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# *Fruit* Notes

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**Cornell Cooperative Extension  
Lake Ontario Fruit Program**

**Volume 23 Issue 2 February 2, 2023**

## **Western NY Fruit Conference**

**“State of the Industry”**

**February 27-28**

**RIT Inn & Conference Center, Henrietta, NY**

Brought to you by Cornell Cooperative Extension’s Lake Ontario Fruit Program

As you can see in the below tentative agenda, most of the program is complete. We’re excited to bring you this 1 ½ day conference! There will not be an online option for attendees. The conference will begin with lunch on Feb 27, followed by two afternoon sessions with a break in between, which are included with your registration fee. An optional cocktail hour (cash bar) and banquet dinner (separate pre-registration required) will be among the choices attendees have. Folks can choose to stay in the host hotel or nearby ones, or commute. The RIT Inn & Conference Center is conveniently located away from downtown, so parking (free) and optional dinner on your own choices will be less restrictive. Day 2 will be a full day program that will include 4 educational sessions, along with breakfast, lunch, and 2 breaks, which are all included with your registration fee. There are ala carte options of only attending day 1 (half day) or day 2 (full day). In addition, there are discounts for LOF enrollees and Mott’s growers.

The RIT Inn & Conference Center is offering a block of rooms for our conference at the discounted rate of \$139.00 per night. Individuals are requested to contact the Hotel directly at 585-359-1800 or visit their website at: <https://www.rit.edu/ritinn/rooms> for reservations. The group code for the discounted rate is: 230227TFBG Please book your rooms early.

DEC credits will be available in the 2 Pest Management sessions on Tuesday morning. Certified Crop Advisor continuing education credits should be available for all sessions.

Registration is now open. Information available at: <https://blogs.cornell.edu/nystreefruitconference/registration/>.

There are just a few exhibitor tables still available! See [https://lof.cce.cornell.edu/sponsorship\\_new.php](https://lof.cce.cornell.edu/sponsorship_new.php)



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## Erick Smith: Distinguished Tree Fruit Scientist and Fruit Consultant will be Presenting at the 2023 WNY Fruit Conference in Rochester

Mario Miranda Sazo

For the past years, the Lake Ontario Fruit Team has made it a goal to invite at least one distinguished tree fruit scientist and/or fruit consultant to present at the winter educational meetings in Western New York. We are pleased to announce that Dr. Erick Smith, Horticultural Specialist from Taggares Fruit Company in Burbank, Washington, will be giving one presentation titled *“Old Farm, New Technologies, and Learning the Value of Data”*, during the Ag-technology session on **Tuesday February 28** (3-5pm, EST).

Dr. Smith is focused on perennial crop production by researching cultural practices such as but not limited to, nutritional inputs, irrigation practices, shading systems, frost protection, mechanical harvest systems, pruning, pesticides, and new technology's, e.g., soil mapping, digital imagery, soil moisture collection, and plant growth. Presently, his work is focused on plant nutrition identifying timings, rates, and efficacy of inputs i.e., foliar compared to ground applied fertilizers, fertilizer source, and when to apply. In addition, on Taggares' farm soil moisture, plant growth, and disease modeling systems have been and are being evaluated from Semios<sup>®</sup> and Phytch platforms, of which irrigation automation has been deployed via WiseConn<sup>®</sup>. Dr. Smith has established Taggares Fruit Company as a collaborator that encourages public and private partnerships in research to develop Best Management Practices (BMP) for continued success of the farm by encouraging sustainable practices.

Taggares Fruit Company farms 2550 acres of Honeycrisp, Gala, Cosmic Crisp, Pink Lady, Fuji, and Granny Smith apples, 53 acres of Sweet Cherries, 450 acres of juice grapes, and 70 acres of wine grapes and is located on the Snake River in Walla Walla, County, WA. The apples are the main focus of the operation, and a majority of the trees are trained to slender spindle, of which challenges to production are site (soils, air drainage, elevation, and topography), multiple rootstocks, multiple cultivars, and the size of the farm. However, the location of the farm is ideal for production and allows for opportunities to enter the market ahead of the more northern regions of the State.



Dr. Smith holds a Doctorate of Horticulture from Washington State University and his present position at Taggares Fruit Company is to identify efficiencies in production practices, act as liaison to public entities, e.g. participating on research committees, board member to crop production associations (public and private), and other farms, and make findings available to the farm team through updates and educational seminars. Dr. Smith is a committee member on the Washington Tree Fruit Research Commission's (WTFRC) Apple Horticulture and Postharvest Research Board, WTFRC's Cherry and Stone Fruit Research Board, Washington State University's Apple Breeding Advisory Committee, and a member of the Franklin County Horticultural Pest and Disease Board. He is also a published author and co-author in 14 peer review manuscripts, 22 extension products (publications and videos), and 35 newsletters and popular press articles, of which he has been presented with awards of excellence by the Southern Region American Society for Horticultural Science (ASHS), Phi Kappa Phi, and received scholarships from Chateau St. Michelle for undergraduate studies. He is an Honorably Discharged Veteran of the United States Coast Guard.

# Statewide Virtual Apple Conference

Co-hosted by CCE-LOF and CCE-ENYCHP

March 3, 9:30 AM – 2:15 PM

Registration open now! <https://lof.cce.cornell.edu/event.php?id=1746>

If you plan to attend both the WNY tree fruit conference AND the statewide virtual apple conference, receive a discount by registering for both at the same time! Follow this link to register for both events: <https://blogs.cornell.edu/nystreefruitconference/registration/>.

## March 3rd Topics and Speakers

Climate change patterns using weather data from across the state-Dan Olmstead, Cornell University. Dan is the NEWA project lead and NYS IPM Digital Outreach and Development Coordinator. He will present a wealth of information regarding precipitation and temperature trends in the apple growing regions of New York state. Apple trees, as well as pest and disease development, are tied closely to precipitation and temperature. Pulling historical weather data across the state from the past 30 years, Dan will show how these are changing year to year, within the growing season, both statewide and regionally.

