

# Lake Ontario Fruit Program

# 2025 REVIEW



The Lake Ontario Fruit Program provides research based education and support to commercial fruit growers across Monroe, Niagara, Orleans, Oswego, and Wayne Counties. Working closely with Cornell Cooperative Extension associations and Cornell University faculty, the program helps New York's tree fruit and berry industries stay competitive in a global market while producing safe, high quality fruit for consumers.

Through applied research and on farm education, the program focuses on improving farm profitability, evaluating and adopting new technologies, reducing production and business risks, and strengthening the overall quality and delivery of fruit grown in the Lake Ontario region. Support for the program comes in part from the five county Cornell Cooperative Extension associations that serve growers throughout the Lake Ontario region of New York.

## Team Publications

The team publishes timely information throughout the entire year for growers and industry members that enroll in the program via the county associations.

**"LOF Announcements" (aka Email Blasts)**- Now that over 90% of our enrollees get electronic versions of our newsletter, the team continues to email more timely information and meeting announcements. We have continued to use this as a source of key information in between Fruit Notes issues.

**"Fruit Notes"** A comprehensive newsletter covering time-relevant information on various fruit growing topics, for fruit and berry production. 8-12 issues per year, email or mail). Printed mailed copies will continue to have an additional charge in 2026.

**"Fruit Facts"** is a weekly email report with horticultural and pest management reminders covering the day-to-day activities that are more time sensitive and important at that moment in the growing season. This report is available by fax or email for fruit and berry production.

**"Harvest Maturity Report"** covers fruit ripening indicators for over 20 apple varieties. This report helps growers make good harvest decisions to ensure optimal fruit quality and storability.



# Education & Research

## 2025 Western NY Fruit Conference

For the third year in a row, based on positive feedback from the past two conferences, we held another 1 1/2 day conference in Rochester. For talk topics, we incorporated suggestions from industry that we received year-round, as well as from the advisory committee meeting that we held in December.

We had six sessions total. Attendance was strong on the December 5th, the full day of the conference, at around 165 people, pictured to the right, which included two DEC credit-eligible sessions. We had about 110 folks for the second (1/2) day, which was significantly more than last year.

Feedback received via evaluations and face to face was overwhelmingly positive, but we have decided to change formats for our 2026 winter meetings.



## 3<sup>rd</sup> Annual WNY Fruit Growers Tour



Stakeholder input guided us to co-host this tour for the 3rd year in a row with Lake Ontario Ag Consulting, LLC (LOAC). We held the tour on July 31st on cutting-edge farms in Wayne County. Attendance was strong, at just under 200 people at its peak (pictured left). Evaluations in the form of conversations with growers, sponsors, and other industry folks following the tour indicated that it was strong in content. In addition, we had just a little bit of rain and the temperatures were in the upper 60's and low 70's!

Plans for next year include a July 30 event hosted by Cornell AgriTech in Geneva as part of their Fruit Field Day, which has not been held since before the pandemic. The Lake Ontario Fruit Program (LOF) and the LOAC will be involved in both the planning and execution of the tour.

## Pest Scouting Videos-Janet van Zoeren

In collaboration with Mike Femia from Cornell Communications, Anna Wallis from Cornell IPM and Mike Basedow from ENYCHP, with funding from the Apple Research and Development Program, we made short videos showing scouting and management recommendations for key apple pests.

We worked together to develop and proofread the scripts. For filming, Janet read scripts for five videos: plum curculio, codling moth, woolly apple aphid (illustrative image, right, in a Fuji orchard), green and rosy apple aphids, and tarnished plant bug. These videos have now been edited by Mike Femia and will soon be posted to the Cornell IPM YouTube channel.



