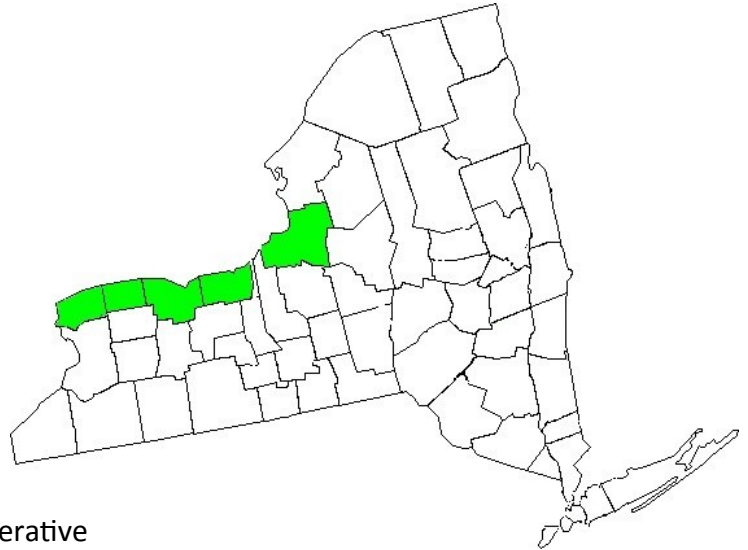


2016 Annual Report

LAKE ONTARIO FRUIT PROGRAM



The Lake Ontario Fruit Program partners with Cornell Cooperative Extension of Wayne, Orleans, Niagara, Monroe, and Oswego Counties, Cornell University Cooperative Extension and faculty to provide educational programs for the commercial fruit industry, using research-based information to help the tree fruit and berry industries in New York compete in the world market and provide safe, high-quality produce for consumers.

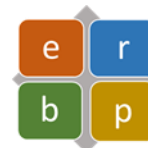
Objectives:

- 🍏 Maintain competitiveness and profitability of NY Fruit farms in a global market.
- 🍏 Evaluate new technology for potential increases in efficiency through applied research.
- 🍏 Assist in the adoption and implementation of appropriate technologies.
- 🍏 Reduce financial, legal, labor, environmental, and health risks.
- 🍏 Improve production and delivery of high quality fruit to consumers.



Cornell University
Cornell Cooperative Extension
LAKE ONTARIO FRUIT PROGRAM

Team News:



After 30 years as an extension agent, Debbie Breth retired on March 30 as the Integrated Pest Management Specialist and Team Leader. The team was excited to have Tess Grasswitz join the LOF team on April 18 as Debbie's replacement. Tess is based out of the Orleans County Extension office. Tess is a native of the United Kingdom with undergraduate and master's degrees from the University of London and a PhD in entomology from the University of California (Riverside). She worked at both Washington State and New Mexico State Universities as an Entomologist/IPM Specialist serving the fruit and vegetable

industries, establishing a solid record of applied research and extension. She is passionate about IPM, has worked on a variety of pests in different crops and growing systems, and has a particular interest in biological

Annual Report:

Education

Each specialist's role comprises four areas of focus: Education, Research, Consultation, and Professional Development. In the following report, highlights for the year are reported from each area of focus. Education is the primary mission of the team. The team holds several meetings per year and produces three publications that provide timely information for tree fruit producers.

260 growers attended the LOF Winter Fruit Schools, Feb. 1-2. The annual fruit schools were held in Wayne and Niagara counties, each with a full day of educational presentations on fruit production. Cornell Researchers, LOF educators and industry experts gave 13 presentations on various aspects of fruit production. 3.5 DEC credits were available to growers who attended the meeting.

130 fruit growers from across the state participated in the Tree Fruit Sessions at the Producers EXPO, Jan. 19-21. The tree fruit specialists from both the Lake Ontario Fruit Team and the Eastern NY Commercial Horticulture Team developed and chaired seven sessions and 23 presentations over three days. Fruit Farmers learned the latest information and best practices on orchard systems, pest management, marketing, and mechanization.

80 Spanish-speaking fruit workers and growers participated in a full day educational session, Feb. 23-24. Attendees were introduced to basic and applied pomological and pest management concepts and modern apple pruning practices in the Spanish language. This year the educational program included the use of dissecting microscopes to learn to dissect and differentiate vegetative and floral buds of Honeycrisp and Gala. The horticultural "hands-on" pruning sessions were well received and continued emphasizing the science behind pruning and basic tree physiology.



80 apple growers attended fruit-set meetings, June 1: The team, along with Cornell researchers, discussed the appropriate approach to thinning the season's crop along with pest and disease management.

Your Trusted Source for Research-Based Fruit Production Knowledge.



