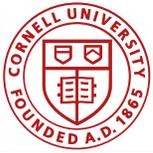


Cornell Cooperative Extension Lake Erie Regional Grape Program

Annual Report 2023

A cooperative program between Cornell and Penn State Universities, Cornell Cooperative Extension Associations in Chautauqua, Cattaraugus, Erie and Niagara Counties, Penn State Extension – Erie County, NYS IPM Program, National Grape Cooperative, Constellation Brands, Walker's Fruit Basket and growers of the Lake Erie Grape Industry



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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.

This Year's Harvest

In the Lake Erie Region, the Concord crop in parts of the belt looked tumultuous. Winter injury, spring frost, lack of growing degree days, and poor weather conditions were offered as explanations throughout the growing season. In general, areas that were hit with spring frost in 2022 had high crop loads this year. Areas that had extremely high tonnage last year had low tonnage this year. Weather conditions in the winter and spring were on the edge but nothing happened that would indicate an obvious disaster. Many vines hung onto the fruit until the very end with higher-than-average yields. Growers and processors have reported yields that are personal records for them. Setting or approaching personal records was a theme two years ago as well. Crop load was high enough so that the harvest season did have to be extended and some grapes did not meet minimum standards for their original processor. Harvest concluded late into November. Overall yields were reported higher than long-term averages. Individual grower crop estimates were more likely to be a bit off as berry size was larger than usual and some did not have faith in the numbers. Farm and regional crop estimate accuracy was hampered by variability.

Successes

The following are the triumphs that LERGP was able to bring to our stakeholders this past season. Thank you all for your continued support and here's to a great next season!

Top 10 dormant pruning mistakes in commercial vineyards webinar

On January 10, 2023, the Eastern Viticulture and Enology Forum (EVEF) that consists of specialists from Cornell, Penn State University, and Virginia Tech, hosted a webinar:

Corrective measures to the top 10 dormant pruning mistakes in commercial vineyards presented by Fritz Westover, Viticulturist and Founder, Westover Vineyard Advising. Fritz Westover has been working hands-on in the viticulture industry since 1999, assisting growers in the eastern, southern, and western United States. Fritz contributes to several national viticulture education projects including content contribution to the national eXtension web page for commercial grape production.

He has been a member of the American Society of Enology and Viticulture (ASEV) since 2005 and served on the board of directors and as chair of the board for the eastern section of the ASEV. This online event was well attended with 200 participants.

NYS Grape IPM Specialist Candidates Grower Involvement Seminars

Currently, the Lake Erie Regional Grape Program, NYS IPM, and the candidate search committee reviewed a number of applications for the position of NYS Grape IPM Specialist that has been vacant since the retirement of Tim Weigle in 2019. We were very pleased to have three successful candidates. The candidates each presented a Research and Extension Seminar at CLEREL open to the public and then repeated that presentation in Geneva NY. Our growers received recorded versions of each seminar and a survey to submit their input on the best candidate.

Cold Hardiness

The Lake Erie Regional Grape Program monitors cold hardiness in our region. We collect samples of grape buds to test their ability to withstand cold temperatures. Grape growers use this information to make decisions about their pruning strategy during the dormant season in order to retain enough fruitful buds to ensure an adequate crop the following growing season. We monitored 19 varieties in our region and reported weekly to assist our grower management decisions.

Bud Hardiness Data Website

Our cold hardiness research of weekly monitoring of LTE's during acclimation, dormancy, and deacclimation across the Lake Erie Grape Region was posted to the [Bud Hardiness Data Website](#), where winter hardiness data from differential thermal analysis has been shared with industry since

2009, and is posted continually during the dormant season, providing growers with up to date information about potential winter injury to buds. Dr. Londo and his lab were tasked to develop a temperature-driven model that is based on real measurements of the physical response of vines to different deacclimation temperatures. They used data collected from this project to validate the model, which we hope will provide New York and Pennsylvania growers with accurate predictions of bud freezing temperatures (based on daily min/max temperatures) and will be accessible region- wide through the NEWA weather site. We have succeeded at this research objective and have presented it to growers to make better management decisions.

CORE Credit NYSDEC Course & Exam Prep

Once again, the LERGP teamed up with the New York State Department of Environmental Conservation to bring the pesticide license and preparatory course to agricultural stakeholders in our region. This course was led by the NYSDEC and then the exam for licensing was the following week. WE had 30 in attendance for the course and CORE credits and 16 returned to take the exam.

