Cornell Cooperative Extension Lake Erie Regional Grape Program







photo credit- Jennifer Phillips Russo

LERGP Newsletter - November 2022 Harvest Wrap Up Edition



Building Strong and Vibrant New York Communities

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

In this Issue:

- Year in Review -Kevin Martin- page 4
- Year in Review -Jennifer Phillips Russo- page 8
- 2023 Spray Program- What's Your Plan? page 13
- 2023 Winter Grower Conference Information-<u>page 15</u>
- Weather and Research Review from the Penn State lab at North East PA- Bryan Hed- page 17
- VIP Updates -Kim Knappenberger- page 22

UPCOMING EVENTS:

DEC 9, 2022- 9:00am-Noon- First Virtual Event of 3 part series: 2023 Spray Program- What's Your Plan?

<u>FEB 9, 2023</u>- 10:00am-Noon- Second Virtual Event of series: Zoom, Agenda to be announced

MARCH 16, 2023- 8:00am- 4:00pm- In Person Winter Grower Conference at SUNY Fredonia

Register here for one or all 3!

The Lake Erie Regional Grape Program is a partnership between Cornell University, Penn State University and the Cornell Cooperative Extension Associations in Chautauqua, Erie and Niagara County NY and Penn State Extension in Erie County PA. The team at CLEREL would like to say thank you for another year of support and working with us. We hope that you have a blessed holiday season.



Contact Information:

Jennifer Phillips Russo - LERGP Viticulture Specialist: jjr268@cornell.edu (716) 640-5350

Kevin Martin – LERGP Business Management Specialist: <u>Kmm52@psu.edu</u> (716) 397-9674

Kim Knappenberger – LERGP NEWA and Vineyard Improvement Program Contact Ksk76@cornell.edu

Kate Robinson – Administrative Assistant Kjr45@cornell.edu

Business Management

Kevin Martin, Penn State University, LERGP, Business Management Educator

2022 Year in Review

In the Lake Erie Region the Concord crop in parts of the belt looked rough. Winter injury, spring frost and poor weather conditions were offered as explanations throughout the growing season. In general, areas that were hit with spring frost in 2021 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. 2021 crop load was the biggest factor in defining 2022. Winter injury and spring frost also played a role in the production of more traditional wine grapes. Disastrous yields were not unusual but most of the region had slightly below average tonnage.

Yields.

Growers that had the worst frost damage last year have reported yields that are personal records for them. Setting or approaching personal records was a theme last year and while it happened this year; it was for a small percentage of growers. 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 15+ days earlier than last year but did just last into November, despite an early start. Overall yields were in line with long-term averages. This decline in production was somewhat less than expected based on last year's result and early season reports. Individual grower crop estimates were more likely to be accurate as berry size was somewhat more predictable in 2022. Farm and regional crop estimate accuracy was hampered by variability.

Minimum soluble solids.

Average brix in Concord were up by .7 brix. Average soluble solids for juice grapes are around 16.4° Brix across all processors in the Lake Erie Region. This is slightly lower than average. Like last year, the range in crop loads produced a range in soluble solids that was higher than normal. This year, though, was closer to a normal distribution.

Market Outlook.

Most signs continue to point toward a healthy market. Growers certainly expect some carry-over of high prices and retail conditions seem healthy. Rising business costs, particularly related to inflation, will impact payments somewhat. Cash market payments have increased as yields decreased. Overall, it will be more difficult for Cooperative payments to exceed cash market payments. While it is certainly possible, the disparity should be less than previous years because cash market prices did move upward. Overall, these markets seem competitive with the bulk cash market. They're also in better shape than smaller markets right now. There is some potential here to see some record-breaking revenue for growers that reached minimum brix standards. Crop containment was an epic challenge last year. This year that process returned to as close of a state of normal as it can ever be.

Challenges ahead.

