Cornell Cooperative Extension | Cornell Vegetable Program

QUARTERLY HIGHLIGHTS

OCTOBER - DECEMBER 2018

Cornell Vegetable Program

A Cornell Cooperative Extension partnership between Cornell University and CCE Associations in 14 counties

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.

- Together, the Cornell Vegetable Program made **more than 500 farm visits and phone/email consultations**
- Cornell Vegetable Program Specialists gave **presentations at 21 events** hosted by the Cornell Vegetable Program, Cornell Cooperative Extension associations and other collaborative organizations this quarter
- **1,018 people attended meetings** where presentations were made by Cornell Vegetable Program Specialists

HELPING FRESH MARKET GROWERS ACCESS NEW MARKETS WITH FARM FOOD SAFETY TRAINING

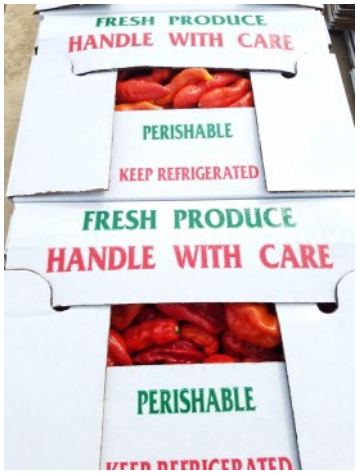


Photo: J. Reid, CVP

On October 24th and 25th the Cornell Vegetable Program partnered with the Seneca Produce Auction and the Produce Safety Alliance (PSA) to deliver a FSMA training in Romulus, NY to help prepare growers with both compliance of new federal food safety standards as well as voluntary adoption of Good Agricultural Practices (GAPs). The Food Safety Modernization Act (FSMA) is federal law that created the Produce Safety Rule. The Rule establishes science-based minimum standards for the safe growing, harvesting, packing, and holding of fruits and vegetables grown for human consumption. Although many of the growers present were qualified exempt from the rule based on sales, the leadership of the Seneca Produce Auction decided to take a proactive approach and offer the 7-hour training to any interested produce grower. Over 40 farmers participated and received a PSA stamped certificate.

The training was composed of 7 modules:

- Introduction to Produce Safety
- Worker Health, Hygiene, and Training
- Soil Amendments
- Wildlife, Domesticated Animals, and Land Use
- Agricultural Water (Production Water and Postharvest Water)
- Postharvest Handling and Sanitation
- How to Develop a Farm Food Safety Plan

This final module is particularly important, as the training included a full day opportunity to develop a Farm Food Safety Plan, specific to each producer's farm. Extension instructors worked individually with dozens of farmers on their plans. These plans can now be implemented and allow the farms to achieve GAPs certification.

The Seneca Produce Auction itself has completed GAPs certification for their facility both to attract new customers and ensure high quality, safe food for consumers. This project represents a collaboration between multiple regional teams: Cornell Vegetable Program and Harvest NY, as well as Lake Ontario Fruit Program.

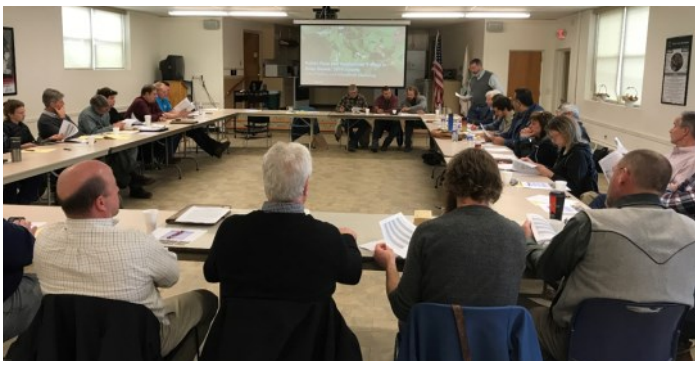
ONION INDUSTRY THRILLED TO HAVE NEW FUNGICIDE SEED TREATMENT FOR CONTROL OF ONION SMUT