## Trapline Continues- Janet Van Zoeren

Elizabeth Tee and Janet continued to check traps for the trapline, which informs management recommendations for LOF newsletters and individual conversations with growers. In 2025 we added traps for a new species: apple leaf-curling midge. Apple leaf-curling midge is becoming increasingly problematic on certain farms in WNY, as well as across Ontario, Canada and in ENY. Trap count information from our two locations will help us to understand when populations begin to increase and peak in WNY, and will be combined with data from other locations across the region to develop a degree day model for this pest. In addition, we continued to monitor for codling moth using traps (pictured to right), as well as oriental fruit moth, oblique banded leafroller, apple maggot, and dogwood borer.



## Stinger Herbicide Timings- Janet van Zoeren

Following up on four previous years of herbicide research, Mike Basedow (CCE-ENYCHP) and Janet (pictured at left, 2024) collected a final year of data looking at long term effects of three different Stinger application rates and timings on broadleaf weed management. We recommend growers apply a single spring full rate spring application (2/3pt per acre at petal fall timing), or if they do not have time in the spring, to apply a single full rate fall application (2/3pt per acre post harvest). Incorporating our previous years' research, we recommend growers apply a pre-emergent herbicide either at fall or spring timing, and where perennial weeds are a problem that they incorporate Stinger with a burndown herbicide program, especially for farms where Glyphosate is not available due to marketing or other restrictions. This research was funded by the Apple Research and Development Program.

## Enhance the knowledge and skills of New York State growers in the production and storage of Honeycrisp and other high-value apple cultivars.- Mario Miranda Sazo

This year LOF's team delivered the In-Depth Fruit School of Honeycrisp & Other High-Value Cultivars, held in Syracuse on March 19–20, 2025. The school took place at a professional conference venue and featured: 8 Cornell speakers, 8 grower panelists representing the three major apple regions in NY, and 1 out-of-state speaker from Michigan State University. Topics were selected using suggestions gathered at the December 2024 LOF Advisory Committee meeting to ensure direct relevance to grower needs.

Attendance at our In-Depth School was strong: ~100 participants on March 19 and ~75 on March 20. Across the two days, 25 presentations were delivered, covering comprehensive aspects of apple production, storage, and fruit quality for Honeycrisp and other premium cultivars. Pictured to the left Mario harvested Honeycrisp from a color improvement trial.

NY growers significantly increased their technical knowledge of Honeycrisp, SnapDragon®, and EverCrisp®. Participants became more aware of a key New York Fruit Quarterly publication summarizing main management practices for maximizing Honeycrisp yield while minimizing bitter pit. Finally, the school generated two new LOF newsletter articles that were published in the second quarter of 2025.



## “Acidity of Honeycrisp – Key to Eating Quality and Competitiveness of Northeastern Apple Growers”

This is a NESARE-Funded 2 Year Grant, 8/1/24-7/31/26, Kahlke PI. Collaborators in both proposal development and carrying out the work on the project include Dr. Chris Watkins, Dr. Robin Dondo, grad student Rogelio Diaz, Dando Lab manager Alina Stelick, and Scott Henning and Tyler Baker of Lake Ontario Fruit, Inc.

**Project Summary:** Consumers have complained about ‘bland’ Honeycrisp (HC) apples, limiting expansion of the variety in a highly competitive apple market. Research in WA has shown that higher acidity at harvest will result in better flavor after storage. In this study, we sampled fruit from a range of orchard blocks and separated them into low, medium and high acidity categories. Acidity was measured with a brix/acid meter that can assess samples quickly. In addition, fruit at harvest was or was not treated with an inhibitor of ethylene production that slows down the rate fruit ripening. The fruit was stored at the standard storage temperature of 38°F for ~ 90 days. Changes of acidity in fruit from each of these categories were measured at 30-day intervals during storage. Formal sensory evaluations (appearance, texture, mouth feel, juiciness, and overall acceptability) were assessed after 90 days of storage at the Dando Sensory Analysis Lab at Cornell.

**Key findings after both years:** Sampling from 36 orchard blocks indicated that there were varying levels levels of total acidity. Total acidity (converted to the malic acid equivalent), will be referred to simply “acid levels” or “acidity” from here on. At harvest, these were separated into 3 levels. Overall, the acidity did decline in storage. Sensory analysis at the Dondo lab (~ 90 days postharvest) also showed a higher overall liking for the higher acid apples, among the 86 survey respondents in year 1, and 72 respondents in year 2.

