
fresh market vegetables
585-739-4065 cell
rgh26@cornell.edu

CHRISTY HOEPTING vegetable specialist
onions, cabbage, broccoli, garlic, and pesticide management
585-721-6953 cell; 585-798-4265 x38 office
cah59@cornell.edu

JULIE KICKERT vegetable specialist, team leader
processing crops (sweet corn, snap beans, lima beans, peas,
beets, and carrots)
585-313-8160 cell; 585-394-3977 x404 office
jrk2@cornell.edu

CAROL MACNEIL vegetable specialist
potatoes, dry beans, and soil health
585-313-8796 cell; 585-394-3977 x406 office
crm6@cornell.edu

JUDSON REID vegetable specialist
greenhouse production, small farming operations, produce
auctions, and fresh market vegetables
585-313-8912 cell; 315-536-5123 office
jer11@cornell.edu

DARCY TELENKO vegetable specialist
weed science, plant pathology, and fresh market vegetables
716-697-4965 cell; 716-652-5400 x178 office
dep10@cornell.edu

ELIZABETH BUCK, MISSY CALL, JOHN GIBBONS,
CORDELIA HALL, and NELSON HOOVER program assistants
ANGELA PARR administrative & communications lead

CVP.CCE.CORNELL.EDU