Coffee Pot Meetings

Jennifer Phillips Russo & Megan Luke, LERGP Extension Team

Cornell Cooperative Extension's Lake Erie Regional Grape Program (LERGP) is pleased to announce that they offer Coffee Pot Meetings. Coffee Pot meetings were started years ago in an effort to connect with local growers to address their needs during the growing season. These meetings are typically hosted by grape growers in the region that are willing to invite the group into their barn/garage. LERGP brings coffee, doughnuts, the latest research information, and recertification credits.



In addition, the New York State Department of Environmental Conservation (DEC) and the Pennsylvania Department of Agriculture (PDA) have both approved offering pesticide recertification credits at these meetings to aid our growers. For each meeting one credit is available to both New York and Pennsylvania licensed pesticide applicators. This quarter, there were 13 Coffee Pot Meetings and 547 total participants reached for the 2023 season.

The Coffee Pot Meetings are discussions on timely viticulture, business management, and integrated pest management. We are pleased to announce that our successful programming has been adopted in other commodities and states! The LERGP team is excited to be able to continue to offer educational outreach and pesticide recertification credits to our industry stakeholders.

Lake Erie Regional Grape Program and PA Horticulture Society Twilight Meeting

LERGP collaborates with the Erie County, PA, Horticultural Society every summer for their chicken BBQ Twilight Meeting to bring together research-based information with credits to growers in an informal, fun format. We reached approximately 170 attendees this year.

MyEV Workshop

Dr. Terry Bates and Jennifer Phillips Russo held a MyEV Workshop as a direct result of our advisory committee suggestions. Our growers asked for more opportunities to come in and learn more about the MyEV Tool and how it may benefit them in their operations. MyEV Tool is a precision agricultural tool that was developed for the grape industry through the 6.2 million dollar Specialty Crop Research Initiative grant the Efficient Vineyard Project. This led to another grant with Dr. Terry Bates through NIFA's AFRI grant, Cost effective spatial data visualization and decision support for small and medium-sized vineyards. It is our goal to engage producers to use personalized digital agriculture

solutions in their own operations. The problem is that most small producers do not have the tools (process) or information (content) or experience (high impact activities) to achieve transformational education in digital agriculture. By integrating research-based digital agriculture education, new spatial processing tools, and producer-led on-farm activities will lead to transformational education in spatial-data driven variable-rate farm management. We held seven one-on-one meetings with growers to get them started this quarter and had 10 attendees at our first MyEV Workshop.



Mycorrhizae Fungi Grant

Dr. Justine Vanden Heuvel and Jennifer Phillips Russo collaborate on an Federal Capacity Funds grant, at the urging of the industry, to study mycorrhizae fungi applications to existing and pre-plant grapevines. The inoculations have worked well at increasing mycorrhizal associations on roots and increasing petiole nutrients. However, we want to look at the impact on vine growth, fruit composition, etc. I collaborated with six growers to inoculate their vines and will be conducting data collection throughout the season.

Microclimate Sensor Grant

Dr. Jason Londo and Jennifer Phillips Russo collaborate on tracking grapevine cold hardiness and phenology across the region with microclimate sensors deployed in 15 grower collaborator vineyards. We are collecting data from five locations on Lake Erie, five locations located on the bench, and five locations on the escarpment. The team collects data weekly to help achieve the objectives of this study to conduct phenological assays for Concord grapes in multiple locations, to determine the variability between vineyards, and to provide updated field cold hardiness/phenology and hopefully begin to build phenology predictions for the New York grapevine industry.



Crop Updates

The Lake Erie Regional Grape Program produces a Crop Update throughout the growing season to ensure growers have timely viticulture, business management, and integrated pest management information to support their operations. This year we produced 33 crop updates that reached 34,650 connections.

Newsletters

The Lake Erie Regional Grape Program produces a more in-depth Newsletter periodically throughout the growing season to ensure growers have timely viticulture, business management, and integrated pest management information to support their operations. This year we produced 6 newsletters that reached 3,150 connections.

Social Media Posts

The Lake Erie Regional Grape Program post important articles and findings on our social media platforms periodically throughout the growing season to ensure growers have timely viticulture, business management, and integrated pest management information to support their operations. This year we posted 269 times that reached 8,227 connections.

