



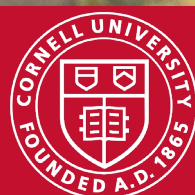
CROP UPDATE - May 09, 2024

Cornell Cooperative Extension
Lake Erie Regional Grape Program



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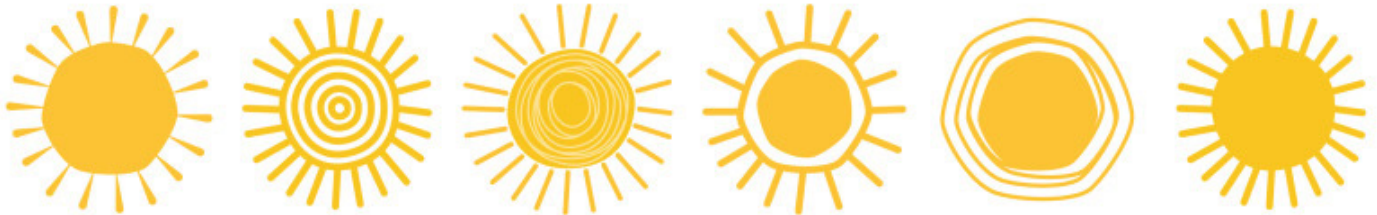
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[Click here to
watch Podcasts](#)

The Lake Erie Regional Grape Program is a Cornell Cooperative Extension partnership between Cornell University and the Cornell Cooperative Extensions in Chautauqua, Erie and Niagara county NY and in Erie County PA.

Upcoming Events

May 15, 2024

10:00am - Coffee Pot Meeting
Brian Chess Farm, 10289 West Main Rd.
Ripley NY 14775

May 22, 2024

10:00am- Coffee Pot Meeting
Schulze Vineyards & Winery
2090 Coomer Rd. Burt, NY 14028



May 29, 2024

10:00am- Coffee Pot Meeting
Kirk Hutchinson 4720 W. Main St.
Fredonia, NY 14063

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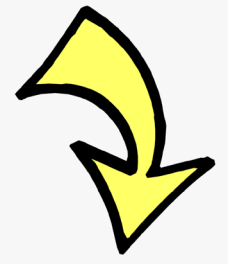
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Date: 7/21 RD&T-1

Betts Farms Soil Health & Climate Resiliency Field Day

Wednesday, June 12th, 2024 | 10:00 am – 3:00 pm
7366 Route 20, Westfield, NY 14787



1.5 DEC Credits Available

This is a FREE event but you must register to help us plan for lunch.
[Register Here!](#)

Agenda

- 10:00 – 10:20 **Registration & Welcome**
- 10:20 - 10:40 **Our Soil Health Journey** – Bob Betts, Betts Farms
- 10:40 - 11:05 **Soil Health in Perennial Fruit Systems: why it matters** – Debbie Aller, Cornell University
- 11:05 - 11:35 **Cover Cropping in Concord Grape Trials** – Jenn Phillips Russo, CCE Lake Erie Regional Grape Program
- 11:35 – 12:00 **Cover Crop Options for Different Applications** – Rod Porter, Kings Agri-Seeds
- 12:00 – 12:45 **Lunch**
- 12:45 – 2:15 **Soil Pit** - Dan Ufnar, USDA-NRCS
&
Soil Health Trailer and Demonstrations – Debbie Aller and Michael Glos, Cornell University
(2 groups, rotate after 45 minutes)
- 2:15 – 2:45 **Roller Crimping in Concord Grapes (Demonstration)** – Bob Betts, Betts Farms
- 2:45 – 3:00 **Closing Remarks** - Jenn Phillips Russo, CCE Lake Erie Regional Grape Program

Cornell Cooperative Extension
Lake Erie Regional Grape Program



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Business Management

Andrew Holden, Business Management Educator, Penn State University, LERGP

Spotted Lanternfly Chemical Pricing and Availability

The May 1st Coffee Pot Meeting at Burch Farms Country Market brought together experts from across Pennsylvania and New York to discuss current and ongoing Spotted Lanternfly research. As part of this meeting, Megan Luke and Brian Walsh looked at the current insecticides labeled for SLF to see what could be used in the region at this point in time. They considered the efficacy of the products, investigated state by state and processor by processor restrictions, then found what sprays may overlap with typical growing season pest applications. Once this information was compiled, I worked to put a price on these chemicals. The hope of this research is to give growers an estimate of what additional sprays for SLF could cost if your vineyard is infiltrated. The findings are reflective of spring of 2024 in the Lake Erie grape region and are subject to change.

To get accurate prices, I worked with three local chemical suppliers and searched online sellers. Before sharing specific cost, I want to share some major take aways discovered while compiling the data.

The first takeaway is that because we only looked at chemicals that have been tested/labeled for SLF, it is probable that more chemicals will be available in the future as more testing is done and labels are adjusted. Additionally, not all the chemicals we looked at are readily available here locally. For most cases, the chemical suppliers could order them if there was demand. There were a few newer chemicals that were just coming on the market and hard to obtain at the time.

Another takeaway was that most of the test trials were conducted using the max allowable rates for each pesticide. While that works well for seeing if a product can kill a pest, it is not the most economical approach of analysis. I suspect high rates are the reason for some of the high prices per acres I found. Farther testing must be done to determine the proper rate for these chemicals. Doing so should allow for projected cost to come down.

These takeaways tell me that the price per acre of chemicals calculated has the ability to decrease as research on new chemicals and lower rates is completed. Again, this project was to look at current availability and prices of chemicals that can be used on SLF. It is a snapshot of time in this region, taken in April 2024.