The excitement of this research has caused a major grower/packer to purchase an acid/brix meter and test/track all of their lots of Honeycrisp going into storage for the 2024 harvest. If the higher acidity fruit continues to show superior quality to the other two groups, outreach will consist of recommendations to initiate similar testing in other HC-growing regions outside of Western NY. Further research and analysis of data and block information will hopefully tease out ways that growers can increase their acidity in their Honeycrisp, and therefore increase consumer acceptance, sales, and grower returns. Following confirmation of similar findings, this information will be shared in fruit industry conferences and extension publications.

*Craig has observed some of the highest acid blocks that also correlated to better consumer acceptance at the sensory analysis were from two-dimensional planting systems that had more uniform color at harvest with proper crop loads. In contrast, some of the lower acid blocks that had the lowest amounts of consumer acceptance at the sensory analysis are from less dwarfing rootstocks that have chronic problems like bitter pit and variable crop loads with more biennial bearing, that also tend to have fruit that are not uniform at harvest.*



NESARE Honeycrisp samples await testing at the maturity lab at Orleans County Cornell Cooperative Extension in October of 2025.



## Labor Solutions - AI, Automation, Digital, and Robotics- Mario Miranda Sazo

This year we investigated the integration of multiple digital technologies and achieved measurable improvements in precision crop load management. The Wayne County on-farm trial was conducted in close collaboration with apple grower Kristen DeMarree and technology companies to evaluate and refine imaging-based solutions for crop load monitoring and mapping in apples throughout the growing season. The on-farm trial (pictured below) demonstrated improved throughput, efficiency, and accuracy of imaging tools for counting and mapping blooms and fruit; however, further development is still needed.

The 2025 on-farm trial showed that digital imaging tools can accurately capture trends at both the orchard and individual tree level (bud, bloom, or fruit counts). Nonetheless, some technical and practical limitations remain before widespread grower adoption can be realized.



## Ag Enrollment- Commercial Agriculture Subscription

Staying informed is one of the most valuable tools in today's agricultural landscape, and enrolling in a Cornell Cooperative Extension agricultural subscription is an easy way to keep timely, research-based information at your fingertips. An ag subscription connects you directly with Cornell specialists and Extension educators who provide practical updates, production insights, and seasonal guidance tailored to growers and ag professionals across New York State.

Subscribers receive regular publications and communications from several key Cornell Cooperative Extension programs, including the Lake Ontario Fruit Program, Northwest New York Dairy, Livestock & Field Crops Program, and the Cornell Vegetable Program. These resources cover a wide range of topics such as crop management, pest and disease alerts, weather impacts, nutrient management, market considerations, and upcoming educational opportunities. Whether you're involved in fruit production, grow crops, dairy, livestock, or vegetable operations, these programs deliver trusted information designed to support informed decision-making throughout the growing season and beyond. Enrollment form shown to right.

If you are interested in enrolling or would like help determining the correct subscription for your location, assistance is available. Those within Orleans County can enroll directly through Cornell Cooperative Extension of Orleans County. If you are located outside of Orleans County, Zayda Moyle can help direct you to the appropriate county or program for enrollment.

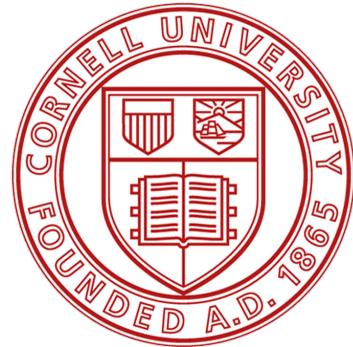
**Please reach out to [zrm24@cornell.edu](mailto:zrm24@cornell.edu) or call 585-798-4265 ext. 122 for guidance, questions, or additional information on getting connected with the ag subscription that best fits your operation.**