Podcasts

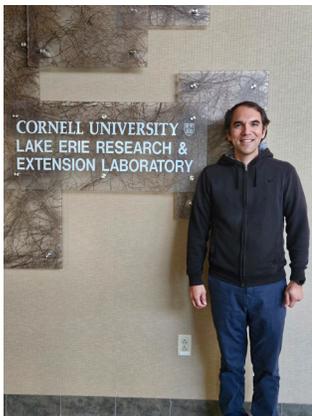
After preparation, meetings and discussions with both universities, podcasts continued this quarter with one a week. This content is also distributed through our youtube channel as a video blog. The video blog has been around for a few years and views are typically just a little bit higher than the podcast. Overall, we've increased total viewership by more than 50% due to the increase in distribution methods. This past year we produced 43 podcasts reaching over 1755 listeners.

HeyMarket

LERGP has developed a number of different contact lists for purposes of meeting reminders, phenology updates and other promotional materials. HeyMarket allows us to distribute this material and information via text message. Growers are able to respond to these alerts and we have been able to quickly answer questions and expand contacts with this technology. A large majority of growers attending virtual meetings prefer to get these reminders via text and report actually receiving them as well. Growers would often get an e-mail reminder prior to a meeting but actually read it after the meeting was over. We continually collect grower interest in receiving text alerts and have sent out 88 text messages this year delivering important and timely information to 13,226 connections.

Lake Erie Regional Grape Program Vacancy

This Lake Erie Regional Grape Program said farewell to Kevin Martin, LERGP's Business Management Specialist. We are sad to see Kevin go, but we support his decision to enter the grower stakeholders and will continue our relationship. The Lake Erie Regional Grape Program, Cornell Cooperative Extension, and Penn State Extension would like to assure you that we are working together to fill the vacant Business Management Specialist position on the Lake Erie Regional Grape Program team. We have had a candidate accept an offer and the plan is for him to begin in March 2024.



Dr. German Vargas joins the Lake Erie Regional Grape Program

Our newest member of the Lake Erie Regional Grape Program started on October 1, 2023. As NYSIPM's first Grape IPM Coordinator, German grows and sustains the state's booming grape industry by working collaboratively, across disciplines, and with a variety of rights-holders to develop, demonstrate and guide IPM implementation efforts. A native of Colombia, German is an award-winning entomologist and has published more than a dozen scientific papers. He has a Ph.D. from Kansas State University and most recently served as a post-doctoral research associate at the University of Florida's Tropical Research and Education Center, where he worked to develop a comprehensive, integrated pest management plan for the hibiscus bud weevil.

GiESCO 22nd Group of International Experts for Cooperation on Vitivincultural Systems Conference

LERGP Viticulture Extension Specialist, Jennifer Phillips Russo, was on the 22nd congress of this highly successful international viticulture and enology organization planning committee. The theme of this conference was Diverse germplasm and precision technologies for varied and changing climates. The 22nd GiESCO International Meeting took place at Cornell University in Ithaca, NY from July 17-21, 2023, with well over 100 international viticulture and enologists in attendance. As part of this international conference, a tour of the Lake Erie Grape Region was orchestrated by Jennifer and approximately 40 members of the congress traveled to Chautauqua County to learn more about the breadth and global reach that our industry has.

New York State Department of Agriculture and Markets Small Grape Commodities Survey

Our team deployed pheromone traps at two nurseries and ten vineyards in Chautauqua County, NY, and monitored for three invasive species every two weeks throughout the growing season through September. We are happy to report that no target species were found.

New York Farm Viability Funded Floor Management Research

Research for nutrient and water conservation in non-irrigated juice grapes using floor management strategies continued with data collection throughout the growing season on both gravel and heavy clay soils. Weekly data collection was made throughout most of the growing season. This data will help inform growers of what best floor management strategies to implement into their operations to increase soil and vine health.

NYSDAM Spotted Lanternfly Outreach Video

The Public Service Announcement paid for by the New York State Department of Agriculture and Markets on Spotted Lanternfly Identification and Reporting at the end of the third quarter had 4,265 views of the English version and 177 views of the Spanish version.