The amount of additional sprays was important in finding potential cost of SLF application. Megan shared that pre harvest sprays for other pest could control SLF nymphs. Grape Berry Moth sprays have the potential to take on SLF as well. The point where we believe additional sprays would come into place are just before harvest, and just after. Depending on conditions, infestation, harvest date, and more, we figured most growers could expect to complete 2 to 4 additional sprays.

Prices of all chemicals researched ranged from \$3.80 to \$150.00 an acre. The high end of some of the chemicals are not logical to use and should not be considered until cost come down. When Megan and I looked at potential scenarios, we considered common conditions and typical timelines. Obviously, outliers happen, and no two years are the same, on top of that we don't know exactly how SLF will perform in this region or with concords.

In 4 scenarios, we considered early and late harvest dates, mild and heavy infestations, and different chemical formulations to avoid resistance. Overall, we found the range to be from \$16.85 per acre to \$56.52 per acre for the material cost of additional sprays. Chemicals like Beta-cyfluthrin, Zeta-cypermethrin, and Bifenthrin, seemed to be the most cost effective, especially when generic brands were available.

When it comes to other additional cost of more spraying, the 2020 Cost of Establishment and Production of Concord Grapes in the Lake Erie Region of New York publication found that it would cost \$12.58 per acre for the labor and equipment to perform a spray.

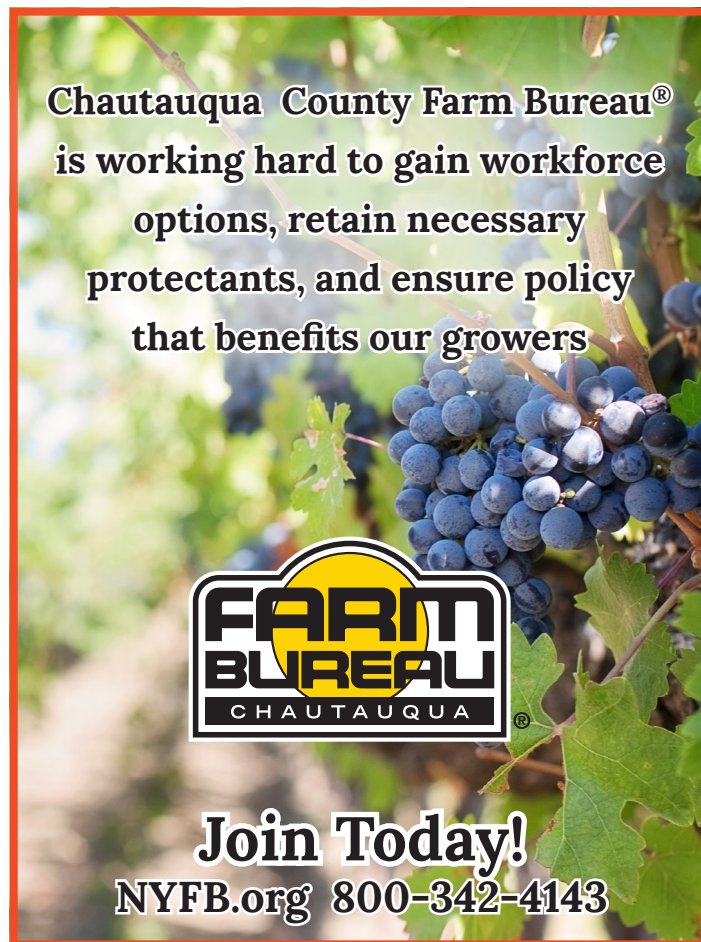
Keeping an eye on the cost of managing SLF will continue to be important and dictate decision making if the pest shows up in the vineyard. I hope to continue to monitor these costs and provide insight into how to economically manage SLF.

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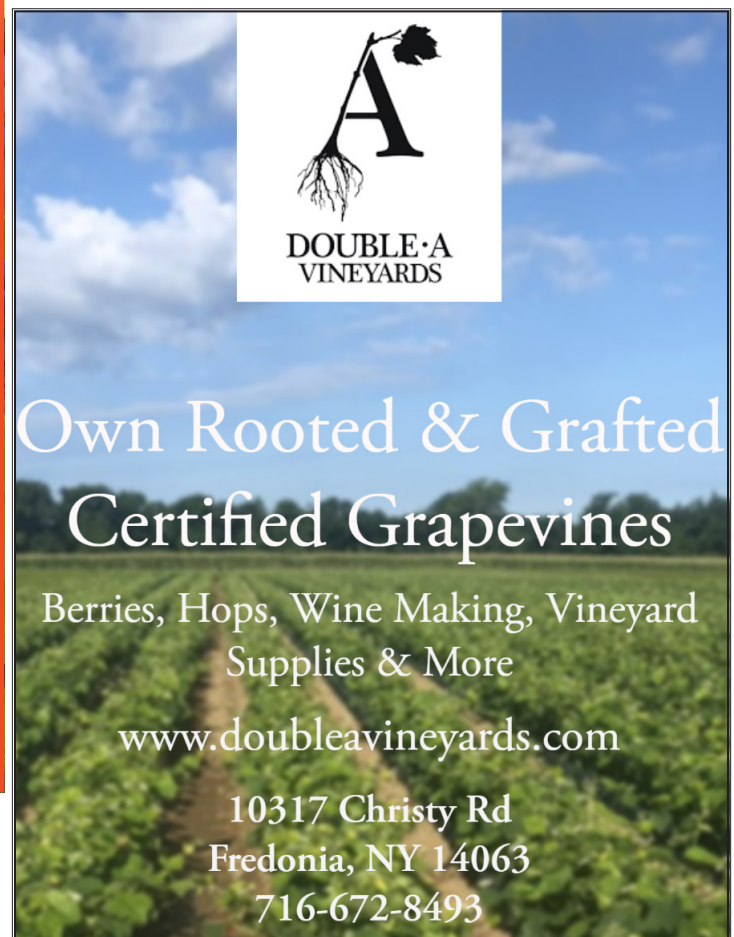
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Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

In the Vineyard

The Lake Erie Regional Grape Program officially kicked off our 2024 Coffee Pot Meetings on May 1, 2024, at Burch Farms for our Spotted Lanternfly Grower Summit (keep reading this Crop Update for more details). The Lake Erie Coffee Pot meetings were started decades 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 pesticide applicator recertification credits. The Coffee Pot Meetings are discussions on timely viticulture, business management, and integrated pest management.