Last year I challenged growers to think outside of the box of yield, price, and gross revenue. At that time, it looked like labor and commodity prices would complicate matters. In a year where many growers set records for gross revenue, would they be able to set net revenue records? This year,

market conditions are much the same. The biggest difference this year is that no grower needs to be challenged to think about these issues. They've become part of the daily conversation. The critical input costs are nearly identical. In order of greatest challenges are labor, trellis supplies, fertilizer, certain chemicals, capital equipment costs and fuel. For growers with average yields, high prices will compensate for these challenges. Growers with below average yields will need to recover quickly. Most remain well positioned because of a solid performance in 2021. Vineyard care will need to remain high in 2023 to ensure high yields, combined with high prices create positive income in a high-cost environment.

For the 2023 crop growers will need to plan for high crop prices. Although we do not know how long the market can sustain higher prices, in the short term the little evidence we have makes this a plan that makes the most sense. Grocery store prices continue to rise. Specifically, processed fruits and beverage prices have not faced significant consumer headwinds as manufacturers roll out higher prices across categories. As federal policy moves to limit the impacts of wider inflation, food prices tend to be very volatile. For long-term capital investments it makes sense to plan on retail prices falling by 10% or more. This will translate to significant downward price pressure on the commodity. Plans for long-term capital investments should be somewhat more conservative as plans for operations are more aggressive. Recent success shows that some on farm capital improvements and expansions are being financed with cash. That is the kind of conservative capital investment that makes a lot of sense. High cost, variable rate loans to increase acreage when yields are lagging is the kind of aggressive capital investment that might have made sense in 2019 but is much higher risk now.

Lots of growers have had some success in 2022, though not everyone. While challenges will exist in 2023, many growers should be able to continue a stretch of recent success. High costs and inflation will make mistakes more costly, and it will be easier to make them. Anyone buy \$6 diesel that was \$4 just a week later? The value of planning, tracking costs, and innovating should continue to rise in this environment.



Chautauqua County Farm Bureau® is working hard to gain workforce options, retain necessary protectants, and ensure policy that benefits our growers



Join Today! NYFB.org 800-342-4143

Far past the frozen leaves

There's no end to the potential hazards your crops face: freeze, hail, wind, insects and disease. And those are just the natural disasters. As a fruit farmer, you also have to deal with other variables like fluctuating market prices.

Crop Growers is here to help. Our multi-peril crop insurance will protect your business when Mother Nature (or the market) lashes out, making sure you're still standing when the skies clear.

Call a Crop Growers agent today.



Your first choice for crop insurance.

ACTUAL PRODUCTION HISTORY PLAN WHOLE FARM REVENUE PROTECTION CROP HAIL COVERAGE

800.234.7012 | CropGrowers.com

CROP GROWERS, LLP IS AN EQUAL OPPORTUNITY PROVIDER



Harvester Parts and Belting Southern Yellow Pine Posts Tractor Tires & Tubes • And So Much More!



Watch Our Podcasts! https://lergp.com/podcasts

Learn how to use myEV!

https://www.efficientvineyard.com/

Viticulture

Jennifer Phillips Russo, Viticulture Extension Specialist, LERGP

A Year in Review

It is almost surreal that another growing season has come and gone. At this point in time last year, we all were still in the thick of a pandemic. Our in-person grower conference was iffy as to whether it would be in person, and we all were experiencing Zoom fatigue. Locked-down lifestyles seems like a lifetime ago. We began last season in isolation and burst through that period of our lives with a hunger for personal interactions.

2022 Winter Conference Series

The first quarter for the Lake Erie Regional Grape Program was extremely productive and packed with educational outreach opportunities. Our advisory committee meeting confirmed the value in a virtual learning platform that was a positive outcome from the pandemic. The ability to bring researchers and experts in their fields right into the living rooms of our growers for an educational program decreased the miles, pandemic anxieties, and allowed for pesticide recertification credits for those unable to earn them in a shut down. Our grower and industry panel provided input for necessary content to support our stakeholders. The LERGP 2022 Winter Conference Series was a direct effect of the input from this committee.

The 2022 Winter Conference Series was a hybrid model that offered a one stop shopping for research-based Information and pesticide recertification credits. This Conference Series was made up of two virtual days. On January 19, 2022, the first virtual day was filled with 37 attendees learning about the MyEV Tool. Both, Dr. Terry Bates, Director of the Cornell Lake Erie Research and Extension Laboratory, and Nick Gunner, of Orbitist, discussed how this open-source tool utilizes grower information and collected data allowing growers to become more efficient by altering practices and significantly enhancing their ability to predict crop size, yield and quality across their entire vineyard.