Discussing the current direction of federal pesticide registration policy- Dr. Clayton Myers, USDA-ARS. Dr. Clayton Myers is an entomologist with the USDA Office of Pesticide Management Policy. Dr. Myers has experience working in both the EPA and USDA on pesticide issues and will bring us up to date on current federal pesticide registration policy and more specifically the re-registration review status of critical tree fruit fungicides.

Management in a union eligible work environment– Hilary Moreira. Hilary Moreira, Bond, Schoeneck & King. Ms. Hilary Moreira Esq. is an attorney with extensive experience working with farm owners who are facing the issue of farmworker unionization. Ms. Moreira will be discussing the recent changes in NYS farmworker unionization law and offering practical guidance on how farm owners and managers can avoid unintentional stumbling into legal liabilities.

Survey IPM Priorities for our stakeholders-Dr. Anna Wallis, Cornell University. As the new Fruit IPM Coordinator for the NYS IPM Program, Anna Wallis will introduce herself and take the opportunity to briefly collect input on IPM priorities from stakeholders. Survey efforts will build on data collected by Cornell faculty over the past decades.

Survey of Spanish Priorities for Education and Translation materials for our stakeholders - Mario Miranda Sazo, CCE-LOF.

Fruit finish issues with NY1 and plans for future research - Dr. Jason Londo, Cornell University. Jason will summarize his work thus far with 2 distinct fruit finish disorders. In addition, he'll be briefly introducing his proposed research into a statewide (pending ARDP proposal) project looking at lenticel disorders in this variety. Through some informal surveys and photos, there are likely several types of lenticel issue being seen across the state. The on-farm research in multiple regions of the state will hopefully answer some questions about the root causes and possible prevention/mitigation strategies.

The Honeycrisp storage passport - Dr. Terence Robinson, Cornell University. Terence will discuss this ongoing and ever-improving program, which includes block information on crop load, peel sap nutrient ratios of K/Ca and N/Ca and estimates of bitter pit (BP) from the passive evaluation method. This information can and should be used for storage decisions on each block. It can save the industry significant losses and reduced returns of high BP incidence fruit stored and marketed in the wrong conditions and timeframe. Conversely, it can increase returns on predicted low BP incidence fruit by the use of correct storage regimes and increasing the marketing window later into the season.

Promising Ag-vision technologies to evaluate fruit thinning decisions and estimate yields - Mario Miranda Sazo and Mike Basedow. This Ag-technology talk co-chaired by Miranda Sazo and Basedow will introduce what vision technologies are available right now that NY fruit growers can use to improve their thinning decisions and yield estimations prior to harvest. There will be a virtual discussion with questions prepared in advance and an analysis of best business models for adoption of these technologies. So far, we have confirmed the participation of Dr. Dave Brown, Pometa (formerly Farm Vision).

Irrigation and water relations of apples - Dr. Victor Blanco-Montoya, Washington State University. Irrigation of apple orchards not only secures the significant investment of a modern apple orchard against a drought but serves also to increase and maximize yield of high-quality fruit. Water use by apples increases dramatically until the full canopy is established, increases slightly during the fruit growth stage (midseason to harvest), and decreases rapidly after harvest. In 2022, some apple regions in NYS suffered extended summer droughts without major precipitation events while that other regions had very late/big precipitation fall events that increased fruit sizes to levels not seen/experienced before. In this talk presented by Dr. Victor Blanco-Montoya of WSU, we will learn about the physiological effects of good irrigation practices, the rainfall effects (low, none, high) to the apple tree plant itself as well as to the fruit. How does late-season rains affect the tree and the fruit? How does drip irrigation differ from rainfall? How does a NY grower know whether installing irrigation in a block will be an economically beneficial investment?

# Farm Management Skills Course to be Held in Spanish in March

Tim W. Shenk

A Spanish-language Farm Management Skills Development course will be offered for employees in the apple industry in Western New York on March 14-15 by Futuro en Ag, a project of the Cornell Small Farms Program. Futuro en Ag means “Future in Agriculture” in Spanish.

Called “Curso de Desarrollo de Liderazgo,” the in-person course will build on Futuro en Ag’s success training Spanish-speaking farm managers, employees and crew leaders. The course will address challenges in work and farm culture and will develop participants’ skills in active listening and giving constructive feedback. A key element of the course involves giving crew leaders tools for leadership of multicultural teams, including developing emotional intelligence and identification of leadership styles, which are useful in conflict resolution and team building.

“Latino farmers in Western New York need training in their native language,” said Mildred Alvarado, course facilitator and Futuro en Ag bilingual program coordinator. “This kind of course is unique. We’re able build rapport and dig deeply into the course content very quickly because it’s in Spanish, and it’s motivating for participants because it’s topics that they’ve asked for. It’s what they know they need to learn to be better leaders on the farms and in their industry.”

“The fact of the matter is that without them we would not be able to do the hard work needed for fruit production these days,” said growers Brett Kast from Kast Farms in Orleans County and Mark Lagoner from Lagoner Farms in Wayne County. Kast and Lagoner nominated key Latino employees for a previous Cornell Small Farms Program course and proudly accompanied them at their graduation.

Alvarado agreed. “The Latino community contributes in a big way to New York State,” she said. “They contribute by producing fresh, nutritious food, and they add to local economies that otherwise might not be as vibrant. These courses have a dual purpose: they help New York farms run better, and they support Latino farm employees to develop their abilities and follow their dreams of being successful.”

A recent Futuro en Ag course in Suffolk County got rave reviews. The course was attended by managers, supervisors and crew leaders of work teams at Long Island greenhouses. Participants highlighted the professionalism and warmth of the facilitators, which generated a positive learning environment. They noted an appreciation for skill building in multicultural communication and conflict resolution, and training in how to be “cultural bridges” between employees and supervisors. Several participants marked that the one thing they didn’t like about the course was that it was too short – only two days.