At yesterday's meeting at Sprague Farms, there was much discussion on how to manage vineyards this year in the wake of a frost/freeze event. Please click here for our schedule of Coffee Pot Meetings throughout our growing region [Coffee Pot Meeting Schedule](#). It is going to be very important to keep your canopies clean this year to protect what clusters you have and allow for photosynthesis to build healthy vines after a couple years of high cropping levels.

Lake Erie Grape Belt Freeze Event on April 25th 2024

Terry Bates and Jennifer Phillips-Russo

Cornell Lake Erie Research and Extension Laboratory / Lake Erie Regional Grape Program
5/7/2024

On the morning of 4/25/2024, the Lake Erie grape production region experienced a freeze event which caused significant damage to the 2024 Concord grape crop. Several factors contributed to the damage: vine phenology, precipitation, temperature, and dew point.

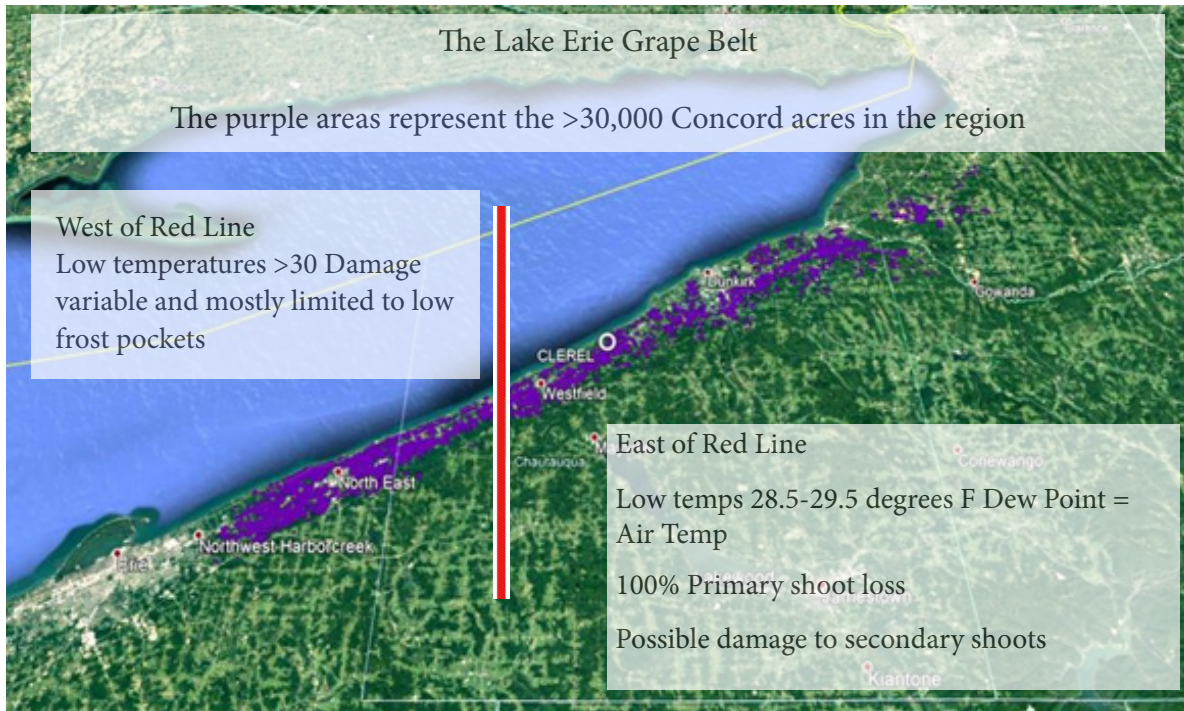
Advanced Vine Phenology: At the Cornell Lake Erie Research and Extension Laboratory, official Concord bud break was called on April 22. This was ahead of the long-term average and put the young shoots at a stage where they would typically freeze between 28-29 degrees F. Other winegrape varieties in the region, in general, were not as advanced as Concord and were protected to a lower temperature.

Stage of buds When cold hit



High Precipitation: The region experienced a soaking rain on April 24th. The critical temperatures listed above will shift to higher temperatures when more water is present, which dilutes the tissue solutes that protect green plant tissue from cold temperatures.

Low Temperatures: Weather stations east of Westfield, NY recorded minimum temperature between



28.5 and 29.5 degrees F between 3-5 AM on 4/25/2024. Clear skies and calm winds assisted in the temperatures reaching these critical freeze levels.

High Dew Point: The average dew point was the same as the air temperature, in most cases. This means water vapor condensed on the green shoot tissue as it froze. (Sometimes, low dew point can help delay a freeze but this was not the case on 4/25)



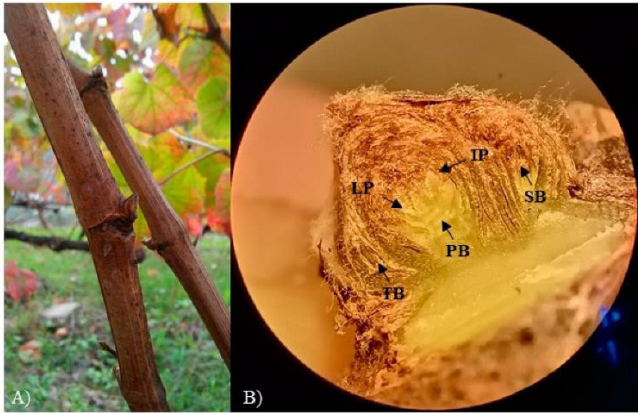
1. Photo of a frozen Concord bud taken by Andy Joy

Impact

Concord vineyards east of Westfield suffered 100% primary shoot loss and we are still assessing the potential damage to secondary shoots. Vineyards west of Westfield have variable damage with a mix of primary and secondary shoots. We are still assessing the potential damage to flower clusters in these mixed-bag vineyards.