16 young LOF growers along with Mario and Matt standing with Scott McDougal – U.S. Apple Grower of the Year, at his Legacy Ranch near Wenatchee WA

250+ fruit producers attended the Geneva Field Day and International Fruit Tree Association Summer Meeting, July 19-21:

The team was actively involved with the success of this three day meeting with attendees from across the country and throughout the world.

16 “Young” Fruit Growers attended a study tour of Washington State’s apple growing region, August 1-5:

Matt and Mario led a tour for next generation fruit growers that visited some of the most progressive fruit businesses in the world.

110 Spanish-speaking farm workers and owners attended the 2nd annual summer tour held in Wayne

County, August 15: The team taught workers how to “measure” maturity of apples, discussed trapping BSB, identifying fire blight and on-farm nursery practices.

Research

Applied Research is the foundation to the team’s knowledge and expertise. Each specialist has one to three research projects that they are leading to find solutions to today’s farm problems. These research projects also generate a significant portion of the team’s program funding.

Stress-Induced Water Core: Mario is leading this 2-year project to determine how soil pH, tree nutrition, and crop load impact the incidence of this problem in the variety NY2. Preliminary results show that a very light crop load is strongly linked to this disorder. Responses to lime treatments have been slow, inconclusive, and may require one or more years before a positive effect can be evaluated on the fruit. Foliar calcium sprays did not affect fruit flesh calcium concentration, but increased concentrations of potassium and phosphorus in the fruit flesh of the low crop load treatment. The information obtained so far is also useful for other cultivars with susceptibility to water core.

Honeycrisp Quality Project: Craig is the lead field coordinator of this state-wide project that is investigating Honeycrisp fruit quality in 60 orchards to determine best harvest dates paired with excellent eating quality and reduced disorders after extended cold storage. The project is also trying to determine if there are relationships between fruit quality and other orchard factors such as tree nutrition and crop load. New techniques are being investigated to measure mineral nutrition in the fruit prior to harvest to determine if fruit are at risk for disorders and, if so, what marketing decisions can be made prior to harvest. Fruit with near-ideal mineral nutrition could be directed to longer-term cold storage.



Mario, Craig and Matt cutting NY2 samples and identifying stress induced water core.



Harvest Platforms: Matt started the second season of researching the efficiency of harvest platforms in high density apple orchards. Many growers use platforms for growing season activities and now there are several commercial platforms that accommodate apple harvest. Matt is cooperating with Jenny Ifft from Cornell's Dyson School of Economics to determine the economic benefit to a farm business when utilizing harvest platforms.

Black Stem Borer and Stress-Related Problems in Apples: Tess picked up where Debbie left off with field research on Black Stem Borer and other stress-related causes of apple tree mortality. Since environmental stresses (such as weather extremes) can increase crop susceptibility to pests and diseases, finding ways offsetting such effects is an important component of IPM.

Business Consultation

The team fielded more than 250 phone, email and text requests from stakeholders many of which result in on-site visits to address the questions or issues facing growers. Calls ranged from pest identification, disease diagnosis, pruning techniques and harvest maturity decisions to costs of production.



Professional Development

To ensure that the team is improving their knowledge, skills and industry awareness they attend professional and industry meetings throughout the year.

IFTA Annual Conference: Matt, Mario and Craig attended the International Fruit Tree Annual conference held in Grand Rapids, Michigan. This event was attended by more than 300 growers and industry professionals from around the country. The meeting had three days of education sessions on tree fruit and two days visiting local fruit farms and MSU research projects.

International Congress of Entomology (ICE): In September, Tess attended the combined ICE/Annual meeting of the Entomological Society of America in Orlando, FL. This conference attracted more than 6,000 entomologists from around the world, with presentations on all aspects of entomological research.



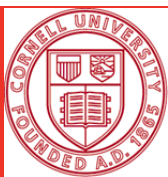
Great Lakes Fruit Workers Conference: Mario, Craig and Tess attended the annual GLFW Conference held this year in Ontario, Canada. Researchers and extension specialists from Michigan, Ontario and New York convene to share research findings and to discuss emerging issues in the tree fruit industry.

Team Publications:



"Fruit Notes"

Newsletter (22 issues per year, email or mail.)



The team publishes timely information throughout the growing season for growers and industry members that enroll in the program via the county associations. **Fruit Notes** is a comprehensive newsletter covering time-relevant information on various fruit growing topics. **Fruit Fax** is a weekly email report covering the day-to-day activities that are important at that moment in the growing season. The **Harvest Maturity Report** covers fruit ripening indicators for over 20 apple and pear varieties. This report helps growers make good harvest decisions to ensure optimal fruit quality.



Time sensitive pest & horticultural reminders by fax or email for tree fruit and berry production.

Building Strong and Vibrant New York Communities

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



Cornell Cooperative Extension Lake Ontario Fruit Program: The Specialists...



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