

# How Late is Too Late? Evaluating New Apple Varieties for NY

#### Michael Basedow, Tree Fruit Specialist

Apple harvest generally ends in early October in the Champlain Valley, as the first freeze of the winter is historically expected about mid-October. However, many upcoming apple varieties have harvest dates leading into mid-October, if not later. This begs the question, how late can we go with our varieties?

This October, we followed the maturation of three relatively late varieties, including RubyFrost, WildTwist, and a new variety that is expected to be released this year by the Cornell breeding program.

Once a week, apples were evaluated for color development, firmness, sugar, and starch conversion to help growers determine the optimal timing for picking. While most RubyFrost made it off the tree well ahead of the first frost, a few WildTwist plantings were not quite at optimal maturity before being hit with a 23 degree low in Peru. However, the fruit were left to defrost on the





tree, and they tasted very nice in December.

By partnering closely with regional growers to evaluate their plantings, we bring useful analytics to growers about the best new varieties for their plantings.

## Growing Vegetables in the Winter? It's Possible in Eastern and Northern New York

#### Elisabeth Hodgdon, Vegetable Specialist

The growing season in most of NY is short. With the rise in popularity of high tunnels, winter vegetable production is now a reality for many growers, increasing sales during what was once the "off-season". Unheated, single-layer plastic high tunnels (hoophouses) allow cold hardy vegetable crops, such as spinach and other salad greens, to be seeded in late summer or early fall and harvested until November of December, and again in March.

Regional vegetable specialists Elisabeth Hodgdon (ENYCHP) and Jud Reid (Cornell Vegetable Program) have been working to refine recommendations for winter production to maximize spinach crop yield, testing different planting dates and nitrogen fertilizer rates. This fall, they shared lessons they've learned from winter growing and offered farmer-to-farmer learning opportunities at an inperson meeting at the Willsboro Farm, a field trip to the Intervale Community Farm, and through a webinar.



A prospective winter grower (left) inspects the 2019-2020 overwintered spinach nitrogen fertility trial with CCE staff at the Willsboro Research Farm in November 2019.

Top: Data sent to growers showing maturity of WildTwist. Bottom: WildTwist cut in half and sprayed with potassium iodide solution to test for the conversion of starch to sugars within the fruit.

## **Gravity-Fed Tank Nematode Applicator**

#### Teresa Rusinek, Vegetable Specialist

In October, ENYCHP specialists designed and built a 50-gallon gravity-fed tank applicator to make it easier for growers to apply beneficial nematodes. The applicator will be available for growers to use.

Daikon radish sampled from nematode treated portion of field have significantly less wireworm, grub, and flea beetle larvae damage. The nematodes arrive in wax worm hosts and need to be rinsed out though a strainer into the tank water.



Left to Right: A grower, cooperating with us on a demonstration project, is preparing the applicator to deliver insect killing nematodes to the field. The applicator can be mounted on a pallet and moved through the field using a tractor with forks or on the back of a pick-up.

## Sharing Reduced Tillage Systems Research with Orange County Vegetable Growers

#### Ethan Grundberg, Vegetable Specialist

With financial support from a USDA AMS Specialty Crop Block Grant, Chuck Bornt and Ethan Grundberg have been working with squash and sweet corn growers on muck soils in Orange County to try to adapt reduced tillage systems to their unique soil types since 2018. Grundberg and Bornt have found that high rates of grass cover crops like barley, oats, and winter rye have successfully reduced weed pressure, improved crop quality, and not had a negative impact on crop yield. Over 30 growers from the region attended a participatory workshop on December 5th, 2019 at the Pine Island Fire Department to review the findings from the research trials and hear directly from the growers who have been cooperating on the research. Over 25 acres of muck squash production have been included in the trials to date and it is anticipated that over 50 acres of muck squash production will be

transitioned to reduced tillage systems in 2020. The preliminary findings



Grundberg collecting baseline greenhouse gas samples from one of the reduced tillage squash fields in 2019.

from this project were also used as the foundation for a proposal to New York Farm Viability Institute submitted in December 2019 that would evaluate greenhouse gas emissions and tools to measure soil carbon sequestration in reduced tillage systems in Eastern New York.

