

# Cornell Cooperative Extension Lake Erie Regional Grape Program

Annual Report 2024

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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## **Building Strong and Vibrant New York Communities**

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## Jennifer Phillips Russo-LERGP Viticulture Specialist, Team Lead

### Eastern Viticulture and Enology Forum (EVEF) Webinar Series

The Eastern Viticulture and Enology Forum (EVEF) hosted a webinar: Optimizing Vineyard Spray Programs: Insights from FRAME Networks Project. 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. On January 10, 2024 we held a viticulture session - Building Better Spray Programs: practical outcomes from the FRAME networks project, January 24, 2024 was an enology session - An Acid Management Toolkit for Eastern Wines, February 14, 2024 viticulture session – A current review of Spotted Lanternfly updates and findings in vineyards, and February 28, 2024 enology session - Management of Malolactic Fermentation: impact factors. The speakers discussed the biggest takeaways for grape growers across the United States. These events were very well attended.

### MyEV Workshop

Dr. Terry Bates and Jennifer Phillips Russo held a MyEV Workshop as a direct result of our advisory committee suggestions. 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 several one-on-one meetings with growers to get them started this quarter and had 18 attendees at our first two MyEV Workshops in January and February 2024.

### Cold Hardiness Monitoring

The New York Wine and Grape Foundation has funded our cold hardiness research for years. Each fall and winter, grapevine tissues produced during the growing season transition from a cold-tender to cold-hardy state. This process, known as cold acclimation, allows vines to survive low winter temperatures. Winter low temperatures that fall below a critical value can damage grapevine buds. The critical temperature for bud injury varies over the dormant season and responds to daily changes in temperature. As temperatures rise after mid-winter, grapevine tissues deacclimate in a gradual process, culminating in bud burst and active growth at the start of the growing season. How fast this process happens, and to what extent vine tissues survive extreme winter low temperatures, depends



*Cold Concord buds*

upon the cultivar, seasonal temperatures and how they vary, and the vine's condition as it enters the dormant season. We measure this critical temperature through a procedure called differential thermal analysis, which involves controlled freezing of a sample of buds collected from vineyards and reporting the Lethal Temperature where growers can experience 50% bud loss, or LT50, and posted on our website as well as in crop updates and podcasts. This information can be used to help guide management practices to compensate for potential losses. In 2023-2024, we monitored and reported cold hardiness for 15 cultivars. We monitor samples weekly from November to March.

### **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 [Click Here](#) Here, 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.

### **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.

### **2024 Spotted Lanternfly Summit**

Organizers of the 2024 Spotted Lanternfly (SLF) Summit reached out to the Lake Erie Regional Grape Program to invite us to present our industry's needs, concerns, and upcoming challenges that we will face when the Spotted Lanternfly reaches our region. This 8th Annual SLF Summit was an event that provides research and regulatory information to parties interested in learning more about spotted lanternfly. It was an opportunity to be in front of funding agencies, researchers, and decision makers to introduce them to what a highly mechanized industry will encounter when this agricultural pest invades our vineyard blocks. We gave a powerful panel discussion that included a representative from the juice industry, the wine industry, and the nursery industry in our region to convey concerns of management strategies, potential delays in operations, and the potential economic impact nationally and globally should those disruptions occur due to SLF. This was a very important meeting for the future of our Integrated Pest Management, not only on a regional level, but also nationally how this invasive will affect other mechanized regions that will soon be threatened by SLF as well.

As a result of the Pennsylvania Department of Agriculture's 2024 Spotted Lanternfly Summit, Megan Luke and Jennifer Phillips Russo began preliminary research on SLF and Mechanized Harvest. They formed a research team with PSU researchers and traveled to Southeast PA to a Merlot vineyard that was mechanically harvested. Our intentions were to count the bugs on the vines that were to be harvested, the vines adjacent to the harvested row to see if the motion of the harvester caused the SLF to jump off, and the SLF that were collected in the harvested fruit in the bin. This work is extremely important to our industry especially the juice, jam, and jelly industry. The results

will be communicated in future presentations, but it has already resulted in many presentations with the United States Department of Agriculture and state officials from PA and NY and university departments to spark further research. We are very proud to be the catalyst to this research and advocates for our industry.