<p><b>Category I.</b> Lake Ontario Fruit Program - \$65</p> <p><input type="checkbox"/> E-mail copy of Fruit Notes Newsletter, included with subscription <input type="checkbox"/> Paper copy of Fruit Notes (add additional fee of \$40) <input type="checkbox"/> FRUIT FACTS (575) _____ email _____ fax _____ both <input type="checkbox"/> HARVEST FACTS (575) _____ email _____ fax _____ both</p> <p><i>Please be sure to include the fax, email and cell phone information above.</i> Please check all that apply</p> <p><input type="checkbox"/> All Crops <input type="checkbox"/> Tart Cherries <input type="checkbox"/> Apples <input type="checkbox"/> Apricots <input type="checkbox"/> Berries <input type="checkbox"/> Direct Marketing <input type="checkbox"/> Pears <input type="checkbox"/> Prunes and Plums <input type="checkbox"/> Peaches/Nectarines <input type="checkbox"/> Fruit Storage and Packing <input type="checkbox"/> Sweet Cherries <input type="checkbox"/> Agribusiness</p> <p>Total for Category I. \$ _____</p>	<p><b>Category II.</b> NWNY Dairy/Livestock and Field Crops Program - \$75</p> <p><input type="checkbox"/> 12 Issues of AG FOCUS (included) <input type="checkbox"/> Mail (add additional fee of \$35) <input type="checkbox"/> GO GREEN! email (be sure to include email address above) <input type="checkbox"/> HARVEST FACTS (575) _____ email _____ fax _____ both</p> <p>Please check all that apply</p> <p><input type="checkbox"/> Beef <input type="checkbox"/> Organic <input type="checkbox"/> Dairy <input type="checkbox"/> Poultry <input type="checkbox"/> Farm Business Mgmt. <input type="checkbox"/> Sheep <input type="checkbox"/> Farm Employee <input type="checkbox"/> Forage-Hay <input type="checkbox"/> Small Scale <input type="checkbox"/> Farm Owner <input type="checkbox"/> Goat <input type="checkbox"/> Swine <input type="checkbox"/> Other: _____ <input type="checkbox"/> Grazing <input type="checkbox"/> Other: _____</p> <p>Total for Category II. \$ _____</p>																																							
<p><b>Category III.</b> Cornell Vegetable Program - \$75</p> <p>Email address #1 _____ Email address #2 _____ <input type="checkbox"/> Paper copy of newsletter (additional fee of \$35) I currently have _____ acres dedicated to vegetable production. Please check all that apply</p> <table><tr><td><input type="checkbox"/> Asparagus</td><td><input type="checkbox"/> Leafy Greens/Lettuce</td><td><input type="checkbox"/> Squash/Winter</td></tr><tr><td><input type="checkbox"/> Beets</td><td><input type="checkbox"/> Melons</td><td><input type="checkbox"/> Sweet Corn</td></tr><tr><td><input type="checkbox"/> Broccoli</td><td><input type="checkbox"/> Onions</td><td><input type="checkbox"/> Sweet Potatoes</td></tr><tr><td><input type="checkbox"/> Brussels Sprouts</td><td><input type="checkbox"/> Parsnips</td><td><input type="checkbox"/> Tomatoes</td></tr><tr><td><input type="checkbox"/> Cabbage</td><td><input type="checkbox"/> Peas</td><td><input type="checkbox"/> Turnips</td></tr><tr><td><input type="checkbox"/> Carrots</td><td><input type="checkbox"/> Peppers</td><td><input type="checkbox"/> Food Safety</td></tr><tr><td><input type="checkbox"/> Cauliflower</td><td><input type="checkbox"/> Pumpkins/Gourds</td><td><input type="checkbox"/> Greenhouse/Tunnel</td></tr><tr><td><input type="checkbox"/> Dry Beans</td><td><input