



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

APRIL – JUNE 2012

Lima Beans: A New Crop for Western New York

With a new processing company in New York (Bonduelle Corp.) comes some new crop opportunities. This year, Bonduelle has contracted with several growers to test Baby Lima Beans in our area. The success of the 2012 production may dictate whether the crop becomes a mainstay. In response to requests from commercial crop consultants about weed management tools, the CVP investigated herbicide labels and gathered information from other Lima Bean growing states. A review article and herbicide chart for lima beans in NY was printed in the May 23rd issue of Veg Edge Weekly and posted on the CVP website. Two crop consultants commented that the information was very helpful. As pointed out in the article, some herbicides used on snap or dry beans can severely injure lima beans. An herbicide trial was set up at the Freeville research farm with Robin Bellinder this year.



Lima bean herbicide trial at Freeville

Spring Application of Winter Rye Grain for Weed Control in Summer Vegetables: A Progress Report

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 of tomatoes and onions on two cooperating farms. One farm is growing tomatoes with spring-sown rye row-middles, cultivated row-middles and an herbicide standard. Another farm is growing onions under the same set of treatments.



Tomatoes and lots of rye row cover

The impact of using rye instead of herbicides or cultivation has been measured season long through plant growth, disease pressure, and foliar nutrient levels. We will also gather data on crop yield and labor input under the different weed management methods.

Observations to this point are showing promising results with the use of a rye cover crop. The rye has provided very good weed control. However, we also see challenges such as nutrient competition, bolting, and increased insect pressure. A full report will be provided in the fall.

The Cornell Vegetable Program Responds to Weather Challenges this Year

Due to the extreme weather experienced by farmers this season, the majority of calls and farm visits were related to problems stemming from the environment. The early season was marked by very mild temperatures followed by freezes and cold nights. Dramatically hot and dry conditions set in after that. We have dealt with early insects, heavy leaf feeding, poor plant growth, crops set back with variable germination, growth, and harvest, and a huge amount of time/labor devoted to irrigation. All of this will have bearing on how well economically farmers will do this season.

Cornell On-Farm Fresh Market Potato and Dry Bean Variety Trials Hosted in the CVP Area

Potato and dry bean growers are continuously looking for new varieties to improve yield and marketability, and to reduce losses from pests. Cornell on-farm dry bean and fresh market potato variety trials are hosted in the CVP area each year. In addition to trial data to report to growers in winter meetings and newsletters, field meetings are conducted at the trials so growers can compare new varieties to the standards. Cornell faculty, growers, and the CVP work together in this endeavor. Potatoes are grown on 160 small to large farms on 5,100 acres in the CVP area (2007 Census of Ag). Dry edible beans are grown by a few dozen growers on ~ 5,000 acres, a large drop since corn and soybean prices jumped (extrapolated from USDA NASS 8/10/12 Crops Report and 2007 Census of Ag).



Harvesting the Cornell on-farm potato variety trial.

The 32 potato varieties and lines in the 2012 trial have white, red or purple skin, and white, yellow or red flesh. Ten Cornell lines have resistance to the Golden Nematode (GN), a serious, quarantined pest. A couple of lines, are also resistant to the new Ro2 race of the GN, present very close to the CVP area. Potato growers are interested in varieties with smooth, bright skin, high yields, few defects, and with resistance to scab and other diseases. In the past several years a number of new Cornell varieties have been adopted. The most successful has been Reba, now the standard round white fresh market variety in the CVP area. Reba has improved yield and appearance compared to the old standard, Monona. Genesee and Marcy, two later, round whites, are being evaluated in large grower plantings. Yield, appearance and scab resistance are good to excellent. Pre-cutting and pre-sprouting of Genesee seed has improved stand on some farms and is being recommended. Adirondack Red and Adirondack Blue are two, early specialty varieties which have taken off on small and organic farms, but also in small plantings on larger farms. While not disease resistant their popularity with consumers is encouraging growers to continue planting.