The WNY course location for the March 14-15 dates is yet to be determined, as facilitators want to hold the course at a location proximate to the majority of participants.

For more information about Futuro en Ag and the Cornell Small Farms Program, visit <https://smallfarms.cornell.edu/projects/futuro>, or communicate in English or Spanish with

Tim Shenk, Bilingual Communications Specialist, at [tws74@cornell.edu](mailto:tws74@cornell.edu) or 607-793-4969.

**To register farm employees for the two-day course, March 14-15 in Western New York, please contact Mario Miranda Sazo at [mrm67@cornell.edu](mailto:mrm67@cornell.edu).**



Graduates of a Cornell Small Farms Program Futuro en Ag Spanish-language Farm Management Skills Development course, Suffolk County, Long Island, January 2023. Photo by Nicole Waters.



Bulmaro Solis, left, and Mildred Alvarado train harvesting crews to ensure optimal fruit quality when harvesting apples in Holley, NY in 2022. Photo by Nicole Waters.

# Apple Cold Hardiness Research Update

Jason P. Londo, Terence Robinson, Erica Casagrande Biasuz, Luis Gonzalez, Michael Basedow, and Mario Miranda Sazo

## Introduction

Severe cold wave events always make us wonder about the cold-hardiness of apple rootstocks. As more high-density orchards are planted in the U.S. with Geneva® rootstocks in the following years, it will be important to know Geneva's levels of cold-hardiness to determine their suitability for plantings in regions with subfreezing temperatures in the fall and cold winters (with thin or nonexistent snow cover).

Survival of Geneva stocks in the Champlain valley has been excellent in the past. In a test planting made in 1991 which experienced -40°F in January 1994, G.41, G.935, G.202 and G.210 showed no damage the next spring while M.7 showed mild damage. This cold event was with about 6 inches of snow cover.

In a second test planting of Geneva stocks with Honeycrisp and McIntosh in the Champlain region in 2001 a winter cold snap in January of 2004 caused considerable tree death of several Malling stocks but not of G.16 and G.30. In this case there was no snow cover and the damage occurred to the roots and rootstock shank and not to the scion or scion buds. The damage resulted from the combination of warm weather in late December of 2003 which melted all of the snow, followed by a sudden drop in temperature to -25°F by Jan 5. Low temperatures remained at that level each night for several weeks. When tree mortality was recorded in the spring of 2004 'G.16' exhibited very good mid-winter hardiness and survived the 2004 winter freeze event in Northern NY that killed many 'M.9', 'B.9' and 'M.26' trees. G.41 has also survived well in Minnesota as part of the NC140 rootstock testing program.

Controlled experiments conducted by Dr. Renae Moran at the University of Maine showed that G.41, G.11, G.30, and B.9 had root tissue cold-hardiness comparable to M.26. G.935 was the only rootstock that had greater root hardiness than M.26. Cold hardiness of B.9 and P.2 in relation to hardiness of M.26 was similar to previous reports. She reported that controlled

cold-hardiness studies with most of the Geneva rootstocks were lacking, but in field trials the rootstocks G.16 and G.30 had greater survival than M.26 or B.9 after a cold event. G.41 also had good survival after a cold event. She suggested the use of G.935 for apple areas around the world that experience injuriously cold soil temperatures.

## New Research for the Characterization of Apple Rootstock and Scion Genotypes for Cold Hardiness and Dormancy at Cornell AgriTech by Professor Jason Londo

The goal of the Londo research program is to help adapt New York fruit crop production to climate change. As a part of that effort, we are working to understand how winter temperatures impact apple rootstocks and scions, specifically how the ability to survive freezing temperatures changes throughout winter. We hope to identify elite rootstocks that start out winter very cold hardy, retain that ability through midwinter, and resist losing cold hardiness (deacclimation) in late winter and early spring.

## Methods

To gain a deeper understanding of cold hardiness in apple scions and rootstocks, we initiated a screening study that began in November of 2021 for 21 different rootstocks and 4 scion cultivars. In that first year, we focused on developing our capacity to test cold hardiness using a technique called electrolyte leakage. The method itself is pretty basic: 1–2-year-old apple stem tissue is collected from the field and chopped up into 1-inch pieces. These pieces are placed in a tube of distilled water and then frozen in batches at different temperatures. We used 9 different temperature levels and a control "no damage" temperature of 39°F. The freeze temperatures ranged from 14°F to -67°F. We put the tubes of water and cuttings into this programmable freezer and then after 1 hour at each temperature exposure, we pull out a set of tubes and let them thaw. The concept is that freeze damage results in cellular damage in the cutting.

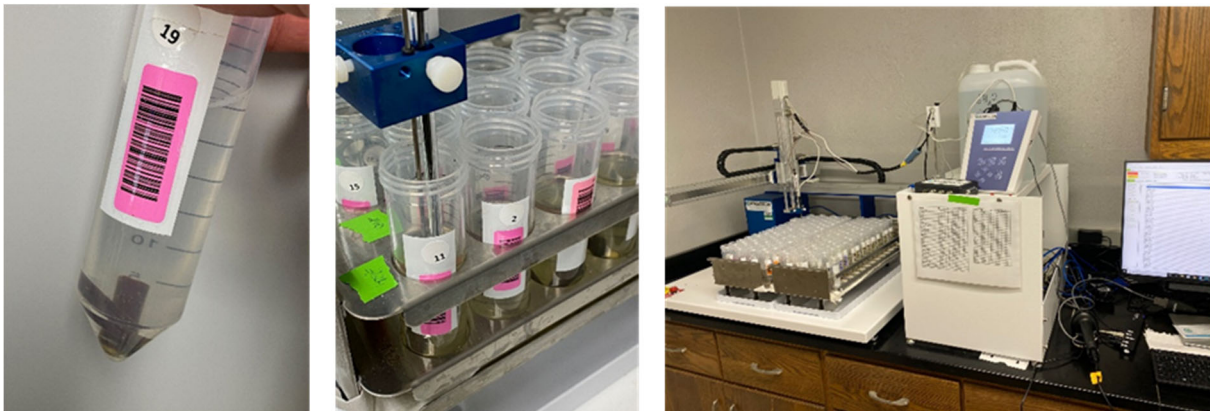


Figure 1. Experimental setup for doing electrolyte leakage. Stem segments are placed in water and frozen at different temperatures. Electrolyte conductivity is then measured to determine cellular leakage with a conductivity meter. "Stanley" the conductivity robot. "Stanley" can process up to 224 samples at a time.