The second half of the program was **Bulk vs Bins - Costco for College Students**, presented by Kevin Martin, The Lake Erie Regional Grape Program Business Management Specialist. He discussed bulk versus bins for Concord harvest. As the shift toward bulk delivery begins to look inevitable, we took a deep dive (case study style) into bulk grape deliveries. Our goal is to make this method work and to succeed for operations of all sizes. To do that we need to challenge assumptions, understand the differences, and use that information to right-size capital investments.

Our second virtual session was held on February 16, 2022, called 2023 Pest Management Spray Schedule – What's Your Plan? This meeting had 78 attendees. This meeting was intended to be interactive so that growers had the ability to ask questions concerning specific pest problems or potential problems in the 2022 season. Topics that were addressed included: timing of spray applications at critical growth stages; pesticide options, efficacy; and resistance management. It included a one-hour presentation from each speaker (two hours of instruction) and one hour for questions and answers totalling three hours for the course.

The Lake Erie Regional Grape Program's one in-person day was held on March 16, 2022, which had 156 registrants. The day was filled with presentations about labor issue, disease and insect management, cold hardiness, and climate change, understanding soil and petiole test and vine nutrition, and how cover crops can improve soil and vine health.

This Conference Series reached 271 attendees with research-based outreach during a time filled with trepidation and closed avenues. Our presentations/talks provided the opportunity to get information that you need to become com-



pliant with the changes in Labor Laws, as well as learn about the information and resources you need to sustain vineyard production.

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 upon the cultivar, seasonal temperatures and how they vary, and the vine's condition as it enters the dormant season. We measured this critical temperature through a procedure called differential thermal analysis, which involves controlled freezing of a sample of buds collected from vineyards. The data reported was the Lethal Temperature Exotherm (LTE), where growers can

experience 50% bud loss, on our website as well as in crop updates and podcasts. This information can be used to help guided management practices to compensate for potential losses. In 2021-2022, we monitored and reported cold hardiness for 17 cultivars. We monitored samples weekly from No-vember to March.

Coffee Pot News

Coffee Pot meetings have been a staple of the extension work done by the Lake Erie Regional Grape Program for many years. During these meetings researchers and extension associates come together with growers in a relaxed setting to share up-to-date information and advice on how to take care of the issues that arise in their vineyards as well as offering time for the growers to collaborate on what works and what doesn't work. In addition, pesticide recertification credits are given to those in attendance who present their pesticide applicator license. These meetings were in-person this year and ran every Wednesday morning throughout the growing season and were very well attended. It was evident that we all craved human interaction after years of virtual



outreach. However, we did continue virtual Coffee Pot Meetings every third Wednesday evening during the growing season for those growers with full time jobs outside of farming and those unable to travel. The use of technologies bridged the gap of a paused society and allowed for solutions that would have lasting effects to enhance our program for years to come. The grower stakeholders requested that we continue this outreach.

Retirement

The Lake Erie Regional Grape Program (LERGP) would like to take a moment to honor one of our team members since the inception of this program, Mr. Andy Muza. Our team is the only Cornell Cooperative Regional Team that is a joint program between Penn State and Cornell Universities, grape growers and grape industries in Pennsylvania and New York. The four-member LERGP Extension Team is responsible for research-based educational programming for growers and industry representatives in Erie County, Pennsylvania; and Chautauqua, Cattaraugus, Erie and Niagara Counties, New York. Andy Muza was an extension educator in Erie County, PA with responsibilities for commercial agriculture in grapes, tree fruit, small fruit, and vegetables. He was part of Penn State's Horticulture Team and a member of our Lake Erie Regional Grape Program (LERGP) Extension Team. After over three decades of hard work and dedication to Extension in our region, Andy has earned his retirement.