In 2012 the on-farm dry bean variety trial includes 38 varieties and lines of black turtle soup, and light and dark red kidney dry bean. Yield, maturity and canning quality will be evaluated, important attributes for growers and their markets. White mold resistance and the ability to flower and set pods in hot weather are characteristics of a number of Cornell lines in the trial. Seed will be multiplied soon so the most promising of these lines can be planted in larger grower strip trials. 50 pound samples of seed of a Cornell black bean line (96-148) with higher yield potential and more erect growth, facilitating direct cutting in zone tillage systems, have been planted on 5 farms, to be compared to the growers' standard. Seed of two early light red kidney lines (NY104, NY105), with improved yield potential, have been planted on 5 other farms. One early light red kidney line (773) has already been adopted by the growers.



Growers and shippers discuss new dry bean lines in the variety trial.

Weekly Newsletter Gives Growers Cutting Edge Information

Cornell Vegetable Program enrollees look forward to crop updates and pest management tips in the Veg Edge Weekly newsletter. Each week, CVP team members gather the latest information through field scouting, research and connections with state and regional faculty and extension educators and compile it in a meaningful format for growers to use. Articles this year have included dealing with the Armyworm invasion, swede midge, garlic bloat nematodes, and the like. Nine issues were produced in May and June. Veg Edge Weekly goes to 325 enrollees and 300 comps.

Cornell Regional Ag Team Pesticide Training Results in Responsible Use of Pesticides on NY Farms

In New York, it is a state regulation that “on-site direct supervision within voice contact” is required by a certified private pesticide applicator who is supervising a non-certified pesticide handler who is using “federally restricted use pesticides”, UNLESS the non-certified pesticide applicator has a NYS Department of Conservation (DEC)-approved “Special Permit”. In Western New York, there are hundreds of large vegetable and fruit farms that are on non-contiguous properties, where it would be a tremendous inefficiency and expense for supervisors to be on-site for each pesticide application. A DEC Special Permit needs to be renewed every year.

Cornell Vegetable Program and Lake Ontario Fruit Program Extension Specialists, Christy Hoepting and Debbie Breth, respectfully, teamed up to provide the necessary training to non-certified pesticide applicators, so that they could receive their Special Permits to legally apply federally restricted-use pesticides. In 2012, two trainings were held in Newark and Albion, NY and were offered in English and Spanish. For 35% of the participants, this was their first time taking the training, while 29% of the participants had taken the training 5 times or more.

One hundred percent of the 210 non-certified pesticide applicators who attended Special Permit Training (SPT) in 2012, 95 (=45.2%) of whom were Spanish speaking, received their DEC Special Permits to legally handle federally-restricted use pesticides without on-site supervision. They learned how to prevent themselves and non-target species from pesticide exposure. Test scores averaged 78% for general pesticide knowledge and ability to read and understand pesticide labels, demonstrating the class’s competency to work responsibly with pesticides. One hundred percent indicated that they would improve their pesticide safety practices in their work by wearing the necessary personal protective equipment and following the drift management requirements on the labels. According to the non-certified pesticide handlers, the benefits of SPT include: 1) Increased awareness of the personal and environmental safety precautions to be taken when working with pesticides; 2) the ability to work with pesticides legally, which makes the employee more valuable to the farm; one participant sited that his increased qualifications would translate into more hours and thus, more take home income; 3) confidence in their new ability to read pesticide labels and to use pesticides responsibly. In addition to the relief of on-site supervision, a supervisor who attended SPT training said that it helped her to select the least hazardous chemicals most relevant PPE to purchase for her pesticide applicators.

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:

- **Altering planting configurations to manage bacterial bulb decay in large-scale onion production.** NYS IPM: 6/1/2012 to 12/15/2012 - \$4,643 (Hoepting - Principal Investigator)
- **Building Market Foundations for a Sustainable Processing Vegetable Industry.** NIFA SCRI – Cornell Subcontract: 9/1/12 – 8/31/16 - \$429,435 (Nault, Dillard, Kikkert – Principal Investigators)
- **Addressing Critical Pest Management Challenges in Organic Cucurbit Production.** NIFA OREI: \$1,979,349 over 5 years. (Reid – Key Collaborator)
- **Creating an IPM Resource for Growers Producing Vegetable Transplants and Food Crops in Protected Culture.** NYS IPM: \$2,900 for this quarter (Reid – Cooperator)

▪ **Together, over 630 farm visits and phone/email consultations 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>