NYS DOT Regulations for Farm Trucks & Equipment

Co-sponsored by Cornell's Lake Erie Regional Grape Program and Chautauqua County Farm Bureau This program was held on Wednesday, August 2, 2023 from 10:00AM - 12:00 noon, presented by Trooper Matt Luft, NYSP Commercial Vehicle Unit located at the Cornell Lake Erie Research and Extension Laboratory in Portland, NY. All farm owners and employees who manage or operate farm trucks and equipment were encouraged to participate in this informational presentation on the current regulations for operating farm trucks and equipment on our local roads. This was a free program.

Topics discussed included: Defining a "Commercial Motor Vehicle", Licensing and Registrations, Rules of the Road, Size and Weights (permits), and Equipment. The information presented helped keep agricultural businesses in compliance and ensure truck and equipment safety. This highly successful meeting had approximately 50 attendees.

Pesticide Sprayer Calibration

Megan Luke, Penn State Extension Viticulture and Tree Fruit Educator, with a strong background in pesticide application best practices, worked to secure funding to expand the Penn State pesticide sprayer calibration program into the Lake Erie Region. Two sets of calibration equipment have been purchased and delivered to the Lake Erie Regional Grape and Extension Center (LERGREC) through Penn State Extension and the Pennsylvania Dept of Agriculture.

Megan Luke will be offering calibration services and coverage demonstrations to growers in both NY and PA next spring. She is developing data-driven dashboards to demonstrate the impacts of sprayer calibration in terms of economics and agroecology and am seeking funding to develop new research

programs exploring best practices for nozzle selection and replacement rates, and best practices for drift reduction and improved coverage. This event reached 100 attendees.



Customized equipment for pesticide sprayer calibration



Spray coverage demo with water sensitive paper

Field Day at the LERGREG

The Lake Erie Regional Grape Program collaborated with Penn State's Lake Erie Region Grape Research and Extension Center in North East, PA, to bring an educational program and tour of the new building for such events at this location. This event reached 100 attendees.

Great Lakes Fruit Grower's Conference

LERGP's Cornell Viticulturist, Jennifer Phillips Russo, was asked to present at the Great Lakes Fruit Grower's Conference in Buffalo, NY, in November. Jennifer presented on the MyEV Tool, which is a free, web-based software for vineyard managers to collect, process, and organize spatial data for their own operations. MyEV helps organize information by farms, blocks, and sub-block spatial data. It allows growers to use easy point and click tools to draw their farm blocks, add block level information, and change visualization settings. Then they can identify team collaborators and invite them to interact with their farm on their desktop or smartphone.

Agriculture, Food & Environmental Systems In-service -

The Agriculture, Food & Environmental Systems In-service brings together faculty, educators, volunteers, and industry professionals from various agricultural fields to discuss the latest developments in research and practice. Programming is available in multiple tracks spanning a variety of agriculture related disciplines. LERGP's Cornell Viticulturist, Jennifer Phillips Russo, was asked to present at the Great Lakes Fruit Grower's Conference in Buffalo, NY, in November. Jennifer presented on the MyEV Tool.

Pest Management Spray Schedule – What's Your Plan?

Our annual virtual Pest Management Spray Program was held on December 5, 2023. This meeting is intended to be interactive so that growers will have the ability to ask questions concerning specific pest problems or potential problems in the 2024 season. Topics addressed included timing of spray applications at critical growth stages; pesticide options, efficacy; and resistance management. It will include a one- hour presentation from each speaker (two hours of instruction) and one-half hour for questions and answers, in total two- and one-half hours for the course. The program also discussed sprayer collaboration, tank mixing, the use of jar tests, the spotted lanternfly life stages and when to

look for them, and EPA's Endangered Species Act updates and pesticide mitigation strategies/efforts. There were 98 participants in total.

Speakers: Bryan Hed, Research Technologist (Plant Pathology), Lake Erie Regional Grape Research and Extension Center, Megan Luke, PSU, and Jennifer Phillips Russo, Cornell.