What does that mean?

The development of fruiting buds for the 2024 crop actually started in July 2023. Mature fruiting buds overwinter on woody canes during the dormant season. The fruiting buds on grapevines are “compound buds” because each dormant bud contains three shoots (the primary, secondary, and tertiary). The primary shoot is the most developed and carries the full crop potential of the vine. The secondary shoot in Concord tends to have about 30% of the full crop potential. The tertiary shoot typically has no fruit cluster development and is there simply as a vegetative survival mechanism for the plant.



Dormant compound grape bud: primary bud (PB) and the secondary (SB) and tertiary bud (TB) on each of primary bud. LP-Leaf primordia, IP-Inflorescence primordia. From: Monteiro AI, Malheiro AC, Bacelar EA. Morphology, Physiology and Analysis Techniques of Grapevine Bud Fruitfulness: A Review. Agriculture. 2021; 11(2):127. <https://doi.org/10.3390/agriculture11020127>

100% Primary shoot loss has a big economic impact

In Concord vineyards with 100% primary shoot loss, the crop potential has already been reduced from 100% to 30%, assuming there is no additional damage to secondary shoots. For example, a vineyard which expected to yield 8 tons/acre has already been reduced to 2.4 tons/acre. Every vineyard operation is different but a general rule-of-thumb is that the break even point for Concord is 6 tons/acre. A frosted vineyard still needs to be managed in 2024 to protect the remaining 2.4 tons/acre and to start developing the fruiting buds and crop potential for 2025. There is little opportunity at this point to reduce production costs for 2024. Vine pruning and training, a major cost, has already been completed, most fertilizers and plant protection materials have been pre-purchased, and the vineyards will still need to be harvested and transported. Therefore, grape producers will be operating well below production costs in 2024.

There are early reports that some vineyards also have significant secondary shoot loss, which would mean 100% crop loss in those vineyards. It is still a little early to know that for sure but we will continue to assess the situation.

Below is survey asking how many acres you have, what varieties, and what your assessment of the levels of damage that might have occurred is. The LERGP will be out over the next several days to try to get a sense of how buds came through these low temperature events, but we would also appreciate hearing from growers about their initial assessments from their own vineyards as well. We have asked growers to respond to the survey that we sent out via text message, and it can also be accessed through this link: [Click Here for Survey](#). It isn't a long survey, but this information is critical for me to report to Both New York State and Pennsylvania Departments of Agriculture if we should need a disaster declaration and for industry projections. Please click on the link below to access the survey or refer to the link in your text message.

[How many acres of vineyards do you farm?](#)

[Please provide the breakdown of acreage of cultivars \(i.e. 20 acres of Chardonnay, 200 acres of Concord\)](#)

[Please send your best estimate of number of damaged acres for each cultivar.](#)

[Where are your vineyard blocks located within our region?](#)

Upcoming Events for the Lake Erie Regional Grape Program Stakeholders

Wine Sensory Evaluation Workshops

We are very excited to collaborate with the Cornell Craft Beverage Institute to bring programming to our winery stakeholders! There are two opportunities in our region to learn from presentations from our Enology Extension Specialists, Anna Katharine Mansfield and Chris Gerling, with a wine production focus. This is an interactive workshop on sensory evaluation. Please see the flyer below for registration and more information.

REGISTRATION IS REQUIRED: <https://cornellfswrkshps.securepayments.cardpointe.com/pay>

\$20 per participant

Precision and Digital Viticulture Tools Demonstration Day

On June 6, 2024, from 10 AM – 4 PM we will be hosting 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. Come and learn about tools and research that may be a part of our management in coming years. The agenda below is mostly confirmed. There will be demonstrations of drone sensing and other techniques to measure viticultural and soil data, robots to help gain that information and model it, and then robotics and variable rate machines that help manage with precision and digital techniques.

Precision and Digital Viticulture Field Day

Thursday, June 6th, 2024 | 10:00 am – 4:00 pm

Cornell Lake Erie Research and Extension Laboratory Regional Grape Program

6592 West Main Road

Portland, NY 14769

Agenda

- | | |
|-------------------------|--|
| 10:00 – 10:10 | Welcome – Jennifer Phillips Russo & Dr. Terry Bates |
| Research Updates | |
| 10:10- 10:25 | Drone Sensors – Dr. Rob Chancia, Rochester Institute of Technology – Rob is working together to address vineyard nutrition through better monitoring techniques and guidelines for grape production across the nation and all grape markets. He will discuss his research as a part of this collaborative project conducted at the Cornell Lake Erie Research and Extension Laboratory. |
| 10:25 - 10:40 | Hyperspectral Sensing Technology - Kathleen Kanaley, Dr, Katie Gold Lab, Cornell University - Kathleen will update on her research with using satellite and drone imagery to develop remote sensing tools for early disease detection. |
| 10:40 - 11:00 | Meet PPB & Research Update – Dr. Yu Jiang, Cornell University – Yu will discuss his research utilizing the power of robotics and artificial intelligence to tackle major challenges facing farmers and drive a revolution in agricultural productivity and sustainability. |
| 11:00 - 11:20 | Carnegie Mellon University Pruning Robots – Dr. Abhi Silwal, Carnegie Mellon University – Abhi will present the design and field evaluation of a rugged and fully autonomous robot for end-to-end pruning of dormant season grapevines. |
| 11:20 – 11:40 | Vision Spraying and Electric Weeding – Dr. Lynn Sosnoskie, Cornell Weed Scientist – Lynn will update us on her research for sustainable programs that investigate other tools and technologies for controlling unwanted vegetation |