### **Spotted Lanternfly Grower Summit**

May 1<sup>st</sup> kicked off our Coffee Pot Series with a full day symposium for growers on the Spotted Lanternfly. This meeting brought together researchers, policy makers, agricultural departments, industry stakeholders, and growers to learn about this invasive species with many informative presentations about the realities of what our industry may experience when spotted lanternfly makes its appearance in our vineyards. There were over 100 in attendance, and it was an opportunity to learn firsthand from the researchers and ask questions of the regulatory agencies about our industry concerns when this invasive species makes its way into our region. This was the first place that we handed out our new Spotted Lanternfly Pocket Guide resource.

**Spotted Lanternfly Education:** Spotted Lanternfly (SLF) is an invasive pest in the United States. The greatest agricultural concern falls on grapes, which are highly important for both the juice and wine industries in New York State. Viticulture Extension Specialist, Jennifer Phillips Russo, has developed a public service announcement (PSA) to educate New York state residents of the threat the Spotted Lanternfly poses to the agricultural community and how they can fight back. Please help [protect New York state agriculture by sharing this PSA widely](#). The SLF Public Service Announcement video currently has 5.1K views in English and 488 views in Spanish.



*Adult Spotted Lanternfly*

In addition to the PSA, a Spotted Lanternfly Pocket Guide was created by the Lake Erie Regional Grape Program in collaboration with NYSIPM and PSU. This resource provides each life stage of SLF and Tree of Heaven identification photos, how and when to scout for it, management strategies, and QR codes for the latest updates. There were 295 English versions and 20 Spanish versions printed professionally and distributed across NYS grape growing regions including Long Island, Hudson Valley, the Finger Lakes Region, and the Lake Erie Region. This resource is also posted on the LERGP website for others to download and print [Click Here for the SLF English Guide](#) and [Click Here for the SLF Spanish Guide](#). This resource was presented at all in-person grower meetings throughout the 2024 growing season in the Lake Erie Grape Region for a total of 15 meetings with total of 600 contacts.

### **Lake Erie Regional Grape Program Vacancy**

This Lake Erie Regional Grape Program welcomed Andrew Holden, LERGP's Business Management Specialist, to our team on March 1, 2024, filling the vacancy since May 2024. Andrew pursued his education at Ohio State University, earning a B.S. in Agribusiness and Applied Economics and later obtaining an M.S. in Agricultural and Extension Education. In his previous role he served as the Ashtabula County Agricultural Extension Educator with Ohio State University Extension for the past 5 years. Andrew is eager to bring his passion for agriculture, grapes, and wine along with his economic

knowledge to this new position and to the growers in the Lake Erie Grape Region. He is looking forward to engaging with growers to help him understand their needs to ensure that his role equips them with the tools needed for success. His office is located at the Cornell AgriTech campus in Portland, NY (CLEREL).



*2024 Winter Grower Conference attendees learning research-based information*

### **2024 Lake Erie Regional Grape Program Winter Grower Conference**

We held an excellent program on March 14, 2024, at the New York State University of New York at Fredonia. Winter Grower Conference featured experts from many fields. The grower advisory panel had many suggestions of important topics that they wanted information on. As always, the day was full of information on the latest research-based tools that can be taken home and applied to your vineyard. Our regional growers and industry stakeholders come to the LERGP Growers Conference in March of each year to hear the research-based information developed by Cornell and Penn State faculty and extension staff as well as other speakers from across the country. This event was very well attended with over 100 in attendance.

### **Frost/Freeze Event**

Low temperatures in the Lake Erie Region dropped below freezing in many locations April 24-25, 2024, that affected approximately 70% of the 16,000 acres of Concord grapes in the hardest hit area of Chautauqua and Cattaraugus Counties. Lake Erie Regional Grape Program team and Dr. Terry Bates coordinated efforts between New York Ag and Markets, Farm Bureau, growers, crop insurance agencies, industry stakeholders, and government officials to begin the process of disaster declaration. We established a survey to get grower input asking how many acres they have, what varieties, and what their assessment of the levels of damage that might have occurred is. [https://cornell.ca1.qualtrics.com/jfe/form/SV\\_aXjG8XJKP1fiPn8](https://cornell.ca1.qualtrics.com/jfe/form/SV_aXjG8XJKP1fiPn8)

Through our coffee pot meetings, connections were made and a collaborative effort between Farm Bureau, CLEREL, and the Lake Erie Regional Grape Program to bring legislatures and growers together to discuss their concerns and how they may be able to assist our industry as we navigate this damage.

