Cornell University
Cooperative Extension
Cornell Vegetable Program

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

CORNELL VEGETABLE PROGRAM HIGHLIGHTS

JULY – SEPTEMBER 2012

Cornell Vegetable Program Field Demonstration Reveals Valuable Option for Weed Control in Onions

Onions are very poor competitors against weeds and herbicide use is a critical first line of defense in large-scale production on muck soils. Despite stringent herbicide use, weed escapes are common with hand weeding often being the only remaining option. In 2012, New York onion growers ranked weed management as their 2nd highest research priority. Unfortunately, since the retirement of Cornell's Weed Scientist, research on onion weed management has been minimal. In response, CVP Onion Specialist, Christy Hoepting, conducted an herbicide demonstration of the efficacy and crop tolerance of the newly labeled herbicide, Chateau. The trial effectively demonstrated that Chateau provides excellent post emergent control of up to 4 inch tall pigweed and yellow nutsedge. Growers were also able to observe that Chateau could be applied safely to very young onion seedlings with no crop injury concerns, giving them the confidence to use the product without fear of crop injury. Now, onion growers know that they have a tool to effectively control pigweed escapes that can save them $150 to $300 per acre in hand weeding expenses. Hoepting will continue research in onion weed management.

Christy Hoepting demonstrates Chateau herbicide for weed control and crop tolerance in onions at NYS Onion Industry Council Summer Tour in Sodus, NY on July 11, 2012.
Photo: C. Hoepting, Cornell Vegetable Program

Informing Local Growers Affected by the Erie Canal Break

As Extension Educators, you never know what you will be called on to do. A sink hole that formed in the wall of the Erie Canal near Albion, NY on July 30th had local growers concerned about flooding of fields, irrigation pumps clogged by sand, and the inability to irrigate crops. The CVP represented the needs of local growers in a conference call with the NYS Canal Corporation, NYS Dept of Ag & Markets, CCE, Farm Bureau, NYS Veg and Fruit Grower Associations. The CVP requested daily updates from the NYS Canal Corp. and these were passed along to growers by e-mail. Updates were also provided in *Veg Edge Weekly*. Due to concerns of growers and canal traffic, the canal was fixed within 16 days and crops could once again be irrigated, minimizing yield loss.

Crucifer field irrigation.
Photo: J. Kikkert, Cornell Vegetable Program

Veg Edge Weekly Newsletter Named Northeast Regional Winner in National Competition

Veg Edge Weekly was a Regional Finalist (Northeast Regional Winner) in the Team Newsletter Competition from the National Association of County Agricultural Agents. The Cornell Vegetable Program was recognized with a plaque at the National Meetings in South Carolina, July 15-19, 2012.

Spring Application of Winter Grain for Weed Control in Summer Vegetables

Plasticulture production of vegetables has been widely adopted in the Northeast providing farmers with in-row weed control, soil moisture regulation and season extension. However, the bare row middles require herbicide or cultivation which increases environmental impacts; impairing water quality, decreasing soil organic matter levels and increasing labor inputs. NESARE has funded the Cornell Vegetable Program to evaluate a new use of cover crops, by sowing a winter rye grain between plastic-mulched beds. Two cooperating farms hosted trials, with over a dozen farms adopting our research techniques. These findings were shared with over 100 growers from the Finger Lakes region in two twilight meetings in early August. The idea has proved robust enough to receive a green light for full proposal development for $100,000; a 3-year project.

Rye grass between cole crops on silver plastic mulch.
Photo: J. Reid, Cornell Vegetable Program

Aiding in the Development of a New Produce Auction

The Cornell Vegetable Program has provided valuable resources to a group of growers in Seneca County to develop a new produce auction. Farm visits, food safety trainings and board consultations have supported the development of this new market, scheduled to open in 2013.

The new Seneca County Produce Auction, to open in 2013.
Photo: J. Reid, Cornell Vegetable Program

Staying Ahead of Western Bean Cutworm Population Increases

The NYS Dry Bean Industry Committee once again funded a Western bean cutworm (WBC) trap network on 9 dry bean farms in the main production area to track the population of this emerging pest. Many more traps were in field and sweet corn fields across the state. The WBC has a history of causing economic damage on dry beans once populations build up. WBC moth trap catches have steadily increased in NYS since 2010. Several traps in 2012 tallied very high moth counts, two to three times the action threshold for intensive scouting. These included a trap in Attica dry beans, bordering Genesee Co, and in counties on the St. Lawrence River. The moths were in rough shape indicating they likely migrated from Ontario, Ohio or Michigan.