- exploring non-chemical strategies for weed suppression including covering crops and mulches and vision-guided and electric weeders.
- 11:40 – 12:00 ***Naio Ted Robotic Tool Carrier***– Chuck Baresich, Owner of Haggerty Creek – Chuck will be talking about the Naio Ted Robot and the potential use of robots to help improve efficiency in vineyards. Ted is the only autonomous straddle robot for vineyards with Augmented Autonomy. Perfect for mechanical weeding on the row.
- 12:00 – 1:00 **Lunch**
- 1:00 – 3:45 ***Outdoor Demonstrations of Precision & Digital Tools***
- 3:45 – 4:00 ***Closing Remarks*** - Jenn Phillips Russo, Lake Erie Regional Grape Program

Soil Health Field Day

The Lake Erie Regional Grape Program is collaborating with the Natural Resources Conversation Service and the New York Soil Health Alliance to bring a day full of learning and field demonstrations in soil health.

Natural Resources Conservation Service (NRCS), formerly known as the Soil Conservation Service (SCS) is an agency of the United States Department of Agriculture (USDA) that provides technical assistance to farmers and other private landowners and managers.

New York Soil Health for Healthy Food, Profitable Farms, and Protection of Natural Resources Interest in soil health practices such as reducing tillage, planting cover crops, and using organic amendments has expanded greatly in recent years, yet barriers to adoption persist. Their project facilitates collaboration among the many on-going efforts across the state to implement research, outreach, and policy solutions to address these barriers to adoption.

The agenda to this research-based demonstration day is located below:

Betts Farms
Soil Health & Climate Resiliency Field Day
Wednesday, June 12th, 2024 | 10:00 am – 3:00 pm
7366 Route 20, Westfield, NY 14787

1.5 DEC Credits Available

Agenda

- 10:00 – 10:20 Registration & Welcome
- 10:20 - 10:40 Our Soil Health Journey – Bob Betts, Betts Farms
- 10:40 - 11:05 Soil Health in Perennial Fruit Systems: why it matters – Debbie Aller, Cornell University
- 11:05 - 11:35 Cover Cropping in Concord Grape Trials – Jenn Phillips Russo, Cornell University Lake Erie Regional Grape Program
- 11:35 – 12:00 Cover Crop Options for Different Applications – Rod Porter, Kings Agri-Seeds
- 12:00 – 12:45 Lunch
- 12:45 – 2:15 Soil Pit - Dan Ufnar, USDA-NRCS & Soil Health Trailer and Demonstrations – Debbie Aller and Michael Glos, Cornell University (2 groups, rotate after 45 minutes)
- 2:15 – 2:45 Roller Crimping in Concord Grapes (Demonstration) – Bob Betts, Betts Farms
- 2:45 – 3:00 Closing Remarks - Jenn Phillips Russo, CCE Lake Erie Regional Grape Program

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PA Update

Bryan Hed, Research Technologist, Lake Erie Grape Research and Extension Center

Weather: We have accumulated about 77 growing degree days over the past week of May, with 0.32" of rainfall. High temperatures may not break 60 F through the weekend (so shoot growth will stall a bit), but there are no dangerous lows in the short term forecast. However, there is also rain in the forecast over the weekend. If you plan to get an early Phomopsis spray on (mancozeb or captan), now is the time to do it.

Phenology: At our location along the lake, Concords in our Cemetery road block have about 3-5 inches of shoot growth...right at that stage for the first Phomopsis spray. This stage is a swiftly moving target and undamaged vineyards farther inland will have already passed this stage.

Diseases:

Downy mildew has not emerged yet, but its time to plan for how you will be dealing with it on susceptible varieties. Old standard fungicides, like captan and especially mancozeb, are very effective. Just remember that they are protectants only and are not as rain fast as the newer fungicides, like Ranman, Revus, the phos acids, Ridomil, and Zampro. However, the newer, single site inhibitors are best used later, around bloom.

Powdery mildew: As we approach the 10-12" shoot stage, many growers are planning their first powdery mildew sprays. For Concord growers, some options are i) a FRAC 3 like tebuconazole, tetraconazole, triflumizole, or flutriafol product, ii) an oil, like JMS stilet oil, iii) a product like Nutrol (monopotassium phosphate) with a spreader/sticker. Powdery mildew pressure in juice grape vineyards should be quite low at this point in the season: we've only had about 3 primary infection periods since bud break, and cool temperatures over the past several weeks have kept the pathogen growing at a slow pace. Therefore, juice growers should not use any of the 'big guns' at this time (Gatten, Endura, Cevya)...save those for the immediate prebloom and first post bloom sprays. For many wine varieties, there's sulfur (for varieties that are not injured by it: *Vitis vinifera* and white hybrids). If you're using captan for other diseases like black rot, Phomopsis, and downy mildew, be aware of label restrictions regarding tank mix partners and subsequent sprays (for example, avoid mixing captan and oil or applying them within 10 days of each other, etc). **Remember to read labels carefully.**

Phomopsis and black rot: Rainfall last Sunday (May 5) resulted in Phomopsis, black rot, and powdery mildew infection periods. However, these were infection periods pretty moderate in their intensity. Rainfall releases spores of the pathogens that cause all three diseases, and I suspect that there will be some, but not a lot of infection, resulting from the May 5 event. Growers that had a lot of black rot last year, need to consider getting a black rot material on (for example, mancozeb) before the next rain period. If you can, it would be best to time the application as close to the next predicted rain as possible; shoots are growing rapidly right now and can quickly outgrow the protection you apply.