Andy graduated from Penn State with a B.S. in Entomology in 1979. Upon graduating he worked at two of Penn State's Research and Extension Centers as a field scout in the Apple Pest Management Program (Fruit Research Laboratory, Biglerville, PA) and a research technician (Erie County Field Research Laboratory, North East, PA). He also managed the Lake Shore Crop Management Cooperative, a non-profit, grower-owned pest management farm cooperative in North East, PA. While working as a research technician at the U.S. Regional Pasture Research Laboratory, USDA, University Park, PA, he pursued an M.S. degree in Plant Pathology and graduated in 1990. Andy acquired a full-time position with Penn State in 1988 as a research assistant at the Lake Erie Regional Grape Research and Extension Center and was also manager at this facility for three years. He began working as an extension educator in Erie County in December 1997.

Andy has devoted over three decades to our industry and has made many contributions and fostered friendships with many of you throughout his career. Personally, Andy took me under his wing when I became a member of LERGP and I was new to our industry. He was very patient, kind, and supportive of my many questions without making me feel like I was a bother. He took me around the grape belt and introduced me to many of you, showed me your vineyards, and discussed his history working with you all to ease my transition. He welcomed me, helped shape me into the specialist that I have become, and I am grateful for sharing our journeys and blessed to witness Andy at work in our industry. Andy has a talent of talking to others, listening to their goals and needs, and assisting them with research-based educational programming to help them achieve their goals. His sense of humor and breadth of knowledge will certainly be missed. He has been an integral member of our team and his

absence will surely leave large shoes to fill. Andy's greatest satisfaction was assisting farmers in solving crop-related problems and cooperating with numerous faculty and staff on research and demonstration projects.

New York State Grape IPM Specialist

The New York State IPM Grape Specialist position dissolved after LERGP's Tim Weigle retirement in 2019. Our industry lost critical support at Cornell University in grape pest management. In his 30-year career as NY-SIPM Specialist, Tim co-edited the annual NY and PA Pest Management Guidelines for Grapes, instituted NEWA models for pest management, led research and education on grape root worm, Japanese beetle, and grape berry moth. Tim has also stayed in the forefront of invasive species such as the multicolored Asian lady beetle and the spotted lanternfly. Tim's program was exceptional at listening and responding to the needs of the grape industry in western New York. After years of effort and much collaboration with industry stakeholders to campaign to have that important position, I am pleased to announce that funding has been re-established



and we are currently interviewing candidates. This has been a long journey, but we are excited to, once again, have this valuable resource for our grape industry stakeholders.

Veraison to Harvest

A weekly electronic newsletter put out by Cornell viticulture and enology extension personnel from Lake Erie, Long Island, the Hudson Valley and the Finger Lakes. Each issue provides accurate and up-to-date regional data while giving a statewide perspective as well. Veraison to Harvest begins in early September and concludes in late October. This year there were 9 issues, 10 articles from LERGP, 14 different varieties sampled across the region, distribution each week to members-226, VIP-25, and faculty/ staff/other-114. The metrics from google analytics for Veraison to Harvest this year vs last shows an increase of views up 3.36% with over 1600 page views. This project was funded by New York Wine & Grape Foundation, National Grape/Welch

Podcasts

Podcast Report – Between the Vines was born out of the need to distribute research-based information to growers during a pandemic. This year has



shown very clearly that there was a great deal of pent-up demand for in-person education. However, the podcast lives on and people keep listening. As of the end of July 2022, we've had just over 2,200 listeners. There seems to be a direct correlation between the frequency of the speaker and the popularity of the episode. Our listeners like to hear new and different things and guests are our best source of new and different. In addition to guest appearances, staff that does not always get a chance to appear often provides a high likelihood of an unusual number of listeners. As we roll out new staff members in the future the Podcast will be one of the ways we can introduce them to the industry. 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.

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 read it after the meeting was over. If you would like to be added to our text list, e-mail Katie at _.

Other In-Person Outreach

Around Concord bloom, Dr. Terry Bates and his team partnered with Extension for a demonstration day of the mechanical pruning trial and canopy development. This outreach was held because of grower inquiries to combat the decreasing labor force for pruning. There were over 35 in attendance and great discussion on how to implement technology on grower farms.

The LERGP also hosted an H2A learning session on July 11, 2022, which was well attended with over 30 in attendance. This meeting was also a direct response to grower frustration with the lack of labor forces. We held a grower panel to discuss the trials, tribulations, and successes of different growers and options of how to apply for H2A programs.