When that damage occurs, it causes leakage of sugars, proteins, and other electrolytes into the water solution. After all the tubes are frozen, thawed, and shaken, we measure the electrolyte levels with a conductivity meter. In my lab we use a robot to help us with this, since there are so many samples to do each month. (Figure 1). After we check the electrolyte levels from the first freeze, we freeze all the tubes a second time in a -112°F freezer. This causes a complete kill and maximal

damage. After this freeze, we measure electrolytes a second time. The data is then scaled against the control treatment (zero damage) and second -112° freeze (100% damage). This gives us an estimate of the percent damage that occurs at the different freeze temperatures.

We then plot this data and perform some logistic regression on the data to determine the relative cold hardiness of each root-

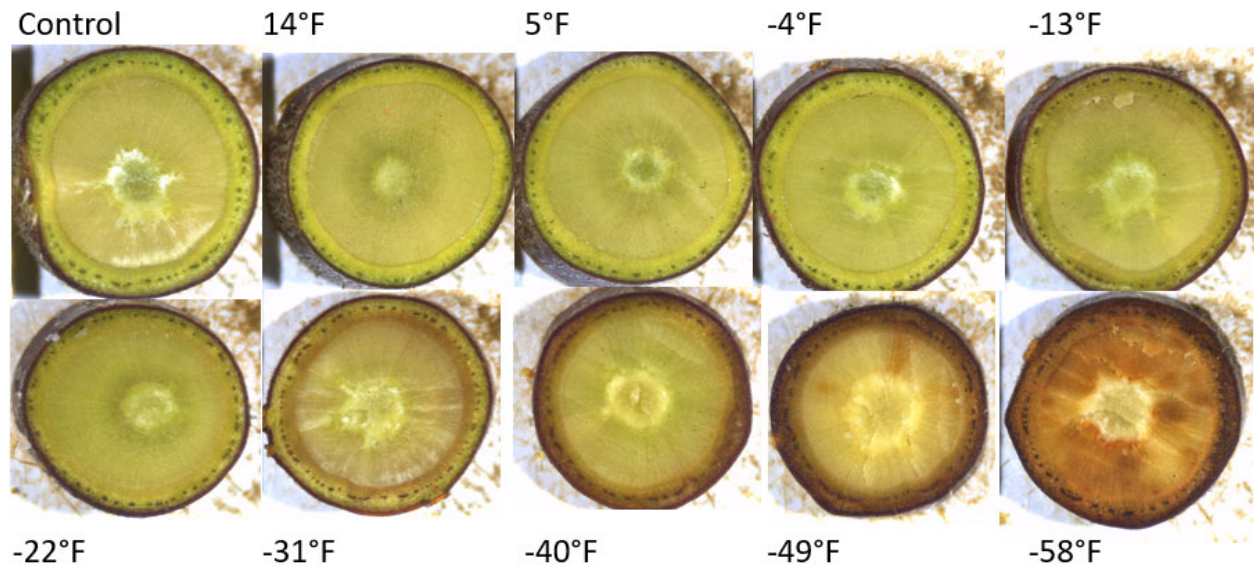


Figure 2. Differing levels of freeze damage, expressed as increasing browning of tissues. Evidence of cambial browning evident at -13°F. This type of damage tends to occur in correlation with electrolyte leakage data that indicates 25% of maximal damage.

stock or scion, in each month of the winter. In addition, we look at cross sections of the stem tissue and evaluate how much of the tissue is damaged based on how much turns brown following freezing. This method is called oxidative browning and while it can work for evaluating cold hardiness, it can be hard to judge how much of the tissue is brown, and if specific tissues are damaged. So, in our research, we use it to help us decide on what level of electrolyte leakage is most appropriate for reporting freeze damage.

This current winter 2022-2023 is our second winter of testing, and we have expanded our efforts to examine 22 scions (including 6 cider varieties) and 21 rootstocks. We are also testing to see if there are measurable differences in cold hardiness in a single scion that is grafted to multiple rootstocks (Gala on 10 rootstocks) and if there are differences in deacclimation (loss of cold hardiness in warm temperatures) between 15 different rootstocks.

## Results

The results of these studies are relative damage assessments and typically people report the temperature that results in 50% of maximal damage, known as the lethal temperature 50, or LT50. However, in apple, the LT50 temperatures determined with electrolyte leakage are far below what we typically

Rootstock cold hardiness 2022-2023 as LT25 temperature (°F)

	11/23/2022	12/14/2022	1/11/2023	ΔNov-Dec	ΔDec-Jan
B.9	-2.0	-23.2	-12.4	-21.2	10.8
CG.2034	-11.3	-41.1	-40.4	-29.9	0.7
CG.3067	-18.9	-32.1	-18.1	-13.2	14.0
CG.4004	3.5	-6.7	-22.6	-10.2	-15.8
CG.5087	-13.8	-40.7	-36.2	-26.9	4.5
CG.5257	-27.3	-41.2	-22.5	-13.9	18.7
CG.6589	-17.4	-15.2	-22.3	2.2	-7.1
CG.8189	-27.0	-5.1	-27.2	21.8	-22.1
G.202	1.9	-25.6	-7.8	-27.5	17.8
G.210	-48.5	-43.1	-33.8	5.4	9.3
G.213	-26.9	-41.4	-28.0	-14.4	13.3
G.214	-13.9	-9.3	-23.2	4.6	-13.9
G.222	-13.8	-39.7	-6.5	-25.9	33.2
G.41	-30.3	-39.5	-39.1	-9.2	0.4
G.814	-1.0	-6.8	-32.2	-5.8	-25.4
G.890	-8.6	-39.8	-14.2	-31.2	25.6
G.935	-20.5	-42.8	-3.5	-22.3	39.3
G.969	-17.7	-13.4	-4.7	4.4	8.7
M.9	12.9	-32.3	-11.1	-45.2	21.2
Ottawa 3	-6.2	-31.5	-28.5	-25.3	3.0

experience in a New York winter. When we compare the browning patterns across our samples, we see that the phloem and cambium tissue are the first to show damage. This damage appears to correlate closely with the LT25 temperatures we measure with electrolyte leakage.