type="checkbox"/> Potatoes</td><td><input type="checkbox"/> Organic</td></tr><tr><td><input type="checkbox"/> Eggplant</td><td><input type="checkbox"/> Radishes</td><td><input type="checkbox"/> Pests-Animals</td></tr><tr><td><input type="checkbox"/> Ethnic Vegetable</td><td><input type="checkbox"/> Rhubarb</td><td><input type="checkbox"/> Pests-Insects</td></tr><tr><td><input type="checkbox"/> Horseradish</td><td><input type="checkbox"/> Rutabaga</td><td><input type="checkbox"/> Pests-Weeds</td></tr><tr><td><input type="checkbox"/> Kohlrabi</td><td><input type="checkbox"/> Snap Peas</td><td><input type="checkbox"/> Pests-Weeds</td></tr><tr><td><input type="checkbox"/> Leeks</td><td><input type="checkbox"/> Squash/Summer</td><td><input type="checkbox"/> Soil Health</td></tr></table> <p>Total for Category III. \$ _____</p>		<input type="checkbox"/> Asparagus	<input type="checkbox"/> Leafy Greens/Lettuce	<input type="checkbox"/> Squash/Winter	<input type="checkbox"/> Beets	<input type="checkbox"/> Melons	<input type="checkbox"/> Sweet Corn	<input type="checkbox"/> Broccoli	<input type="checkbox"/> Onions	<input type="checkbox"/> Sweet Potatoes	<input type="checkbox"/> Brussels Sprouts	<input type="checkbox"/> Parsnips	<input type="checkbox"/> Tomatoes	<input type="checkbox"/> Cabbage	<input type="checkbox"/> Peas	<input type="checkbox"/> Turnips	<input type="checkbox"/> Carrots	<input type="checkbox"/> Peppers	<input type="checkbox"/> Food Safety	<input type="checkbox"/> Cauliflower	<input type="checkbox"/> Pumpkins/Gourds	<input type="checkbox"/> Greenhouse/Tunnel	<input type="checkbox"/> Dry Beans	<input type="checkbox"/> Potatoes	<input type="checkbox"/> Organic	<input type="checkbox"/> Eggplant	<input type="checkbox"/> Radishes	<input type="checkbox"/> Pests-Animals	<input type="checkbox"/> Ethnic Vegetable	<input type="checkbox"/> Rhubarb	<input type="checkbox"/> Pests-Insects	<input type="checkbox"/> Horseradish	<input type="checkbox"/> Rutabaga	<input type="checkbox"/> Pests-Weeds	<input type="checkbox"/> Kohlrabi	<input type="checkbox"/> Snap Peas	<input type="checkbox"/> Pests-Weeds	<input type="checkbox"/> Leeks	<input type="checkbox"/> Squash/Summer	<input type="checkbox"/> Soil Health
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<p><i>Special Contributions can be made to the Program of Your Choice:</i></p> <table><tr><td>Lake Ontario Fruit Program</td><td>\$ _____</td></tr><tr><td>NWNY Dairy, Livestock &amp; Field Crops Program</td><td>\$ _____</td></tr><tr><td>Cornell Vegetable Program</td><td>\$ _____</td></tr><tr><td>Orleans County Association</td><td>\$ _____</td></tr></table> <p><i>Make checks payable and mail to:</i> Orleans County Cornell Cooperative Extension 12690 NYS Rt. 31, Albion, NY 14411</p> <p>A <b>fifteen dollar discount</b> is given to each additional major category to the same farm address.</p> <p>Total Enclosed \$ _____ For Office Use Only: Date Received: _____ Received By: _____ Cash: _____ Receipt #: _____ Check: _____</p>		Lake Ontario Fruit Program	\$ _____	NWNY Dairy, Livestock & Field Crops Program	\$ _____	Cornell Vegetable Program	\$ _____	Orleans County Association	\$ _____																															
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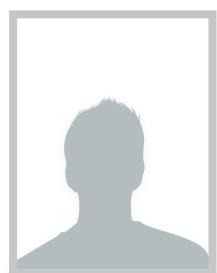
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