## **Tarping Workshops Bring Emerging Research to Growers**

## Crystal Stewart-Courtens, Vegetable Specialist

Small-scale growers are showing increasing interest in using tarps, or UV-stabilized black plastic, to control weeds before and after vegetable and flower crops. Ryan Maher of the Cornell Small Farms program has been leading research to determine how effective they are at controlling weeds, degrading cover crop and other plant material, and holding on to soil nitrogen. Ryan has teamed up with Crystal Stewart-Courtens to do a series of workshops across Maine and New York to share the research results and help growers create plans to use tarps on their farms. So far, almost 200 growers have attended workshops, with many creating plans to use in the 2020 growing season.

## Potatoes, Potatoes, and more Potatoes

Charles Bornt, Vegetable Specialist



Vegetable specialist Chuck Bornt and field tech Natasha Field were busy in October with several research trial harvests of sweet potatoes and Irish potatoes. This is the 15th season for the Irish potato variety trials and this year we evaluated 26 varieties grown at the Barber Farm in Schoharie County. The varieties were sourced from the Cornell Breeding Program, the University of Maine Program, Michigan State University, and NYS certified see grower Ralph Childs of Childstock Farms. Grading occurred in early November and results will be shared at winter meetings including a show and tell at the 2020 ENY Fruit & Vegetable Conference, newsletters, and via our website. Also in October, we harvested three separate sweet potato trials at Samascott Orchards in Columbia County, all were funded with an ENYCHP Challenge grant. The trials included a variety trial of 14 different sweet potatoes, growing locally produced slips from certified roots on farm and a slip quality trial. This trial yielded some surprising results with the slips we grew in Columbia County at Samascotts producing twice



the yield as slips of the same variety purchased and shipped from North Carolina. All of this information will also be shared at winter meetings, through newsletters, and on our website.

Sweet potato harvesting in October at Samascott Orchards (top left) and sweet potato roots from the NY grown slips (top right). Example of the specialty Irish potatoes from the 2019 variety trials grown at Barbers Farm, Schoharie County (left).

## **ENYCHP Leading Investigation and Outreach Effort to Combat Tree Decline**

#### Daniel Donahue, Tree Fruit Specialist

Dan Donahue presented a research and extension report entitled 'Case Studies and Other Adventures Concerning Apple Decline in New York State: 2015-2019' which was focused on the status of apple decline research in Eastern New York State at the first ever meeting of researchers, extension professionals, industry representatives, and growers to discuss the nationwide phenomenon of apple orchard tree decline. Apples growers invest from 15,000-50,000 dollars per acre in new plantings, depending on the region of the country, variety planted, and orchard design. The cost of trees alone ranges from 10,000 to 25,000 dollars per acre. Tree loss during the early years of an orchard, or even poor tree performance, can severely reduce the profitability of a new orchard. The cause, or more likely causes, of apple orchard tree decline are currently unknown., but researchers around the country are making a concerted effort to identify the causal agent(s), and propose solutions. Extension specialists working in the Cornell Cooperative Extension Eastern NY Regional Extension Program have played a significant leadership role in this issue.



Orchard exhibiting apple decline.

## **Diversity and Inclusion**

## Laura McDermott, Berry Specialist



Photo from "Migrant Farm Workers—Our Nations Invisible Population", by Eduardo Gonzales

In full commitment to Cornell's motto "...any person can find instruction...", the staff of ENYCHP participated in a one-day workshop devoted to defining and explaining the common language of diversity and inclusion and exploring our own implicit bias. We value and welcome the diverse communities that we work with. The training, led by Eduardo Gonzales, provided an interesting, sometimes difficult, but worthwhile experience that improves understanding of our own perspectives and how they might differ from our colleagues and stakeholders.

## October-December 2019

340 Phone Consults 430 E-mail Consults 178 Farm Visits 35 Field Meetings 1400 Field Meeting Attendees 5 Webinars/Distance Learning 82 Participants in Distance Learning Daily, personalized, farm-specific vineyard report addressing weather and pestsdelivered to 130 farms for a total of 6620 reports



The Eastern NY Commercial Horticulture Program is a Cornell Cooperative Extension partnership between Cornell University and the CCE associations in Albany, Clinton, Columbia, Dutchess, Essex, Fulton, Greene, Orange, Montgomery, Putnam, Rensselaer, Saratoga, Schenectady, Schoharie, Ulster, Warren, & Washington.

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