Cold hardiness of the rootstocks changes between the months sampled, with stems collected from December and January typically more freeze resistant than in November. **The least cold hardy rootstocks sampled in November were M9, CG.4004, and G.202, while the most cold hardy were G.210, G.41, CG.5257, and CG.6589. G.210 and G.41 retained its deep cold hardiness throughout the sampled months. When comparing the change in cold hardiness between the months, early indications of deacclimation are evident for G.222, G.890, and G.935, which all lost substantial hardiness between December and January.** This could be due to our recent mild winter conditions as deacclimation processes accelerate when warm weather occurs in late winter. Often, the trees will regain some or all of their lost cold hardiness if cold weather returns as a general cooling pattern. We will continue to sample for February and March, and April if conditions allow it.

Cold hardiness in scions seems to be a little less variable compared with the rootstocks we are testing. Most start out the winter with good cold hardiness, around -15 to -20 °F. **The least cold hardy in early winter were three cider varieties, Dabinett, Porter's Perfection, and Goldrush. In contrast, the cider variety Ellis Bitter had deep cold hardiness early in the season and maintained that deep cold hardiness into December. Jonagold, Golden Delicious, Evercrisp, and Sunrise Fuji all seem to have lost much of their cold hardiness between the first two sampled months. In January, we saw that Sunrise Fuji and NY1 gained cold hardiness, while Ellis Bitter continued to be the most cold hardy scion.** We expect that with sufficient chill in the orchards that warm weather from this point on will result in field deacclimation. As we move from February into March, we expect cold hardiness to quickly decrease.

### Current Takeaways

Apple rootstocks and scions both have excellent baseline cold hardiness and most winter conditions will be tolerated without significant injury. We are seeing some interesting differences between rootstocks and scions, with much higher variation in the rootstocks. This has important implications for rootstock-scion interaction. Our ongoing work looking into the effect of rootstocks on scions is too early to report on but may suggest that specific pairs are more optimized for winter hardiness.

Scion cold hardiness 2022-2023 as LT25 temperature (°F)

	11/16/2022	12/21/2022	1/25/2023	ΔNov-Dec	ΔDec-Jan
Aztec Fuji	-15	-13.9	-21.6	1.2	-7.7
Binet Rouge	-21.3	-22.3	-22.2	-1.0	0.1
Cameo	-13.6	-13.1	-19.0	0.5	-5.9
Dabinett	0.9	-10.8	-11.4	-11.8	-0.6
Ellis Bitter	-41.3	-30.5	-31.8	10.7	-1.3
Empire	-19.2	-13.8	-11.4	5.4	2.4
Envy	-16.7	-29.9	-15.9	-13.3	14.0
Evercrisp	-18	3.1	-7.8	21.2	-10.9
Gala	-18.3	-15.8	-18.5	2.5	-2.7
Golden Delicious	-21.2	-3.8	-16.2	17.4	-12.4
Goldrush	-3.5	-1.7	-8.9	1.7	-7.2
Honeycrisp	-21.6	-13.8	-18.6	7.8	-4.8
Harry Master's Jersey	-22.6	-19.9	-15.5	2.7	4.4
Jonagold	-18.3	3.7	-17.6	22.0	-21.3
Macoun	-15.7	-12.9	-21.7	2.8	-8.8
Mutsu	-14.2	-4.4	-10.4	9.8	-6.0
NY1	-17.8	-9.5	-26.5	8.3	-17.0
NY2	-14.8	-16.6	-3.3	-1.8	13.3
Porter	-6.9	-22.4	-12.0	-15.6	10.4
Ruby	-20	-16.9	-16.5	3.1	0.4
Sunrise Fuji	-22.8	-8.6	-27.8	14.3	-19.2
Sweet Tango	-14.9	-14.6	-19.3	0.3	-4.7

### Future Work

These sorts of studies require multiple years of data to build up the framework needed to make recommendations to growers on which rootstocks, scions, and combinations are the most appropriate. Given the variety of climates in New York, we want to make sure we capture as much year-to-year variation as possible in these responses. We will continue this work for at least the next three years. In addition, we are working to characterize the deacclimation response of rootstocks, to determine which are the most resistant to late winter false spring events.

### Acknowledgements:

None of this work is possible without a research team. The Londo and Robinson programs collaborate on these projects and the work would not be possible without the help from Hanna Martens, Maria Mott, and Erik Verdehem in the Londo program.



# What Kind of Pesticide Certifications/Trainings Do My Workers Need in 2023?

Janet van Zoeren

As we look ahead to the growing (pesticide application) season, you may be wondering what trainings or licenses to get for your workers, and how to go about getting them. Here are some things to consider.

**Option 1: Certified Applicator.** All sprayer operators are strongly encouraged to take the DEC exam and become a certified private applicator!

1a, Those who **do not have experience** applying pesticides would need to take an official 30-hour DEC course (offered online). You can learn more, register for a course, and find a time/location to take the exam, all at the DEC website, under "Exams and Courses": <https://www.dec.ny.gov/nyspad/?0>.