We were hosted by the Erie County Horticultural Society at gravel pit park. This large event in North East, PA is well attended by growers with over 150 in attendance. At this meeting, Penn State University and Cornell Specialists discuss timely viticulture, business management, and integrated pest management.

To conclude the summer season a field day tour of the Cornell Lake Erie Research and Extension Laboratory took place on August 31, 2022. This event was open to growers to visit the AgriTech station and learn about all of the incredible research that we are doing right here in our grape region.

At the last in-person meeting of the season, CLEREL and LERGP hosted a visit to educate legislators from across New York State and their staff on an agricultural tour through the region during the harvest season. All of the great work being conducted at CLEREL impressed our guests and they were able to taste different varieties of grapes while learning of the importance of our research and extension efforts for the industry and the state's economy.

Grower Recognition

Green Cover Seed featured our region's very own Bob Betts in their latest publication highlighting his Soil Health Success! Below is the pasted publication. Way to go Betts for your accomplishments and sharing your journey of cover cropping!



Bob Betts of New York plants a summer mix of cover crops in between his rows of juice grapes (pictured above left). The roots have increased the water infiltration in his vineyard and after roller crimping the aboveground biomass armors the soil and feeds soil biology. A winter cover crop is planted into this in August to always keep a living root in the soil.

2023 Pest Management Spray Schedule What's Your Plan?

One Stop Shopping for Research-based Information and Pesticide Recertification Credits!

The Lake Erie Regional Grape Program is offering a Virtual Course with Experts in their fields to help grape growers make research-based decisions for their 2023 spray program to coincide with chemical purchases for next season. This program is 120 minutes of direct instruction and 60 minutes of Questions and Answers for attendees to address concerns in their own vineyard operations. There will be three New York State Department of Conservation pesticide recertification credits awarded to registered attendees, and Pennsylvania Department of Agriculture approved this course for four private category and two CORE recertification credits! As always, the session will be full of information on the latest research-based tools that can be taken home and applied to your vineyard. The course details and agenda are below.

<u>Speakers:</u> *Dr. Kaitlin (Katie) Gold*, Assistant Professor of Grape Pathology, School of Integrative Plant Science, Cornell University and *Bryan Hed*, Research Technologist (Plant Pathology), Lake Erie Regional Grape Research and Extension Center.

When: December 9, 2022 (Friday, 9 AM - 12 P.M.)

<u>Registration Fee:</u> \$25 <u>Register Here</u> (You can register for entire conference series here or just the virtual sessions. Paper registration is on the conference rregistration form on page 16)

Course Location: Webinar (ZOOM meeting)

Agenda Information

- 8:50 AM-9:00 AM: Course registration and welcome
- 9:00 AM-10:00 AM: Bryan Hed, PSU
 - Presentation will cover all the chemical classes and how the older materials compare to the newer materials that might be considered 'Cadillac' materials. Bryan will also talk about what to use under each phenological stage. He will discuss the research trials that were ran this year show and a clear difference in powdery mildew control between programs of old and new materials, and if the new materials don't really cost more, there is no reason to stick with the old stuff, especially at critical times for fruit protection.
- 10:00 AM-11:00 AM: Dr. Kaitlin (Katie) Gold, Cornell University
 - Dr. Gold's will present her extension talk on biopesticides and what they are, what can they do, what can't they do, etc. Her research of different biopesticides and how they can be incorporated into an Integrated Pest Management Program to aid in resistance management and sustainability of chemicals available. She will also explain how and why certain chemicals work on different pathogens.

- 11:00 AM-12:00 PM: Question & answer session
 - A guided discussion session to address
 - Tank mixing and compatibility of chemicals
 - Answer grower questions about their current and potential spray programs
 - Discussion on cost of current and potential spray programs

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 2023 season.

It is time to start thinking about our coffee pot meeting schedule for next year already!

This last growing season held some of our best attended coffee pot meetings, and we look forward to doing it again next year. If you are interested in hosting a coffee pot meeting at your farm, please let me know.



kjr45@cornell.edu or 716-792-2800 ext 201



2023 LERGP Winter Grape Grower Conference Series

It is that time of year again! And we are starting it off in December.