It has been over a half century since a new fungicide was labeled for control of onion smut in onion. The long awaited registration of EverGol Prime may have never come had it not been for the efforts of CVP Onion Specialist, Christy Hoepting. Onion smut is a prevalent and serious soil borne disease of direct seeded onions grown in muck soils in New York. Onion smut has ugly black pustules that causes seedling mortality/stand loss and unmarketable bulbs. Fungicide seed treatment is critical for its control. Having worked on onion smut for her Master's thesis, Hoepting was a natural fit to team up with Cornell's Seed Scientist, Dr. Alan Taylor to find alternatives to the few mediocre fungicides available. Since 2002, they have been diligently testing at least a dozen active ingredients for efficacy against onion smut, with Taylor conducting the laboratory assays and Hoepting executing several on-farm trials. Finally, in 2012, they had a break through when active ingredient penflufen controlled onion smut better than anything else they had ever tested. Taylor got penflufen into the IR-4 program, which is a USDA funding stream that supports registration of pesticides for minor use. As part of the IR-4 project, Hoepting conducted more efficacy and crop tolerance trials for penflufen. In anticipation of its registration and to ensure its efficacy under real-world conditions, Hoepting conducted more field trials in 2017 where penflufen was tested as part of the typical onion seed treatment package in commercially pelleted seed. In late 2018, registration of EverGol Prime was finally completed and it is now available to New York onion growers. Thanks to Hoepting's timely promotion and educational efforts, the majority of the 2019 onion crop is destined to be treated with EverGol Prime and onion growers are looking forward to fewer losses from onion smut.

Ugly pustules of onion smut cause seedling loss or unmarketable bulbs in onion. *Photo: C. Hoepting, CVP*

PROCESSING CROPS SPECIALIST LEADS EDUCATION AND RESEARCH PROGRAM IN 11 PARTNER COUNTIES

New York state remains a leader in processing vegetable production for the canning and freezing industry, with an estimated value of $40 million annually. Did you know that approximately 175,000 tons of raw product are produced on roughly 40,000 acres in New York State each year? The production is centered around the Bonduelle North America, Inc. frozen foods plants in Bergen and Oakfield (additional freezing/packaging facility in Brockport) and the Seneca Foods Corporation canning plants in Geneva and Leicester. Growers in 11 of our CCE Cornell Vegetable Program (CVP) partner counties (Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Monroe, Niagara, Ontario, Orleans, Steuben, Yates) rely on CVP processing vegetable specialist, Julie Kikkert, to lead and prioritize research and education efforts. In the 4th Quarter of 2018, the highly regarded annual Processing Vegetable Crops advisory meetings were organized and facilitated by Kikkert. The roundtable meeting held December 4th in Canandaigua focused on the largest acreage crop, snap beans (green or wax beans). A total of 42 growers, crop consultants, processing representatives and Cornell researchers gathered to discuss the past growing season, receive reports of industry-funded projects and set research priorities. Amongst the topics of highest concern were weed management, variety evaluation, pod quality control and precision agriculture. A highlight of the meeting was a special presentation by RIT Imaging Scientists on progress in the use of remote sensing for disease management in snap beans (joint project with CVP and Cornell). A similar meeting was held on December 12th in Batavia for green pea, sweet corn, lima bean, beet and carrot growers with 60 participants. Issues of soil health, organic production, as well as weed, disease and insect management topped the list of priorities. Kikkert works with Cornell faculty to address the concerns by partnering in grower-funded, state, or federal grants and research conducted on Cornell farms and grower fields. Results are reported at the advisory meetings, the statewide Empire State Producers Expo, VegEdge newsletter, individual farm consultations, and other local programs. The efforts have improved the efficiency of crop production, which is important for the industry to remain in New York.