Small WBC larvae in corn near the Attica WBC trap. WBC in corn is a trigger to scout nearby dry bean fields.
Photo: K. Waldron, NYS IPM Field Crops Coordinator

The Attica grower was informed of the high WBC catch and he sprayed all his dry beans there with an insecticide. Repeated scouting turned up no sign of dry bean damage, and no damage was reported from the elevator that cleaned the grower's beans. WBC larvae were found at low levels in nearby field corn. Erie and Chautauqua counties barely reached the threshold. Low trap catches occurred elsewhere, indicating low risk, and the moths were in good shape, a sign they had overwintered locally. Dry bean growers and the associated industry were kept informed of the growing threat, along with identification and scouting for the pest, at the March NYS Dry Bean Meeting and at fall field meetings. Information was also included in *Veg Edge Weekly.*

A Season Plagued by Bugs and Heat

Weather-related issues and insects afflicted growers this season. This was the third hot and dry season in a row for WNY growers. Frustration, anguish and fear of reduced yields were evident on their face as the season saw week after week of no rain. Farmers scrambled to keep up with irrigation during the drought conditions. If they weren't moving irrigation pipe then they were dealing with armyworms, aphids, leaf hoppers, flea beetles, and spider mites. The Cornell Vegetable Program was there for farmers to turn to when they had problems. Quick responses from our team helped to take a little of the edge off and our many site visits made them feel that they were not alone.

Armyworm on tomato.
Photo: J. Reid, CVP

Reduced Tillage Successfully Expands to New Growers, New Crops

Deep zone tilled planting row through killed red clover.
Photo: C. MacNeil, Cornell Vegetable Program

Deep zone tillage can reduce soil compaction in the row, promoting deeper crop rooting and improving excess water infiltration. In addition, it has been shown to reduce fuel and labor costs on farms, and to allow earlier planting after spring rains. It has been successful in field and sweet corn, soybeans, dry and snap beans, and seeded vine crops. Some adoption has occurred with transplanted cabbage. A grower decided to adopt zone tillage in 2012 for many of these crops. A side-by-side trial with zone till vs conventional butternut squash was planned. The stand and 30 day biomass in the conventional squash were quite a bit higher than in the zone till squash, likely due to difficulties zone tilling a seedbed through the not-quite-dead red clover cover crop, some insect feeding, and later planting in the zone till area. The zone till squash, however, outperformed the conventional squash by harvest. This may have been due to the lower in-row compaction in the zone till squash, allowing better development of the root system, an advantage in a dry year. The number of total and marketable squash in replicated small plots was similar but the marketable yield of squash per plot was higher in the zone till. Another grower repeated a side by side comparison of zone till vs conventional transplanted cabbage. Plant stand and 30 day biomass in small replicated plots were similar in the zone till and conventional strips. Challenges remain adjusting the cabbage planter row spacing to that of the zone till ripper.

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:

- **Grower Training on the Late Blight Support System Forecast, and Feedback on the User Interface**. Multi-state grant from AFRI and USDA/NIFA: 1/1/2012 to 2/28/13 - $2,033 (Bill Fry, Cornell - Principal Investigator; MacNeil - Collaborator)
- **Advancing Adoption of Reduced Tillage Systems in Vegetables in New York.** NY Farm Viability Institute: 5/1/12 – 10/15/12 - $2,068 (Anu Rangarajan, Cornell – Principal Investigator; MacNeil - Collaborator)
- **Filling Soil Health Prescriptions with Targeted Cover Crops.** NE-SARE: 4/09 – 3/12, extended to 11/30/13 - $4,986 (Thomas Bjorkman, Cornell – Principal Investigator; MacNeil - Collaborator)
- **Creating an IPM Resource for Growers Producing Vegetable Transplants and Food Crops in Protected Culture.** NYS IPM: $2,900. (Reid)

- **Together, over 950 farm visits and phone/email consultations were made by our Vegetable Specialists**
- **8 DEC pesticide recertification credits were offered to attendees at events organized by the Cornell Vegetable Program**
- **Over 650 people attended meetings hosted by the our team**

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