### **Precision and Digital Viticulture Tools Demonstration Day**

On June 6, 2024, from 10 AM – 4 PM LERGP hosted a Precision and Digital Viticulture Demonstration Day at the Cornell Lake Erie Research and Extension Laboratory with brief updates on the research behind the tools. Artificial intelligence (AI), autonomous platforms, and novel pest management tools and strategies have the potential to dramatically



*Drone flight demonstration at CLEREL*

alter grape production systems. This includes technology to assist with phenotyping and selection efforts, the detection and treatment of diseases, and the elimination of weeds under vine rows using fewer herbicides and less soil disturbance. Carnegie Mellon also demonstrated their robotic pruner. We hosted Haggerty Ag Robotics/Naio Technologies and demonstrated the TED robot (Ted - Naio Technologies ([naio-technologies.com](http://naio-technologies.com))). We also discussed the potential for autonomous tool carriers to assist with breeding and pest management efforts. The labs of Dr. Yu Jiang (Digital Agriculture), Dr. Katie Gold (Plant Pathology), and Dr. Lynn Sosnoskie (Weed Science) also showcased their own research with respect to crop and disease mapping and using electrical weeders and targeted, precision sprayers to suppress unwanted vegetation. Drs Jiang, Gold, and Sosnoskie, as well as representative for Haggerty Creek Ag Robotics/Naio Technologies took the opportunity to talk with stakeholders about current and future needs regarding novel technologies in perennial crops, which will help shape local, regional, and national research efforts. This event was well attended, and the attendees learned about tools and research that may be a part of our management in coming years.

### **2024 New York Soil Health Field Days**

New York Soil Health Alliance Field Day held at the Betts Farm in Westfield, NY. The LERGP partnered with NRCS soil scientists, and the New York Soil Health Alliance for a day of learning about the benefits of soil health. The program began with presentations in the morning to explain the benefits of soil health in vineyard operations, introduce current research for best management practices in cover cropping in non-irrigated vineyards for water and nutrient conservation, and more. After lunch, NRCS soil scientists gave soil pit demonstrations and discussed how compacted soils affect grapevine root growth and water infiltration. Dr. Debbie Aller from Cornell's New York Soil Health Alliance demonstrated the rain simulation truck that allows growers to visually understand runoff, infiltration, and leachate. We ended the afternoon with a demonstration of the mow and throw technique by Bob Betts as a termination tool for cover crops using the biomass as a mulch under vine.



*Soil health rain simulation station to demonstrate runoff, infiltration, and leachate.*

### **ASEV-ES Hangtime on Nutrition**

Jennifer Phillips Russo was asked to be a panelist on the American Society of Enology and Viticulture Eastern Section's podcast series on Nutrition. She and other panelists educated on the proper way to take tissue testing, preparation, and analysis. This podcast is far reaching and the Lake Erie Regional Grape Program was honored to be included.

### **NASA Acres Leadership Tour**

In August the LERGP and CLEREL staff were involved with a tour to collaborate and learn from NASA. NASA leadership joined us in Geneva and then at the Cornell Lake Erie Research and Extension Laboratory for the 'Space for Ag Tour' to have conversations with growers, stakeholders, and researchers about their needs and challenges. The goal of this visit is to have two-way dialogue with end users, stakeholders, and researchers to improve NASA Earth Science's research portfolio in specialty crop agriculture and viticulture while fostering a broader conversation about effective research translation into practice. We continue to foster this relationship and work towards collaborating to improve data for our grower stakeholders. This visit and listening tour are supported

by Cornell AgriTech and the Cornell Institute for Digital Agriculture.

### **Evaluating Osmotic Protectant**

Glycine Betaine, as a Multifaceted Approach to Enhance Grapevine Stress Tolerance and Productivity grant began. Grape growers face the risk each season in their vineyards withstanding injury and loss of production from biotic and abiotic stresses whose severity is dependent on the current season's weather conditions. Frost, disease, water availability, and extreme temperatures are just a few of the challenges grapevines face with climate change. Glycine Betaine, an osmotic protectant, uses methods existing in nature for the prevention of plant diseases and pests and may improve plant productivity and vitality without releasing undesirable pesticide residues into the environment. Through foliar applications, this bio-stimulation product improves plant resistance to stress, but also stimulates natural processes to improve crop yield and quality. We continued to conduct research on three different cultivars: Concord, Marquette, and Chardonnay applying timely sprays and evaluated the effect on cluster diseases.

### **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 third quarter. This data will help inform growers of best floor management strategies to implement into their operations to increase soil and vine health.