Eutypa: At about 10 inches of shoot growth, its time to scout for the effects of Eutypa infections in trunks and cordons. The Eutypa fungus infects grapevines through pruning wounds, especially large pruning wounds created during your dormant pruning activity throughout the winter months. The fungus grows very slowly within the vine, and an infected vine will take years to show symp-

toms, but once the fungus has made inroads into the trunk, it may be only a matter of time before problems arise. There really aren't any practical ways for juice grape growers to spray their way out of the effects of this fungus, though there are some chemical controls that may help temporarily protect large pruning cuts from invasion that might be practical for "high end" wine varieties. The best way for juice growers to do battle with *Eutypa*, is to scout your vineyards at about the time you see 10 inches of shoot growth. Its at this stage that the symptoms such as yellow/chlorotic, stunted shoots, and small cupped leaves, are most easily seen (the left photo in Figure 1 below)



Figure 1: On the left, stunted, yellow shoots, with cupped leaves; diagnostic of a vine infected with *Eutypa lata*. Compare with the shoots on a healthy vine (right image).

Affected branches, cordons, and even trunks (if the whole vine is affected) should be cut out at least 6 inches below the lowest canker on that organ. If the whole canopy is affected, you have to remove the whole top of the vine, and suckers will have to be retained and trained as replacements. In this case, try to select suckers that emanate from the very bottom of the trunk or even below the soil line. These suckers are most likely to emanate from below any *Eutypa* cankers low on the diseased trunk. Suckers that are selected from higher up on the diseased trunk, risk being affected by trunk cankers below them, and may result in trunk failure all over again, just a few years "down the road" (Figure 2).



Figure 2: On the left, a canopy of a recently renewed vine, just a couple of years old, completely stunted by *Eutypa* problems that originate in the lower part of the trunk...inspite of the fact that it was just renewed! On the right, the base of that renewed trunk. Note how it emanates from an old, heavily cankered and decayed trunk base. The decay from the old trunk has already crept a foot or more up the base of the new trunk (seen where I've sliced away the bark on the new trunk) and has doomed the renewal to failure within a few years. If you can't get decent suckering (or there's no suckering at all) on vines that require trunk replacement, you might be able to run a dipper next year from an adjacent, healthy vine. In that case, vines involved in the replacement/renewal can be flagged for easy identification later. Cankered, diseased wood should be removed from the vineyard and buried or burned as practicable.

And lastly, Juice vineyards *heavily* damaged by late frost will warrant a more minimal disease management program this season, centered on protecting the fruit around bloom (immediate pre bloom and first post bloom spray) from diseases like powdery and downy mildew and black rot. I wouldn't scrimp on weed control, but rather focus on growing bigger vines this year (try to turn up something positive about having a small crop this season), for potentially bigger returns in future seasons.













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Updates and Information

Kimberly Knappenberger, Extension Support Specialist, LERGP

On Wednesday, May 1st the Lake Erie Regional Grape Program (LERGP) made up of both Penn State University and Cornell University Extension Specialist hosted a meeting in collaboration with Penn State University Researchers at Burch Farms in North East, PA to talk about the invasive species Spotted Lanternfly updates for the grape and wine industry. This meeting was the official kick-off of the Lake Erie Regional Grape Program's coffee pot meetings for 2024. This was an all-day event beginning at 9:00AM and ending at 3:15PM. Many thanks to the Burch family for welcoming us into their space and for their hospitality.

The speaker line up boasted some big names in the Penn State Extension and Research arena who have studied this invasive since the invasion in 2017 and are very familiar with the Spotted Lanternfly (SLF). LERGP and PSU Megan Luke put together a powerful agenda that was well received by all in attendance. These amazing speakers educated local growers, processors stakeholders, and government agencies about this pest.

The day started with Brian Walsh who is an Extension Educator with PSU in Ornamentals and Green Industry. He has been a commercial insecticide applicator since 2008 and is a commercial plant healthcare contractor, he was located at the epicenter of the initial infestation of SLF in southeastern Pennsylvania and has learned a lot over the past 10 years of dealing with it. Brian spoke about the population dynamics and management perspectives for SLF outside of the vineyard. Brian feels that learning and understanding the timing and locations to target management strategies are key to successfully managing this pest.

Dr. Cain Hickey was next up. Cain is an Assistant Teaching Professor of Viticulture with PSU and a Viticulture Extension Educator at Penn State. He works with the Pennsylvania grape and wine industry to solve vineyard management issues and optimize crop production practices. Cain spoke about Spotted Lanternfly in vineyards: field observations, grower perspectives, and management scenarios.

Dr. Julie Urban who is an Associate Research Professor of Entomology with PSU presented her review of big picture findings from SLF research and observations over the past seven years. Her research focuses on the natural history of planthoppers and their coevolution with multiple bacterial and fungal endosymbionts. Specifically for SLF Julie is examining their feeding behavior, nutritional requirements, feeding preferences, thermal tolerances, and other basic aspects of biology to better understand this invasive insect's impacts and potential for spread. She has been collaborating with other universities and government agencies to anticipate emergent needs of growers in new regions and grape production systems not yet impacted by SLF.

Next Dr. Flor Acevedo, PSU Assistant Professor of Entomology and Arthropod Ecology, gave some research updates on SLF in vineyards. She discussed the physiological relationship between lanternfly feeding and grapevine vitality with focuses on impact to production and the importance of effectively managing for grapevine sustainability.

The last speaker prior to lunch was Molly Kelly, PSU Enology Extension Educator. Molly leads educational programming focusing on wine quality, so she discussed the impact of SLF on wine

chemistries and volatile aroma compounds. Molly presented studies done to determine taint and toxicity as well as discussing research on levels of ailanthone in research wines which is a compound derived from Tree of Heaven.