NEWA

The network of weather stations got a big update in 2023. Four new stations were installed in the Lake Erie Region. Updates for ageing stations were at Versailles and Lake City (PA), and new stations were added in Newfane and East Ripley. These are all KestrelMet 6000 stations and use cellular data instead of relying on wifi. In addition, three new stations were installed in the Finger Lakes region to help update the network there. Ovid was updated, and Williamson (Young Sommer) and Hammondsport (Weis) received new wifi KestrelMet 6000 stations. One more is pending installation in Hector (Hazlitt). The Brant station required a new datalogger but has been very reliable since that update was made. A wifi KestrelMet 6000 was being beta tested at the lab to see how far we could stretch with the wifi extender. The station was installed on the far north side of the CLEREL property and included soil sensors at 3 depths. Unfortunately, there has been a struggle to maintain internet service to the station at that location. It was moved closer and still struggled. The station is currently back at the manufacturer to be serviced. The East Westfield station required a new TeleMet after discovering that the former one had frozen. At the end of this year, we have 25 stations in the Lake Erie region that are serviced by the LERGP.

Vineyard Improvement Program

In 2023 there were 17 new applicants to the Vineyard Improvement Program for a total of 56. By the end of the year 8 projects were completed to remove 42 acres of Concord vineyard, and reimbursed totaling \$85,676.22. Reimbursements all together so far total \$440,241.86. That reimbursement represents 30 applicants and 308 acres of Concord vineyard removed. Replants this year consisted of some Concord vineyards, but mostly hayfields, cover crops and Christmas Tree farms. The extension was granted in March 2023 with the extension dates beginning November 1, 2022 and ending on March 31, 2025. The large jump in projects was due to the grant being extended.

Eastern Viticulture and Enology Forum (EVEF) Webinar Series

On December 13, 2023, the Eastern Viticulture and Enology Forum (EVEF) hosted a webinar: Vineyard Labor Challenges: Mechanization and Other Approaches. Eastern Viticulture and Enology Forum Series (EVEF) is a collaborative effort between the Penn State Extension Grape and Wine Team and several viticulture and enology Extension programs from the following U.S. land grant institutions: Colorado State University, Cornell University, University of Georgia, Iowa State University, University of Maryland, Ohio State University, and Rutgers University. As part of the Eastern Viticulture and Enology Forum Webinar Series, this session is a collaborative effort between these viticulture and enology extension programs coordinated for grape growers and winemakers. Finding consistent and skilled labor remains an issue in perennial production systems such as vineyards. Learn about issues and solutions to managing vineyards in the face of labor shortages. Topics such as mechanization adoption and labor programs will be reviewed by commercial growers who will share their experiences in the context of their approach to managing vineyards of various sizes and from different regions. This event was very well attended with over 150 registrants.

Lake Erie Regional Grape Program (LERGP)

Megan Luke, LERGP Extension Team

Cornell Cooperative Extension's Lake Erie Regional Grape Program (LERGP) is a membership program for NY and PA growers. As the Penn State Extension team member, I am responsible for

providing resources and information to our growers via updates on Penn State research, surveys, and programs. Renewal letters have been sent out for 2024, and we have received interest and inquiries regarding membership from several growers who have not previously been members of the program.

Crop Updates were released weekly to growers via email, I have contributed several articles regarding new Environmental Protection Agency guidelines and label changes for herbicides and have been following the changes to Ziram registrations. We presented a Spray Program Webinar on December 5th where I presented the same information and demonstrated the use of the EPAs Bulletins Live! 2 website. I hosted a spotted lanternfly information booth on September 2nd at the Westfield, NY Grape Discovery Center, educating the public on how to prevent transporting SLF into the Lake Erie Region, and the possible impacts that the pest may have on the grape industry. The LERGP team is excited to be able to continue to offer educational outreach and pesticide recertification credits to our industry stakeholders, and I am happy to be able to add core credit presentations for PA growers.

In Closing

It has been a crazy, difficult journey, but the Lake Erie Regional Grape Team did our best with the resources we had to not let the programming suffer for our growers. Some of us have been handling the jobs of other specialists to try and continue necessary outreach materials and we trialed new things through these tribulations and, in my opinion, triumphed. I am proud of the work the understaffed Lake Erie Regional Grape Program has been able to uphold and excited for what can happen for our stakeholders with a fully staffed team in the future! Thank you all for your patience and understanding during this time and here's to amazing programming in the future!

2023 Year totals:

Publications - Lake Erie Vineyard Notes Newsletters (5) and LERGP Crop Updates (33)

Podcasts(8)-Weekly podcasts available on <http://lergp.com/podcasts/>

Web resources - <http://lergp.cce.cornell.edu>, <http://lergp.com> and

<https://www.efficientvineyard.com>

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