### **2024 Harvest Pilot Spotted Lanternfly Mechanization Research Cornell/PSU Collaboration**

Penn State University Spotted Lanternfly Team, Extension Educators, and Jennifer Phillips Russo of Cornell University, collaborated with growers to bring attention to the gaps in research regarding mechanical bulk grape harvesting and Spotted Lanternfly. Researchers from both PSU and Cornell worked directly with growers with grape harvesters in Southeast PA to collect preliminary data on whether or not SLF were harvested into bulk bins when grapes were mechanically harvested. This effort required Megan Luke and Jennifer Phillips Russo from the Lake Erie Regional Grape Program (along with other PSU researchers) to travel to mechanized vineyards in Southeast PA when the growers determined the harvest dates. The objective of this trip was to video/photograph the infested mechanized harvest, and collect data on SLF pre-harvest, SLF post-harvest, how many SLF were bulk harvested with fruit, and how the different harvester fans contributed to SLF collection/deflection. Our goal was to gather this preliminary data to inform future research and policy for our industry stakeholders. The National Grape Research Alliance organized an informative trip for their Board of Directors to witness firsthand the gaps in the research and join us.

### **Cornell Lake Erie Research and Extension Laboratory Pruning School**

On November 19, 2024, the Cornell Lake Erie Research and Extension Laboratory held our Pruning School on our AgriTech Campus in Portland, New York. The day began with lunch for registrants and a brief overview by Dr. Terry Bates of the pruning research carried out in our region over the decades that have informed our research-based pruning strategies. While the primary focus of this program was on crop size manipulation, the role of soil health, nutrient availability, and water cannot be overstated. Enhancing vine size through optimal water and nutrient management supports higher crop loads while maintaining fruit quality and vine vigor. The team discussed the reasoning behind which buds to retain that are the most fruitful, which type of cane wood is ideal, what a 'balanced' vine means and how to determine it, what balancing your vines will do for the future success of your vineyard, and they learned about the many mechanized pruning trials. After a question-and-answer session, the attendees went out into our research vines to observe the CLEREL crew hand-prune vines and how to collect pruning weights, which is an important technique to calculate your crop load

and balance your vines.

### **Winter Storm Damage**

The LERGP team worked quickly getting information out to our members to assist with any 2024 Winter Storm damage. Heavy snow, ice storms, and extreme cold can cause severe property damage and put human and animal lives at risk. Accurate predicting of winter storms can help people prepare by making sure they have adequate fuel, food, and other supplies on hand, but an unexpected change in wind direction can result in major snow accumulation in a localized region. In New York, this is often referred to as **lake-effect snow** because it generally involves geographic areas near Lake Erie or Lake Ontario. The LERGP provided a list of resources for Preparedness and Safety, Barn and House Roofs, and Dos and Don'ts of Barn Snow Removal as well as fielded phone calls and reported damage.

### **2025 Virtual Spray Program – What's Your Plan?**

December 3, 2024, the Lake Erie Regional Grape Program held our annual Virtual Spray Program for growers across PA and NY. The event was well attended with 52 people tuned in to learn about the latest research to help make their spray program purchasing decisions for the 2025 growing season and earn pesticide recertification credits.

The program began with Bryan Hed, Research Technologist (Plant Pathology), Lake Erie Regional Grape Research and Extension Center. The presentation discussed disease research results and how the chemical classes of older materials compare to the newer materials. Bryan also talked about strategies regarding important sprays for disease management throughout the growing season or what to use under each phenological stage. Dave Combs, research support specialist in Dr. Katie Gold's Grape Pathology Laboratory at Cornell AgriTech, Cornell University presented his work on chemicals and biopesticides and what they are, what can they do, what can't they do, etc. He discussed research of different biopesticides and how they can be incorporated into an Integrated Pest Management Program may aid in resistance management and sustainability of chemicals available. The final presentation of the meeting was given by Megan Luke, Lake Erie Regional Grape Program PSU Viticulture Educator. Megan presented on the EPA's Endangered Species Act regulation changes for pesticide management and discussed her sprayer calibration work and the importance of regular calibrations.

### **2024 Great Lakes Expo - Spotted Lanternfly Educational Presentation & EPA ESA**

The [Michigan State Horticultural Society](#) and the [Michigan Vegetable Council](#) combined their annual conventions, initiating the **Great Lakes Fruit, Vegetable and Farm Market EXPO**. The GLEXPO immediately became one of the largest annual gatherings of fruit and vegetable growers and farm marketers in North America. This conference encourages growers to know more, connect, innovate, and grow and Jennifer Phillips Russo and Megan Luke were both invited to present on different topics this year. Jennifer was asked to give a presentation on how we have been preparing our growers for a future with Spotted Lanternfly, educational materials that the team has developed, monitoring, working with regulatory agencies, industry partners, and more. LERGP's Megan Luke was asked to give an update on the new EPA ESA regulation/label changes.