Following lunch Dana Rhodes, State Plant Regulatory Official of the Pennsylvania Department of Agriculture SLF task force, gave an update on the permit system of Pennsylvania that is recognized by both NYS and PA allowing product to be moved across state lines. She also explained the process once a report is made of a SLF sighting for sending out a team to do a grid search for further detection.

Megan Luke (LERGP/PSU Extension Educator Tree Fruit and Viticulture) and Andrew Holden (LERGP/PSU Business Specialist) presented a practical spray program that they have developed and the associated costs for ongoing SLF management in processor-bound grapes. They worked together to create a cost of treatment for various spray program scenarios.

Claudia Schmidt of Penn State Extension joined the meeting by Zoom and continued on that theme by speaking about quantifying the economic impact of SLF on grape growers. Her research focuses on diversification options for small scale agricultural producers and processors. She is an assistant professor of Marketing and Local/Regional Food Systems at Penn State University.

The final presentation was a grower panel that joined by Zoom. Dean Scott, Ben Cody, Zach Waltz, Carl Helrich, and Rich Blair were the growers that assisted in the panel who are vineyard owners and managers from southeastern Pennsylvania that have been dealing with the SLF infestation for many years. They were able to discuss practical strategies, tips, successes, and concerns with the audience at Burch Farms which went a long way to ease anxieties for our growers who have not dealt with this pest as of yet.

Over the course of the day there were many collaborations made and strengthened, as well as connections for resources and information to help the Lake Erie Grape Region grower and industry stakeholders. This powerful event fostered communication for transparency when this agricultural pest arrives in our region. Each attendee was sent home with a Spotted Lanternfly Pocket Guide developed by the Lake Erie Regional Grape Program designed and formatted by Kim Knappenberger of the LERGP team and based on research by PSU and Cornell University. This guide was created to aid in the identification of the various stages of the SLF life cycle and then give information about how to scout, manage, and report sightings in both New York and Pennsylvania.





SLF Pocket Guide

We are excited to be able to offer a Spotted Lanternfly Pocket Guide for help in identification and reporting sightings of this invasive pest. This guide will be available at all of our coffee pot meetings as well as any additional programming. In addition there are copies at CLEREL if you are interested and want to pick up a copy. We encourage all of you to get a copy and keep it handy in your truck or tractor, so you know what you are looking for and when. In this guide you will find descriptions of all of the stages of the Spotted Lanternfly life cycle and when and where to look for it. There are QR codes on the front that will take you to the appropriate reporting sites for both New York and Pennsylvania. Inside you will find more QR codes that take you to a resource page for more information on what you should do once you find it in your vineyards. We like this method because there is new research coming out all the time and if changes are made we can make them on the website instead of new pocket guides.

If you do see any of these stages you need to take a picture and try to capture it so that it

can be sent in for identification. If it is definitely SLF, the appropriate teams will report to do a more thorough search and treatments as indicated.

These guides have been created as a result of funding from NYS Specialty Crop Producers Post Covid-19, USDA Agricultural Marketing Service, NYS Dept. of Ag and Markets.

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PA Update

Megan Luke, Penn State Extension Viticulture and Tree Fruit Educator

PA UPDATE

Most vines in the region are past the time to scout for grape flea beetle (GFB) and climbing cutworm, HOWEVER if your vineyards experienced damage in the recent freeze, your secondary or tertiary buds may still be at risk. These pests feed on swollen buds and have an economic treatment threshold of 2% damage to buds. By about 1/2" growth the threat of economic loss from these pests is negligible. If you have ONLY tertiary buds remaining, it may be worth it to apply an insecticide to prevent further damage while the vines recover. In this case it makes sense to choose a product with some longevity to reduce the need for additional applications for early-season pests. MOST insecticide treatments can be combined with early fungicide treatments with few compatibility issues (ALWAYS check labels and when in doubt- do a jar test!) so keep this mind if you are reducing spray applications to save money.

When combining pesticides, after checking the label for incompatibilities, mix using the following procedure:

Before even getting into whether certain pesticides mix well together, it's a great idea to test the quality of your water. "Hard" water contains positively charged cations which can bind to negatively charged anions in the pesticide formulation, which will decrease the efficacy of the product. Water pH can also have a tremendous impact on how a pesticide will perform. Due to the wide range of variability of pesticides, the optimal pH for the spray tank formulation is somewhat of a moving target. For example, a fungicide such as Captan will last the longest at a pH of 5, which is fairly acidic. Conversely, the insecticide Sevin (carbaryl) lasts the longest at a neutral pH of 7. Be sure to read your pesticide label to determine what spray tank pH you should be aiming for. pH buffers can always be added to the tank to achieve the desired pH level. If you aren't sure about the quality of the water you use in your pesticide spray tank, then consider having your water tested by a trusted lab.

- Fill the tank halfway full with clean water, do not pour concentrated pesticide directly into an empty tank
- If the pesticide calls for the use of AMS (ammonia sulfate), then add that after the water.
- Water dispersible products such as wettable powders (WP) and dry flowables (DF) go next. It's a good idea to pre-slurry these products before adding them to the tank.
- Agitate the tank until all products have formed a solution.
- Microcapsule suspension products go in next.
- Liquids and emulsifiable concentrates
- The final thing that goes into the tank are the surfactants. Any necessary non-ionic surfactants, crop oil concentrates, or methylated seed oils will go in here at the end.
- If you observe any compatibility issue such as heat, precipitates, or thickening, do not apply the material.