Jim Ballerstein, Cornell AgriTech, presents results of the snap bean variety trial at the 2018 Processing Snap Bean Advisory Meeting, December 4, 2018, in Canandaigua, NY. *Photo: J. Kikkert, CVP*

CASE STUDY OF ASSESSING BARRIERS TO WHOLESALING FOR SMALL-SCALE VEGETABLE GROWERS: ACTION ITEMS IDENTIFIED

In the 4th quarter, we completed a USDA-AMS funded project titled, "Assessing Barriers to Wholesaling for Small-Scale Vegetable Growers: Case Study". Actually, despite the requirement of the project being finished, the results will continue to be used to create and improve educational programming associated with wholesale marketing for growers. One of the project deliverables is a webinar and the completed video presentations are available on the CVP YouTube channel. The CVP also expanded produce grading sheets and sizing templates to increase education in the subject.

As described in previous reports, the focus of the project was to investigate the barriers some fresh produce farmers have with entering the wholesale marketplace. A farmer advisory group developed questions for surveys, farmer focus group discussions, and more in-depth case studies of 8 farms to learn as much as possible the how's and why's farmer move into wholesaling and the barriers and failures other farmers have experienced along the way.

From the 199 responses to the survey, 53% of farmers were currently wholesaling. Some reasons for wholesaling were: market diversification and want to grow more of fewer crops. 10% expressed worry about their wholesale future. A poignant quote: "…The trick now is to be sharper financially, add new items, and extend availability. It is no longer our daddy's wholesale market…we have to find new ways of keeping relevant."

16% had tried wholesale but gave it up. Top reasons were: couldn't meet quality or grading standards consistently (or not fully understood it), it wasn't profitable, and couldn't meet the volume needed. Out of this group, 76% stated they would be willing to try it again with proper training.

31% of survey respondents never tried wholesaling. Top reasons were: didn't have enough labor, didn't have enough capital to invest in the perceived need for additional infrastructure, didn't think it was profitable enough, and didn't understand grading/packing requirements. When asked if they would be interested in wholesale if issues were addressed, 9% said yes and 37% said maybe.

The action items pulled from the survey, focus groups, and case studies were as follows:

- ✓ Farms need firm handle on their financials.
- ✓ Cost of production is boring but training in it necessary
- ✓ To wholesale more profitably, focus should be on a small number of crops grown well.
- ✓ Understand the buyers' demands.
- ✓ Smaller growers don't seem to trust bigger buyers or industry. They feel that buyers keep farmers subjugated to accept low prices for their produce or they'll be excluded from markets. The farmers would sell to a buyer who is more fair and equitable.
- ✓ They need reliable labor, need a handle on cost of production, need training for improving quality, understanding grading/packing, and food safety practices that fit their scale of production.
- ✓ Having grower support groups to help each other.

Several quotes from this group:

> They "can't be alone in the farming community with these thoughts and concerns. Maybe there could be a "team" of farmers that could meet and work together figuring these things out."
>
> …wholesaling could be an option but since prices paid are significantly lower than retail, the amount of crop that will need to be sold at wholesale prices will have to be substantial. "This is a vicious circle, how do we figure this out?"
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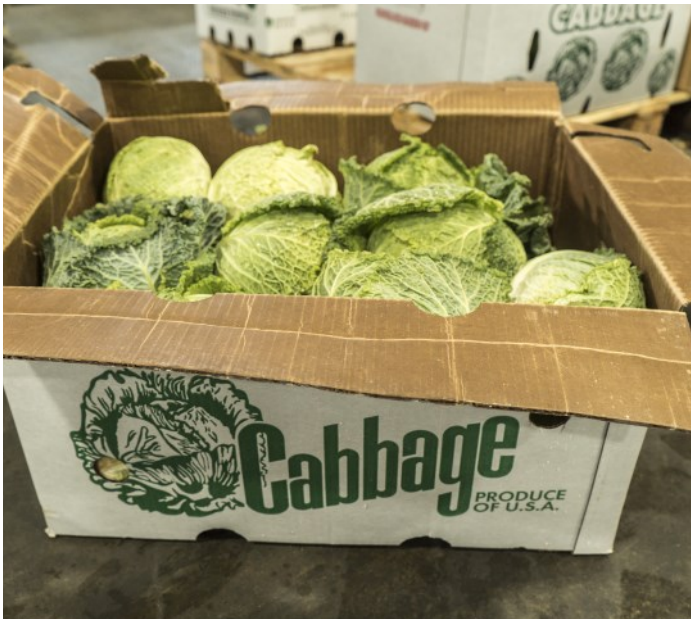
> "Buyers perpetuate the myth of cheap food so farmers don't deserve to be paid a fair wage."