## **Andrew Holden, Penn State Extension Business Management Educator**

I am excited and honored to have joined the Lake Erie Regional Grape Program in March of 2024 and have enjoyed meeting new people and learning about the grape industry here in the region. I'd like to thank everyone for the warm welcome and look forward to continuing to meet more of you and offer farm management resources at upcoming meetings, farm visits, and in our office!

### **Needs Assessment**

A needs assessment to better understand the producer's extension business management programming needs was conducted. It received a high response rate, thank you all for completing the survey. Over half producers had 30+ years of growing experience predominantly Concord. Going forward producers want to see priority go to Employee/Labor Management, Financial Management, Economics of Production Practices, and Record Keeping. They shared that email, farm visits, and in-person meetings were the superior way to stay in contact, and newsletters, the website, and presentations at meetings were best for relaying educational information. I also received many great suggestions for future programming.

### **Grants, USDA Programs, and Education**

2024 had multiple grants that were either open or soon to open in 2025.

These grants/programs included:

- USDA Resilient Food Systems Infrastructure Program – Infrastructure and Equipment-Only Grant
- New York State Grown & Certified ITRD Grant Program
- New York State Beginning Farmer Competitive Grant Program
- The Marketing Assistance for Specialty Crops (MASC) program
- PA Farm Vitality Planning Grant
- PAVines
- NRCS EQUIP

Our growers were made aware of such grants through bi-weekly Crop Updates articles, an available grants handout, and at in-person meetings. Two handouts covering current grants and programs were compiled. The first is, "[Grants & Programs Guide](#)" and the second is the, "[Tax Credit & Incentive Guide](#)". Both are available on the LERGP CCE website and will be updated regularly.

### **SLF Insecticide Prices**

Alongside Megan Luke and Brian Walsh, we presented potential SLF scenarios and associated cost at the May 1<sup>st</sup> SLF Update. I determined that current SLF chemicals could decrease in price as research on new chemicals and lower rates are completed. In 4 scenarios, they considered early and late harvest dates, mild and heavy infestations, and different chemical formulations to avoid resistance. Overall, they found the range to be from \$16.85 per acre to \$56.52 per acre for the material cost of additional sprays.

### **Post At Every Vine Financial Analysis**

As part of the July 24<sup>th</sup> Coffee Pot Field Day at CLEREL, that featured the ongoing research of trellising concords with a metal T-post at every vine, I investigated the economics of this system

compared to a traditional wood trellis.

For this analysis, I strictly looked at two trellis designs and a small number of post types. There are many other combinations that could be compared and are worth exploring. In this comparison, wood is still cheaper, but if the uniformity of the post every vine allows for more mechanization, faster pruning, harvesting, and weed control, I can see the \$90 per acre over 30 years being made up in savings. In making this comparison I found that in most cases, this system does not make sense for most growers. Especially growers that have an established vineyard in decent shape, renting, or do not have a 30-year plan for their operation (succession/transition plan). I believe it could make sense for those planting new/replacing a vineyard, which have a long-term goal/vision for the farm, highly mechanized operations, or if we see a disproportional increase in input cost (labor, post, fuel).

### **New York Wine and Grape Classifieds**

This year LERGP took over the NY Grapes & Wine Classifieds from the Finger Lakes Grape Program. The website is for grape growers, winery owners, and other industry professionals to post and view ads for industry specific items and jobs. The site is run like a classified as page in a paper, but at no cost to run an ad. Item often posted include Bulk Juice/Wine, Equipment, Grapes, Help Wanted, Services, Vines, and Vineyards. Both ads selling and ads looking for items are allowed. The New York Grape & Wine Classifieds website can be found [Here](#).

Learn how to create an account and/or post an ad [Here](#).

I continue to manage the classifieds for New York and Erie, PA. Listings are updated on a regular basis.

### **Farm Planning and Succession**

Individual instruction and one-on-one meetings with growers discussing farm transition and succession continued into the winter months. Any grower who is interested in having a conversation about planning for the future of their farms is encouraged to contact Andrew Holden to set up a meeting.

### **Post Harvest Meetings**

I was asked to speak to two industry groups post-harvest meetings regarding the grant availability. I spoke to the Gallo growers both in Portland, NY and in the Finger Lakes on November 19<sup>th</sup> and the 21<sup>st</sup>, respectively. Both meetings were well attended, and I received multiple follow ups from growers in attendance. I also was asked to speak at Growers Co-op's meeting and discussed the available grants.