December 9, 2022- Virtual Event-"Spray Program- What's Your Plan?" 9:00am- Noon

February 9, 2023- Virtual Event-10:00am- Noon

March 16, 2023- In Person at SUNY Fredonia- 8:00am-4:00pm

<u>Register online</u> or with the form on next page.

LAKE ERIE REGIONAL GRAPE PROGRAM 2023 GRAPE GROWERS' Winter Series CONFERENCE REGISTRATION FORM

SUNY Fredonia Williams Center Thursday, March 16, 2023 Deadline for registration is Friday, March 10, 2023.

Name (1 st attendee)		\$
Farm Name		
Address, City, State, Zip Code		
Phone	E-mail	

Are you enrolled in Lake Erie Regional Grape Program (LERGP)? Yes_____No____

MEMBER	REGISTRATION FEES NON ME		EMBER
2 Virtual Sessions Only	\$25.00 (\$20.00 addl attendee)	2 Virtual Sessions Only	\$50.00
In Person Conf. Only	\$90.00 (\$60.00 addl attendee)	In Person Conf. Only	\$125.00
All 3 events	\$100.00 (\$75.00 addl attendee)	All 3 events	\$150.00

Additional Attendees:

*Please add a **\$25.00 late fee** for each reservation made after March 10, 2023

TOTAL \$_____

Please make check payable (US funds only) to LERGP (Lake Erie Regional Grape Program) and mail to: Kate Robinson LERGP 6592 W Main Rd Portland NY 14769

Date Ck. Rec'd	Amount

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

2022 weather and research review from the Penn State lab at North East PA

I'd like to start with a recap on the Lake Erie region weather for 2022, and then finish with a brief summary of our disease management trials, here at the North East PA lab. In October, we recorded about 146.2 growing degree days, with a rainfall total of 5.35", just a little cooler and drier than our long-term average. In contrast, the first 10 days of November have been unseasonably warm, with more than twice the heat accumulation of the first 10 days of October!...crazy.

Reflecting back on the 2022 season (May through September) every month was warmer than our long-term averages for those months. That's only happened one other time (in 2018) in at least the past 23 years that I've been in this business. We started out the season warmer and wetter than average in May (although not too extreme yet), followed by a June that was bone dry, followed by a hot, dry July. On the bright side, this made for an easy season for disease control around bloom and early fruit development...when the crop is most susceptible to all the major diseases. On the other hand, dry, hot weather favors insect development, in our case grape berry moth and leaf hoppers. In general, issues with powdery and downy mildew and black rot, were few and far between. Bad black rot years are years in which weather is wet in June AND July. 2022 had the driest June/July combination in 20 years. If you had a problem with black rot this year, it's because black rot has been building in your vineyard during previous years and you haven't made yourself aware of it. In our disease management trials, we could barely get black rot at all this season, even where mummies were 'planted' in unsprayed plots of susceptible grapes. If you had a problem with black rot this year, you need to be mindful of its presence in your vineyard (scout your vineyards next year!!) and keep it under tight control in 2023. That means you may have to begin to spray for it early, prebloom, and continue on a 10-14 day schedule at least through the second post bloom spray. This is especially critical if June AND July are wet next season. You don't have to spend a fortune controlling it. One of the most potent materials for black rot is tebuconazole, and its 'dirt cheap' (a 4 oz/A rate is currently under \$5). And lastly, keep in mind that sterol inhibitors like tebuconazole and mefentrifluconazole (the active ingredient in Cevya) have been shown to provide up to 5 days of post infection activity against this disease. We don't recommend using them that way, but that is a 'nuclear' option in cases where critical sprays were missed, infection periods (rain) disrupted timely spray intervals, and you already have a black rot problem brewing in your vineyard.

In late July and August, the rain 'switch' was flipped back on and we continued to have above average growing degree day accumulations (warmer and wetter than average). The extra water was a welcome change for parched juice grape vines and things were looking up going into the ripening period. After all, many juice grape growers were looking to ripen very large crops to make up for damage sustained in 2021 by late frosts in spring. Hot, dry weather earlier in summer encouraged the growth of populations of leaf hoppers, which presented another drag on the crop and wallet. Weather during the first 4 weeks of the ripening period were favorable enough for getting those large crops moved closer to the finish line, and canopies were generally looking good, 'firing on all cylinders', so to speak. After all, powdery mildew pressure was generally low this year and many growers were making good use of some of the newer, more effective fungicides for mildew, which will improve control of this disease belt-wide as more growers adopt the use of them (more on this below).