1b, Anyone who **has experience** applying pesticides only needs to pass the exam in order to receive their certification. You can do that on your own – at the website listed about. However, if you or your workers would benefit from in-person instruction in order to help study to take that exam, Mike Stanyard and I will again offer an 8-hour training, which is designed to help prepare you for the certified applicator exam. This year it will be offered in Wayne County on March 17<sup>th</sup> and 21<sup>st</sup>, with the exam offered March 24<sup>th</sup>. You can learn more about how to register by seeing the promotional flyer below.

Unfortunately, the exam and the pesticide labels are both only available in English, which will make passing the exam and becoming a certified applicator difficult for those who are not comfortable reading and writing in English. **If one of your employees would like to take the full exam, but language is a barrier, please do reach out to me.** I would like to know if there is interest and need for developing a Spanish-language prep course to help with those language barriers.

**Option 2: Special Permit License.** In a pinch, if an employee is unable to take the exam, but will be applying certain Restricted Use Pesticides (Endigo ZC, Warrior II with Zeon Technology, Agri-Mek SC, Besiege, Leverage 360, Danitol 2.4EC, Mustang Maxx, Lannate LV), we will be offering Special Permit (handler) training again this year. **Special Permit training is available in English and Spanish.** The training will be offered in person in both Orleans and Wayne counties. Dates to be determined, but will likely be in early April.

**Recertification credit hours available!** While I've got you here: this is a great time to check in to make sure when your license expires, and to **make sure you have enough recertification credit hours** for when it does expire! There will be a plethora of in person and online courses available in February and March, amounting to over 9 credit hours available to in the next two months. So there is no excuse for not getting those credit hours this spring. To find out how many credit hours you need, you can call the region 8 DEC office; and to find a conference or webinar to attend to receive credits, you can visit our website at [lof.cce.cornell.edu](http://lof.cce.cornell.edu), or email me!

**If you have any questions about either of these trainings, you can call or email me: 585 797 8368 / [jev67@cornell.edu](mailto:jev67@cornell.edu).**

## Business Management Specialist Position Evaluations

Please join us in this very important process of participating in the evaluation of our 2 finalists for our Business Management Specialist position. Each candidate will be presenting ~30-35 minute presentations on three issues they've identified from a financial / business management aspect that impact the fruit industry in the Lake Ontario region; they'll present an outline of an education and research program that they would develop to address one of these 3 issues; and how they would envision this position contributing the growth and economic viability of the fruit industry in the Lake Ontario region. We're asking them to allow 5-10 minutes for audience questions. There will be evaluation forms for industry to fill out. These comments will be considered by the search committee.

The first candidate, Bonnie Nelson, will present her seminar at 10:15 – 11:00 AM in room 114.

The second candidate, Kurt Deriziotis, will present his seminar at 1:00-1:45 PM in room 113.

### Friday, February 17

Irondequoit Public Library

1290 Titus Ave  
Rochester, NY 14617

Please join us. Refreshments will be served. No pre-registration required.



Photo Credit: State University of Washington Tree Fruit

## Register here:

<https://cornell.zoom.us/meeting/register/tjUvf-CuqDMjHtorRzLXGR7LiMVeh-K6dyrO>

In recent years, the apple leafcurling midge (ALCM) has become an increasingly problematic pest in many orchards across the northeast.

Due to its small size and tendency to damage the newest terminal growth, growers often don't notice there is a problem until it is too late to manage effectively.

This presentation will discuss Ontario's experience with ALCM, including its biology, monitoring, biological control, and chemical management

DEC Credits Have Been Applied For: **1 credit for categories 1A, 10, and 22.**

To receive credits, you must:

1. Enter your ID number during registration
2. Send a photocopy of your applicator ID to Mike at [mrb254@cornell.edu](mailto:mrb254@cornell.edu) or 518 410 6823
3. Attend the entire webinar
4. Complete the Qualtrics surveys at the beginning and end of the meeting

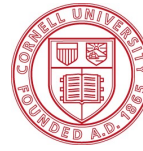
**Cornell Cooperative Extension**  
Lake Ontario Fruit Program

**Cornell Cooperative Extension**  
Eastern NY Commercial Horticulture Program

Scan me with your  
phone's camera or QR  
reader app to register!



Wayne County Cornell Cooperative Extension & NYS DEC are proud to offer a **Pre-Exam Training and Test to Become a Certified Pesticide Applicator**



Cornell Cooperative Extension  
Wayne County

Agriculture Specialists Mike Stanyard from the NWNy Team and Janet van Zoeren of the Lake Ontario Fruit Program will review core concepts and commodity specific items in preparation for the Pesticide Applicator exam. This is not a 30-hour course. No DEC recertification credits.



## Training Classes

When: March 17 & 21, 2023  
8:30am - 12:30pm  
Registration begins at 8:00am

Where: Wayne County  
Cornell Cooperative Ext.  
1581 NY-88, Newark,  
NY 14513

Cost: \$50 for both days

Questions: Contact  
Kim Cummings at 315-331-8415 ext 117  
or by email at wayne@cornell.edu

## The Certification Exam

will be administered on March 24<sup>th</sup> by the DEC to Qualified Applicants. Registration begins at 8:30am and the exam starts at 9am. Fee for the exam is \$100, bring a check payable to NYSDEC the day of the exam. It is permissible to bring lunch with you, however, please be sure not to get food or fingerprints on the test forms.

### You must register with DEC to take the exam

To register for the exam or if you have questions regarding the Certification Process, please contact Justin Schoff at the Bath DEC office @ 607-776-2165

All participants must have experience working on their own farm, or through employment on another farm. **Participants must register directly with DEC to take the Exam** and if you have any questions on exam eligibility they must be answered by DEC representatives.

Name: \_\_\_\_\_

Farm Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Registering # of people \_\_\_\_\_ @ \$50 ea. = \_\_\_\_\_

## **Please Register by March 14th!**

All participants will need to have the most recent Core Manual (3<sup>rd</sup> Edition) and Category Manuals  
**Please make checks payable to: CCE, and mail to 1581 NY-88, Newark, NY 14513**

<https://www.cornellstore.com/books/cornell-cooperative-ext-pmep-manuals?page=1>

*Building Strong and Vibrant New York Communities*

Diversity and Inclusion area a part of Cornell University's heritage. We are a recognized employer and educator valuing AA/ EEO, Protected Veterans and Individuals with Disabilities.