### **Coffee Pot Meetings**

Farm Management was featured at almost all the Coffee Pot Meetings in 2024. Sharing any timely updates and getting feedback from growers on pressing issues.

## Megan Luke- LERGP Penn State Extension Viticulture & Tree Fruit Educator

### Pesticide Sprayer Calibration

Calibration services were offered for the first time beginning in June of 2024 after some delays in obtaining a trailer to move the equipment to field sites. Eight on-site calibrations were performed on grower equipment throughout the season, with follow-up visits in some cases where new nozzle arrays were needed. This service will open in March of 2025 to expand grower access in the pre-growing season.

In addition to one-on-one calibration support, several trainings and demonstrations on calibration best practices were held throughout NY and PA. Two three-hour workshops were held in collaboration with the Cornell regional vegetable team in preparation for the NY Dept. of Environmental Conservation exam held at CLEREL on April xx. Equipment demonstrations were conducted at the Penn State Lake Erie Grape Research and Extension Center and CLEREL Field Days.



*A utility knife found inside an air blast sprayer during a routine calibration*

Calibration demonstrations for pesticide applicator credits were given at Militello Farms Grower Outreach Day (approximately 120 attendees) and a Twilight Meeting at Yerico Farms in Dunkirk, NY (approximately 16 attendees).

A review of the year's on-site appointments and demonstrations is ongoing. Given the EPA's changes to pesticide labels and required risk mitigation policies, this programming will be crucial in the coming years. I am writing a funding request to expand the calibration programming to conduct research and subsequently include coverage demonstrations utilizing water-sensitive paper and various dyes with locally available spray equipment. I hope to develop data-driven dashboards to demonstrate sprayer calibration's impacts on economics and agroecology throughout the 2025 season.

I have joined the international working group for pesticide application best practices by invitation. I am gaining recognition within our industry as a leading voice in the importance of sprayer calibration and drift reduction techniques.

### 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 greenhouse. Pennsylvania Dept. of Ag (PDA) and DEC credits were offered, including core credits. Presentations by LERGP Team members and the Penn State Pesticide Education team included scouting, vine nutrition sampling, worker protection standards, and a seasonal disease pressure update for bloom time. This event reached 83 attendees.

### Community Outreach

I served as an advisor to the Board of the Erie County Horticulture Society and helped to organize the Annual Gravel Pit Park Chicken BBQ. This event (located in North East, PA) hosted the LERGP as speakers, as well as guest Brian Walsh from the Penn State Extension spotted lanternfly task force, to bring timely updates on spotted lanternfly management strategies and information regarding the cancelation of the pesticide mancozeb in grape production. Attendance at this event was approximately 174 individuals.

I continue to strengthen and maintain industry relationships in Pennsylvania with the Erie Horticultural

Society, Erie County USDA FSA and NRCS offices, Erie County Conservation District, Fruit Grower (chemical supplier), Troyer Farms (chemical supplier), and the local PDA Plant Industry and SLF leads through regular phone calls and meetings to reflect the work done by Jennifer in New York and strengthen our program offerings for the region.

### **Environmental Protection Agency (EPA) Timely Updates**

A primary focus for the past year has been following EPA updates regarding pesticide label changes and the re-registration process for many products used in grape production. Articles regarding the status of ziram, captan, and mancozeb have been published on the Penn State Extension website and in LERGP Crop Updates and Newsletters. In addition, reviews of the status of the EPA's new herbicide and insecticide strategies and what these new mitigation measures mean for growers have been an ongoing review and discussion. This information is shared and corroborated with Cornell and Penn State faculty and research staff.

This information was delivered at all Coffee Pot Meetings throughout the growing season. My primary contribution to the pool of publications released by the LERGP is articles detailing upcoming and relevant changes to pesticide labels and new EPA policies on pesticide use under the Environmental Species Act and ongoing concerns over the human health risks associated with pesticide application and handling. I also focus on general IPM best practices, including scouting advice and documentation of pest pressures and management plans.

I presented at one webinar and conference in the fourth quarter of 2024. At the LERGP's annual "LERGP 2025 What is Your Spray Program?" webinar on December 3rd, I presented a program titled "A Brief Review: EPA and ESA Changes to Pesticide Use". At the Great Lakes Expo in Grand Rapids, Michigan, on December 10th, I presented a session titled "Juice Grape Industry Updates: EPA and ESA Changes to Pesticide Use" in the juice grape track. Pesticide applicator credits were available at both presentations for residents of their respective states.