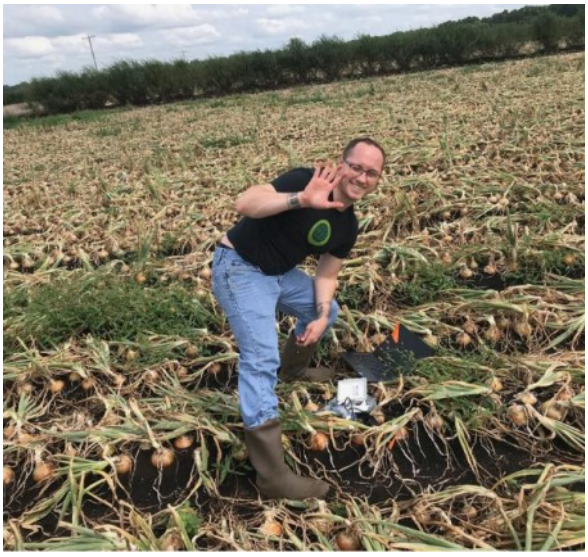


Selling vegetables wholesale requires meeting quality and grading standards plus specific packaging requirements. *Photo: J. Monahan, CCE*

PRECISION AGRICULTURE OPPORTUNITIES FOR GROWERS

Precision agriculture is a technology-based decision-making support tool for farm management, designed to enhance agricultural production both in profitability and in sustainability. Reducing the use of inputs, such as pesticides, fertilizers, and other resources, will improve cost savings and as well as environmental enhancement. Through conversation with growers and research/extension personnel, Precision Agriculture Specialist Ali Nafchi has found implementation and adoption of precision agriculture is one of the main challenges due to conventional cultural perception, lack of technical support, training constraints, and high start-up costs. For example, the technologies such as variable rate applications (VRA), yield monitoring/mapping system, remote sensing, and UAVs in agriculture are economically, environmentally and even socially justifiable. Although these technologies are commercially available, they have not been fully adopted yet. Ali Nafchi plans to work closely with growers to implement these technologies and conduct research on other innovative technologies.

Currently, Nafchi is working on submitting a proposal with IPM and CVP specialists related to "Remote-sensing Aided Agricultural Wildlife Damage Management."



University at Buffalo grad student collecting soil moisture data for improving irrigation efficiency in muck soil.
Photo: A. Nafchi, CVP

NEWLY FUNDED GRANTS

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

- **Advancing Vegetable Production 2019**, Northern New York Agricultural Development Program (NNYADP), $22,040 (Judson Reid; Elizabeth Hogdon, ENY Commercial Horticulture Program; Mike Davis, farm manager)

  This grant-funded project continues ongoing work that examines the appropriate rates and sources of nitrogen for high tunnel, winter greens production. We are also examining new crops and trying to improve our management of a perennial insect pest. As new information, improved cultural methods and new vegetable varieties continue to be developed the project team is proposing to focus these three key areas:

  1) Strategies to reduce cucumber beetle damage using new protective materials

  2) Continuing our study of nitrogen uptake in winter spinach when fertilized different rates and its effect on yield

  3) Training methods to simplify the production of ground cherries and goldenberries in high tunnels