Mark Your Calendar

<b>Meeting Title</b>	<b>NOFA NY Virtual Winter Conference</b>
<b>Date</b>	February 2-5, 2023
<b>Time</b>	See website
<b>Location</b>	Virtual
<b>Cost</b>	See website
<b>Contact for Info/Registration</b>	<a href="https://nofany.org/2023conference/">https://nofany.org/2023conference/</a>
<b>Brief Description of Meeting</b>	NOFA-NY's annual conference.

<b>Meeting Title</b>	<b>Becker Forum</b>
<b>Date</b>	February 8 <sup>th</sup>
<b>Time</b>	All day
<b>Location</b>	Oncenter, Syracuse.
<b>Cost</b>	Varied, see registration page: <a href="https://nysvga.org/2023-expo-registration/#!event-register/2023/2/1/2023-nysvga-expo">https://nysvga.org/2023-expo-registration/#!event-register/2023/2/1/2023-nysvga-expo</a>
<b>Contact for Info/Registration</b>	<a href="https://nysvga.org/expo/information/">https://nysvga.org/expo/information/</a> 585-993-1767 or <a href="mailto:nysvegetablegrowers@gmail.com">nysvegetablegrowers@gmail.com</a>
<b>Brief Description of Meeting</b>	<a href="https://agworkforce.cals.cornell.edu/becker-forum-on-agricultural-labor/">https://agworkforce.cals.cornell.edu/becker-forum-on-agricultural-labor/</a>

<b>Meeting Title</b>	<b>66th Annual IFTA Conference &amp; Tours Resiliency- Adapting and Thriving in a Challenging Future</b>
<b>Date</b>	February 12-15 <sup>th</sup> , 2023
<b>Time</b>	All day
<b>Location</b>	Grand Rapids, MI
<b>Cost</b>	\$650
<b>Contact for Info/Registration</b>	Please go to <a href="https://ifruittree.org/event/ifta-2023-annual-conference-and-tour/">https://ifruittree.org/event/ifta-2023-annual-conference-and-tour/</a> for full agenda and registration information.

<b>Meeting Title</b>	<b>Apple Leafcurling Midge IPM - Webinar</b>
<b>Date</b>	February 16
<b>Time</b>	1:30-2:35 PM
<b>Location</b>	Virtual
<b>Cost</b>	Free
<b>Contact for Info/Registration</b>	<b>Register here:</b> <a href="https://cornell.zoom.us/meeting/register/tJUvf-CuqDMjHt0rRzLXGR7LiMVeh-K6dyrO">https://cornell.zoom.us/meeting/register/tJUvf-CuqDMjHt0rRzLXGR7LiMVeh-K6dyrO</a> For more info, contact Janet van Zoeren ( <a href="mailto:jev67@cornell.edu">jev67@cornell.edu</a> ) or Mike Basedow ( <a href="mailto:mrb254@cornell.edu">mrb254@cornell.edu</a> )
<b>Brief Description of Meeting</b>	See article in this newsletter. <b>1 DEC Credit Available in Categories 1A, 10, and 22.</b>

<b>Meeting Title</b>	<b>LOF Western NY Fruit Conference</b>
<b>Date</b>	February 27-28 <sup>th</sup> , 2023
<b>Time</b>	PM on February 27, all day on February 28
<b>Location</b>	RIT Inn & Conference Center, 5257 West Henrietta Road, Henrietta, NY, 14467
<b>Cost</b>	See registration page. Discounts for LOF enrollees & Mott's growers.
<b>Contact for Info/Registration</b>	More information will be made available in this newsletter, on our website & conference page, and in our email blasts. Registration will open soon at: <a href="https://lof.cce.cornell.edu/event.php?id=1729">https://lof.cce.cornell.edu/event.php?id=1729</a>
<b>Brief Description of Meeting</b>	This replaces LOF's Winter Fruit Schools. See pages 1-5 in this newsletter for detailed agenda and promotional articles.

<b>Meeting Title</b>	<b>Fire Blight Informational Series— Full Day Meeting</b>
<b>Date</b>	March 1 <sup>st</sup> , 2023
<b>Time</b>	9 AM-2 PM
<b>Location</b>	Virtual OR in person in Traverse City, MI
<b>Contact for Info/Registration</b>	<a href="https://lof.cce.cornell.edu/event.php?id=1747">https://lof.cce.cornell.edu/event.php?id=1747</a>
<b>Brief Description of Meeting</b>	This multi-state series will address new research on best management practices for fire blight control. 2.5 DEC credit hours available for attending entire meeting.

<b>Meeting Title</b>	<b>CCE Statewide Apple Conference</b>
<b>Date</b>	March 3 <sup>rd</sup> , 2023
<b>Time</b>	~10 AM-2:30 PM
<b>Location</b>	virtual
<b>Contact for Info/Registration</b>	More information and registration available at <a href="https://lof.cce.cornell.edu/event.php?id=1746">https://lof.cce.cornell.edu/event.php?id=1746</a> .
<b>Brief Description of Meeting</b>	This is jointly hosted by CCE-LOF and CCE-ENYCHP and addresses more statewide programming. It replaces LOF's participation in the Empire Producer's Expo. See article in this newsletter for a brief description of some key talk topics.

<b>Meeting Title</b>	<b>2023 Annual Meeting &amp; Conference of the 10th North American Strawberry Symposium</b>
<b>Date</b>	March 7-10
<b>Time</b>	See website.
<b>Location</b>	San Luis Obispo, California
<b>Cost</b>	See website.
<b>Contact for Info/Registration</b>	<a href="https://nasga.org/n-american-strawberry-growers-conference.htm">https://nasga.org/n-american-strawberry-growers-conference.htm</a>  For additional information or questions please contact Kevin or Margo Schooley at 905-735-5379 or <a href="mailto:info@nasga.org">info@nasga.org</a>
<b>Brief Description of Meeting</b>	Joint annual meeting and conference of NASGA & NASS.