*Spotted lanternfly adults feed on a tree trunk and leave deposits of honeydew that cause sooty mold to form and blacken the surrounding area.*

### **Spotted Lanternfly**

The LERGP has become a significant presence at all regional and national meetings and research regarding spotted lanternfly due to the risks to the Lake Erie region. On the Penn State side, regular communication with the local PDA task force was maintained, allowing for rapid response to potential risks at local sites. Several public-facing interviews were conducted, including two print interviews (Farm and Dairy, Erie Times), two recorded interviews (WJET and Erie News Now), and one live interview (Erie News Now: Winey Wednesday focus piece). An informational booth was maintained by a LERGP member at the Erie Master Gardener's Annual Pumpkin Walk with an estimated reach of 5,000 attendees. The risk of SLF in the Lake Erie Region was emphasized in contacts.

Jennifer Philips Russo and I attended a special Spotted Lanternfly Summit in Berks County, Pennsylvania, at the request of Penn State Extension and the Pennsylvania Dept of Agriculture from October 1st-4th. Present for the tours and roundtable discussion were the member stakeholders of the National Grape Research Alliance: Donnell Brown (President), Nick Dokoozlian (Gallo, based in CA), Randy Heinzen (Vineyard Professional Services, CA), John Martini (Anthony Road Wine Company, NY), Eric Pooler (Sonoma County Vineyard Technical Group/Nuveen Natural Capital, CA), The Pennsylvania Dept. of Agriculture, New York Ag. And Markets, representatives from the Government Accountability

Office (Congressional watchdog), Penn State Extension, Virginia Tech Extension, Cornell Cooperative Extension, USDA APHIS, and USDA ARS. We participated in various tours and discussions about the potential risks and concerns over SLF in the Lake Erie Region and how those risks may become relevant to other regions as the range of SLF continues to grow.

While now found in 17 states in much of the Mid-Atlantic and extending into the Midwest, Berks County remains a location of research and observation of SLF populations as we try to use population movements and shifts to predict how it will behave in other states and countries.

On November 6th-7th, Jennifer and I attended the Quarterly Spotted Lanternfly Working Group meeting with the PDA, USDA ARS and APHIS, and Pennsylvania Forestry Service to report on efforts to monitor and manage SLF throughout the state. We had an opportunity to discuss concerns for the Lake Erie Region, update the attendees on the preliminary findings of the mechanical harvest impact work, and solidify cooperation for workshops going into 2025.

During this time, we also contributed letters of support and participation for a pre-submission for a USDA SCRI grant in collaboration with Penn State researcher Julie Urban (Lead PI) and several other land grant universities.

I contributed updates on spotted lanternfly pesticide management for inclusion in the LERGP SLF Handbook and the Penn State Spotted Lanternfly Management Guide for Vineyards (pending on the website).

## **Kim Knappenberger- Viticulture and IPM Extension Support Specialist**

### **VIP**

In 2024 there were 7 new applicants to the Vineyard Improvement Program which brought the total to 62. 35 site visits were made. 19 projects were finalized, final expenses calculated, and reimbursements calculated and submitted.

Those requests represent 306.84 acres of abandoned/underproducing Concord acreage removed and amounted to reimbursements totaling \$403,785.59.

Two more projects are expected to be finalized in January prior to the close of the grant at the end of March 2025.

### **NEWA**

Two new stations were set up this year in the Lake Erie Region. Both are Onset HOBO stations with cellular connection. The first is Dunkirk (Route 5) NY which is near the Dunkirk airport. The airport station has not been representing the area well so this one should be a better tool for the growers in that area. The second was placed at Sheridan (Liberty) NY with a decent amount of grape acreage surrounding it.

One station was placed in the Finger Lakes Region at Hazlitt winery in Hector NY to help update the network in that region. It is a KestrelMet station with cellular connection which replaces a wifi KestrelMet station that had been installed the previous year and struggled to operate successfully. A new location is being sought for that station.

The Portland NY station was replaced with a gently used Rainwise station to make it more reliable. It had been the oldest station in the region.

A number of sensor and battery replacements were performed on the stations in the region which included modems, leaf wetness, reed switches, aerovanes and the unit that controls the solar charging of the



*Figure 1. new Onset station ready to be installed*

battery. In addition there were multiple rain buckets plugged through the year that required cleaning.