Grape flea beetle – GFB, also known as "steely beetle", (*Altica chalybea*) overwinter in the adult stage and emerge as grape buds begin to swell. Beetles are small (3/16") and metallic blue in color (Figure 1). The most significant injury caused by this pest is due to overwintering adults feeding on

swollen grape buds, often consuming enough tissue to destroy the developing primary bud (Figure 2). The largest populations of flea beetles are most often around wooded or overgrown edges of vineyards. Scout vineyard rows bordering these areas frequently during the bud swell stage. Examine canes for injured buds and for the presence of adult beetles. Beetles are most active on warm, sunny days and will jump like a flea when disturbed. Treatment threshold is 2% bud damage. Leaf damage later in the season is typically not of economic concern.

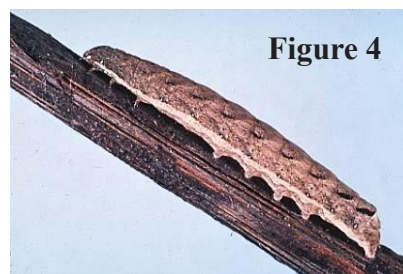
Grape Flea Beetle fact sheet: [located here](#)



Photos by Eric Burkness, University of Minnesota

Climbing Cutworm – Nearly a dozen different species of cutworm larvae have been documented in vineyards and all of them may feed on grape buds during the swell stage (Figure 3). The larvae are immature stages of several noctuid moths. The spotted cutworm (*Amathes c-nigrum*) is frequently observed in New York and Pennsylvania. Larvae of all species have similar coloration: brown to gray with darker stripes or dots along the body (Figure 4). Larvae hide under leaf litter or weeds beneath vines during the day and climb vines to feed at night. Vineyards on sandy soils or with grass and weed cover under the trellis are at greater risk for injury. If bud injury is detected, examine weeds/soil beneath vines, as well as the vines themselves (including the bark) for presence of larvae with a flashlight after dark to confirm cutworm damage.

Climbing Cutworm fact sheet: [located here](#)



Photos from Cornell Climbing Cutworm fact sheet (linked above)

As we approach the 3"-5" shoot growth stage in vineyards not effected by freeze damage, it's important to start expanding scouting efforts from flea beetle and cutworm to plant bugs, including the banded grape plant bug and *Lygocorus inconspicuus*. These insects are typically found in vineyard areas that are bordered by woodlands.

Banded Grape Bug & *Lygocorus inconspicuus* – Plant bug nymphs emerge in the spring from overwintering eggs. Nymphs are small (1/8 -1/4 inch) and difficult to see in flower clusters. Banded grape bug nymphs are green with brown colored wing pads and antennae with alternating black and white segments (Figure 5). *Lygocorus inconspicuus* nymphs are light green and smaller than BGB nymphs (Figure 6). Both types of nymphs have piercing - sucking type mouthparts and feed on flower pedicels and florets in a cluster. Feeding can result in floret drop, reduced berry set and fewer clusters. Scout for these insects by examining flower clusters on about 100 shoots in different areas in the vineyard. These insects are often found near vineyard edges and may not be widespread throughout the vineyard. Treatment threshold to prevent economic loss is 1 nymph per 10 shoots.

The easiest method of scouting these insects is to tap flower clusters over a paper plate and count the nymphs that fall off, using an optical magnifier can aid in identification. Only the nymphal stage of these insects is harmful in grapes.

Banded Grape Bug identification and scouting technique: [video](#)

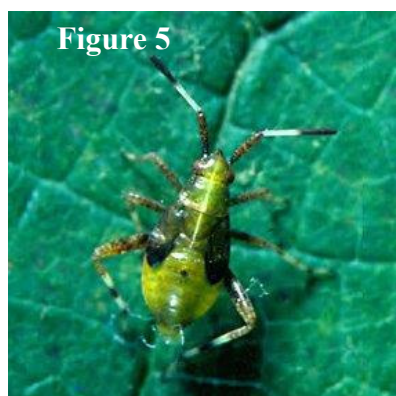


Photo Credit: Joe Ogradnick, Cornell University, courtesy Greg Loeb

Photos courtesy of Cornell IPM, Joe Ogradnick and Greg Loeb

We have not received our printed copies of the 2024 NY and PA Pest Management Guidelines for Grapes. I will keep you informed of when those become available and will do my best to get those in your hands as quickly as possible. I will post my office schedule and bring copies to Coffee Pot Meetings as needed once I have them.

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2024 LERGP Coffee Pot Meeting Schedule

May 1, 2024 9:00am	SLF Meeting- Burch Farms 9210 Sidehill Rd. North East, PA 16428
May 8, 2024 10:00am	Sprague Farms 12435 Versailles Rd. Irving NY 14081
May 15, 2024 10:00am	Brian Chess Farm 10289 West Main Rd. Ripley NY 14775
May 22, 2024 10:00am	Schulze Vineyards & Winery 2090 Coomer Rd. Burt, NY 14028
May 29, 2024 10:00am	Kirk Hutchinson 4720 W. Main St. Fredonia, NY 14063
June 5, 2024 10:00am	LERGREC Field Day 662 N. Cemetery Rd, North East, PA 16428
June 12, 2024 10:00am	Betts' Farm- Soil Health Day 7366 East Route 20 Westfield, NY 14787
June 19, 2024 10:00am	NO COFFEE POT MEETING
June 26, 2024 10:00am	Zach & Alicia Schneider 771 Bradley Rd. Silver Creek, NY 14136
July 3, 2024 10:00am	Liberty Winery 2861 US Route 20 Sheridan, NY 14135
July 10, 2024 10:00am	NO COFFEE POT MEETING
July 17, 2024 10:00am	Chateau Niagara Winery 2466 West Creek Rd. Newfane, NY 14108
July 24, 2024 10:00am	Grower Demo Day at CLEREL 6592 West Main Rd. Portland, NY 14769
July 31, 2024 10:00am	Mason Farms 8603 West Lake Rd. Lake City, PA 16423