<b>Meeting Title</b>	<b>"Curso de Desarrollo de Liderazgo."</b>
<b>Date</b>	March 14-15
<b>Time</b>	TBD
<b>Location</b>	TBD, based on proximity to majority of participants.
<b>Cost</b>	TBD
<b>Contact for Info/Registration</b>	Tim Shenk, <a href="mailto:tw74@cornell.edu">tw74@cornell.edu</a> .
<b>Brief Description of Meeting</b>	The Cornell Small Farms Program's Futuro en Ag project will offer a two-day Spanish-language Farm Management Skills Development course for WNY workers in the apple industry.

<b>Meeting Title</b>	<b>Listening Sessions – Spring 2023 Apple Grower Meetings</b>
<b>Date</b>	March 14 <sup>th</sup> 2023
<b>Time</b>	10 AM-Noon
<b>Location</b>	Irondequoit Public Library (Room #115) 1290 Titus Ave. Rochester, NY 14617
<b>Cost</b>	Free, pre-registration encouraged
<b>Contact for Info/Registration</b>	For more information and registration: <a href="https://lof.cce.cornell.edu/event.php?id=1728">https://lof.cce.cornell.edu/event.php?id=1728</a> Or contact: Tracey Keene, RMA Product Management Economist <a href="mailto:tracey.keene@usda.gov">tracey.keene@usda.gov</a>

<b>Meeting Title</b>	<b>Fire Blight Informational Webinar Series</b>
<b>Date</b>	March 15 <sup>th</sup> , June 13 <sup>th</sup> , and October 18 <sup>th</sup>
<b>Time</b>	7-8 PM
<b>Location</b>	Virtual
<b>Contact for Info/Registration</b>	Information about each webinar in the series, and to register, can be found at: <a href="https://lof.cce.cornell.edu/event.php?id=1748">https://lof.cce.cornell.edu/event.php?id=1748</a>
<b>Brief Description of Meeting</b>	Various topics and number of DEC credit hours available. See link above for details.

<b>Meeting Title</b>	<b>CCE Stone Fruit Updates Webinar</b>
<b>Date</b>	March 16 <sup>th</sup> , 2023
<b>Time</b>	1-2:30 PM
<b>Location</b>	Virtual
<b>Contact for Info/Registration</b>	Registration information will be available here soon.
<b>Brief Description of Meeting</b>	Peach borer mating disruption and cherry rootstocks will be discussed. 0.75 DEC credit hours available.

<b>Meeting Title</b>	<b>Pre-Exam Training and Test to Become a Certified Pesticide Applicator</b>
<b>Date</b>	Training: March 17 <sup>th</sup> and 21 <sup>st</sup> , 2023 Exam: March 24 <sup>th</sup> , 2023
<b>Time</b>	8:30 AM-12:30 PM
<b>Location</b>	Wayne County CCE Office 1581 NY-88, Newark, NY 14513
<b>Cost</b>	Training: \$50 Exam: \$100
<b>Contact for Info/Registration</b>	See flyer earlier in this issue of Fruit Notes, or contact Janet for more information.
<b>Brief Description of Meeting</b>	Agriculture Specialists Mike Stanyard from the NWNYS Team and Janet van Zoeren of the Lake Ontario Fruit Program will review core concepts and commodity specific items in preparation for the Pesticide Applicator exam. This is not a 30-hour course. No DEC recertification credits.

<b>Meeting Title</b>	<b>Strep Resistant Erwinia amylovora in New York state</b>
<b>Date</b>	March 21 <sup>st</sup>
<b>Time</b>	1-2:30 PM
<b>Location</b>	Virtual
<b>Contact for Info/Registration</b>	Registration information will be available here soon.
<b>Brief Description of Meeting</b>	Dr Kerik Cox and members of his lab group will discuss fire blight resistance in NY. DEC credit pending.

Cornell Cooperative Extension  
Lake Ontario Fruit Program  
12690 Rt. 31  
Albion, NY 14411

#### Contents

Western NY Fruit Conference  
"State of the Industry"

Thanks to Our Meeting Sponsors!!!!

Erick Smith: Distinguished Tree Fruit Scientist and Fruit Consultant  
will be Presenting at the 2023 WNY Fruit Conference in Rochester

Statewide Virtual Apple Conference

Farm Management Skills Course to be Held in Spanish in March

Apple Cold Hardiness Research Update

What Kind of Pesticide Certifications/Trainings Do My Workers  
Need in 2023?

Business Management Specialist Position Evaluations

Apple Leafcurling Midge IPM- Webinar

Pesticide Applicator Registration

Mark Your Calendar

Contact Us

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# Fruit Notes

***YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE***

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## Fruit Specialists



Craig Kahlke | 585-735-5448 | [cjk37@cornell.edu](mailto:cjk37@cornell.edu)  
**Team Leader, Fruit Quality Management**

**Areas of Interest:** Fruit Quality and factors that affect fruit quality before, during, and after storage.

**Crops:** Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Cherries, Nectarines, Peaches, Pears, Plums



Mario Miranda Sazo | 315-719-1318 | [mrm67@cornell.edu](mailto:mrm67@cornell.edu)  
**Cultural Practices**

**Crops:** Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Asian Pears, Cherries, Currants, Gooseberries, Nectarines, Peaches, Pears, Plums



Janet van Zoeren | 585-797-8368 | [jev67@cornell.edu](mailto:jev67@cornell.edu)  
**Integrated Pest Management (IPM)**

**Areas of Interest:** IPM of tree fruit and berry pests, biological control, pollinators.

**Crops:** Blueberries, Raspberries / Blackberries, Strawberries, Apples, Apricots, Asian Pears, Cherries, Currants,

**For more information about our program visit us at [lof.cce.cornell.edu](http://lof.cce.cornell.edu)**