Weather conditions in the last third of September took a turn for the worse and persisted for weeks into October. At our location, we recorded 5.33" of rain during the final 12 days of September, and

growing degree day accumulations slowed to a crawl during the final week of September and then just died in early October. Heavily cropped vineyards struggled hard to accumulate that last bit of sugar needed to cross the finish line. Nevertheless, there was still hope during the first half of October, with a two week stretch of nearly bone-dry weather and the potential for rising sugar levels due to dessication. That was put on hold again on October 13, with the return of heavy, prolonged periods of rainfall. All in all, we recorded nearly 10" inches of rain from veraison through the middle of October, after which there is very limited potential for any further sugar accumulation. From veraison to the end of October, we had accumulated about 13.5 inches of rainfall...yowsa!

Next, I want to relate a brief summary of some of our research trials here at the North East lab.

2022 trials at the Lake Erie Regional Grape Research and Extension Center

Funding/support from the Lake Erie Regional Grape Program/New York Wine and Grape Foundation and chemical companies like BASF and Gowan, enabled us to set up Concord grape trials to examine a variety of fungicide programs for control of powdery mildew on clusters and leaves. We compared:

- Rotations of "older" to "newer" fungicides
- Fungicide spray intervals (10 day versus 14 day versus 18 day intervals)
- Fungicide program length (2 sprays versus 3 sprays versus 4 sprays versus 5 sprays)

Rotations of the "newer" materials (Endura (not a new product, but new to Concord grape growers), Cevya, Gatten) provided better control of powdery mildew on clusters and leaves than rotations of the "older" materials (Quintec, Vivando, Torino). We also observed that 10 and 14-day intervals result in better mildew control than 18-day intervals (shocking!). And finally, spray programs that extend out longer into the mid-summer period provide longer lasting control of mildew on leaves. Yes, this is stuff we've been preaching all along, but a closer look at how integration of the newer chemistries might affect our powdery mildew control decisions, regarding spray intervals and number of sprays needed, can provide us with new insights.

For example, in trial 1....

We compared rotational programs of new versus old fungicides, applied at immediate prebloom, and <u>1st and 2nd post bloom (3 applications)</u>. Each rotation was applied at 10, 14, and 18 day intervals for a total of six spray treatments.

Treatment program	10 day intervals	14 day intervals	18 day intervals
OLD: Quintec/Vivando/Torino	Х	Х	Х
NEW: Cevya/Gatten/Endura	Х	Х	Х

With respect to spray intervals/old vs new materials, we found little to no difference between the efficacy of old and new materials, for controlling powdery mildew on clusters, when both were applied at short, 10 day intervals. But, as intervals were stretched to 14 and 18 days, the difference in efficacy became more apparent; newer materials were more effective than older materials when applied at either the 14 or 18 day intervals.

Looking at this another way, we can say that spray interval was more critical for fruit/cluster protection when using the "older" fungicides. For example, when using a rotation of the "older" materials, significantly better control was achieved on clusters with 10 or 14-day spray intervals than with 18 day intervals. However, when using the newer materials, which are more effective, the 10 day spray interval program provided control nearly identical to the 18 day spray interval program. So, spray intervals may be less important, less critical, for achieving good powdery mildew control when using rotations of the newer fungicides than when using the older fungicides. But lets be clear; we are NOT advocating that you switch to 18 day intervals for your powdery mildew sprays around bloom if you use the newer fungicides. Rather, if you switch to using the newer materials, you will get the best control affordable (they don't appear to cost any more) and you will likely have more "forgiveness' in your spray program IF weather or other circumstances render you unable to get sprays on during the 10-14 day interval we've been 'preaching', especially if powdery mildew disease pressure is really high in your vineyard.