## **CAPS**

The Grape Commodity Survey for New York state was coordinated through the LERGP office again this year in conjunction with the NYS IPM Program and grape programs in the main growing regions of New York State. These include Lake Erie, Finger Lakes, Long Island and Hudson Valley. Traps were placed in vineyards in June in all regions and were serviced biweekly 7 times until they were collected in September prior to harvest. The Lake Erie and Finger Lakes regions both added traps in nurseries as well.

New York State Agriculture and Markets determines the target moths every year and settled on European Grapevine Moth, European Grape Betty Moth, and Christmas Berry Webworm. Visual inspections were also conducted for Spotted Lanternfly and Grapevine Red Blotch disease at each of the sites involved in the survey.

Here in the Lake Erie Region there were 0 positive identifications of any of the target pests.

No evidence of any of the target moths were reported across the state. Long Island and the Hudson Valley both reported Spotted Lanternfly at specific sites, however Lake Erie and the Finger Lakes did not. No Grapevine Red Blotch disease was reported in any of the vineyards or nurseries involved in the survey.

## **SLF**

In addition to scouting vineyards and nurseries for the CAPS program, 12 Spotted Lanternfly traps were set across the region from Ripley to Silver Creek on June 7. These traps were checked weekly through the growing season to monitor for the arrival of Spotted Lanternfly during all life stages and were taken down on November 21, 2024 once it was deemed too cold for the pest. At the end of the season no Spotted Lanternfly were captured in the traps and no evidence of a population was observed (egg masses or feeding).

These traps do not have pheromones to attract the Spotted Lanternfly and work solely on the insects' natural desire to move up structures in order to launch off them and disperse more widely. A combination of circle traps and bug barrier traps were used this season. Circle traps include a screen material that encircles the tree trunk and funnels anything climbing up it into a bag. Bug barrier traps are a sticky trap that is set up with the sticky side facing the tree bark in order to reduce by-catches. Results from the weekly visits were recorded and reported to New York State Agriculture and Markets via a survey reporting app and ArcGIS maps.

## **Social Media Analytics January 1, 2024 – December 31, 2024**

### **Website ([lergp.com](http://lergp.com))**

- Visits - 3.1k (+4% yr/yr)
- Unique visitors - 2.6k (+7% yr/yr)
- Page views - 4.6k (+9% yr/yr)

### **Facebook-**

<https://www.facebook.com/people/Cornell-Lake-Erie-Research-and-Extension-Laboratory/100057157492303/>

- Reach for the year - 3.4k
- Content interactions (likes, comments, shares, etc.) - 290
- Posts for the year - 134

- Total profile likes - 507
- Total link clicks - 213
- Total followers - 531
- New followers - 26
- Page visits for the year - 596

**YouTube-** [https://www.youtube.com/channel/UCI\\_EFgJ2tzZb95RnvxRw49w](https://www.youtube.com/channel/UCI_EFgJ2tzZb95RnvxRw49w)

- Number of views - 6.0k
- Total subscribers - 389
- Number of impressions in 2024 - 51.7k
- Number of videos published in 2024 - 8
- Total number of videos - 373

**Podcasts (Buzzsprout)**

- Number of podcasts published - 6
- Total number of podcasts - 100
- Number of downloads - 8651
- Number of locations downloaded from - 1021
- Number of apps used to download - 34

**LinkedIn (created in August of 2024)-**

<https://www.linkedin.com/in/cornell-lake-erie-research-and-extension-laboratory-9a6939320/>

- Total followers - 296
- Total connections - 233
- Content performance
  - Impressions - 12,389
  - Engagements - 390
- Posts for the year - 43

**Instagram (created in August of 2024)-** <https://www.instagram.com/clerel.cce.ny/>

- Reach for the year - 36
- Content interactions - 86
- Profile visits - 43
- Total followers - 20
- Posts for the year - 19

# Meet the Team



Jennifer Phillips Russo-  
LERGP Viticulture Specialist,  
Team Lead



Andrew Holden-  
LERGP Penn State Extension Business  
Management Educator



Megan Luke-  
LERGP Penn State Extension  
Viticulture & Tree Fruit Educator



Kim Knappenberger- Viticulture and  
IPM Extension Support Specialist

2024 Year totals:

Publications - Lake Erie Vineyard Notes Newsletters (4) and LERGP Crop Updates (29)

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

Like us on Facebook - Cornell-Lake-Erie-Research-and-Extension-Laboratory and EfficientVineyard



LERGP Home Pages: <http://lergp.cce.cornell.edu>; <http://lergp.com> Phone: 716.792.2800