This finding was also generally true for mildew control on leaves. Again, we found little to no difference between the efficacy of old and new materials, when applied at short, 10 day intervals. But, as intervals were stretched to 18 days, the difference in efficacy became more apparent; newer materials were more effective than older materials. While few of us seems to question the importance of shorter intervals around bloom for fruit protection, many growers will stretch spray intervals to 21 days or more, later in the season for powdery mildew control on leaves. Our 2022 results indicate that this is NOT generally a good idea, especially if you're using the older fungicides.

Why did we observe this phenomenon? Well, it stands to reason that the more you stretch spray intervals in mid-summer, the more quickly you lose control of mildew on leaves, especially if using less effective materials and mildew pressure is high. This trial seems to reaffirm that the best policy is to stick to 14-day intervals, even when only targeting mildew on leaves in late July/early August. When you stretch intervals well beyond 14 days for leaf mildew control in mid-summer, you provide a larger window of opportunity for mildew to become established on leaves. This simply enables the pathogen population to increase more rapidly, increasing the concentration of spores floating around in the vineyard, increasing disease pressure, and increasing the "challenge" to your next spray. The best policy is still (and always has been) to keep grape tissues as CLEAN as you can, as long as you can (within reason \$\$\$), regardless of whether we're talking about fruit or leaves. A clean vineyard is a vineyard where pathogen inoculum levels are as low as possible and subsequent fungicide sprays are going to be most effective. Give the pathogen population an opportunity to increase (by stretching intervals) and your next spray becomes less effective, no matter what you apply; you're fighting higher pathogen population pressure and your canopies have become more compromised. This is especially unwise, if you're using modestly effective materials, like a tebuconazole product (or any old sterol inhibitor), a potassium salt/soluble fertilizer (like Harvest More, Nutri leaf, Nutrol), OSO/PH-D, Serenade, etc. If you're going to resort to these less effective materials for mildew control in mid-summer that offer little in the way of residual control, they work best when applied often. Stretching intervals of these modestly effective materials only renders them less effective than they already are. It's also a recipe for the development of resistance if you're using a resistance prone material.

How do these programs compare in cost?

NEW MATERIALS Cevya at 4 fl oz/A = \$21/A Endura at 4.5 oz/A = \$25/A Gatten at 6.4 fl oz/A = \$26/A Total: \$72/A

OLD MATERIALS

Quintec at 5 fl oz/A = \$17/A

Torino at 3.4 fl oz/A = 25/A

Vivando at 15.4 fl oz/A =\$31/A

Total: \$73/A

These prices are from my latest estimates and should at least be close; 2023 prices will likely be different...probably higher. So, there appears to be practically no difference between the price of the old and the new rotation. One word of caution regarding this trial: powdery mildew pressure was very light in this trial, that tended to result in uneven/aggregated disease pressure that confounded the statistical analysis. And though several observations could be gleaned from this trial, the uncertainties generated by the low and aggregated disease pressure, calls for a repeat of the trial in 2023.

What about the effects of the length of the spray program?

Here, we compared the interplay between the use of rotations of older versus newer fungicides AND the effects of 4 programs of different lengths:

- 1 prebloom + 1 postbloom spray
- 2 prebloom + 1 postbloom spray
- 1 prebloom + 3 postbloom sprays
- 1 prebloom + 4 postbloom sprays

<u>Results for control of Concord fruit/cluster infections:</u> In this second trial, powdery mildew was first observed on clusters around June 21, shortly after the end of bloom.

- There was no benefit to adding a powdery mildew material to the 8-12" shoot spray (1 prebloom + 1 postbloom versus 2 prebloom + 1 postbloom). Programs with one pre bloom powdery mildew spray (at immediate pre bloom) were no less effective on clusters as programs with two pre bloom powdery mildew sprays (8-12" shoots *plus* immediate prebloom). <u>A word of</u> <u>caution here:</u> this observation may only apply where powdery mildew has been controlled well or occurred at low pressure, in the previous year. In years where powdery mildew was allowed to blow out of control on leaves in late summer, an 8-12" shoot spray the following spring can be a good idea.
- Within each program, rotations of "newer" materials (Endura, Cevya, Gatten) provided superior powdery mildew control to rotations of "older" materials (Quintec, Vivando, Torino).

<u>Results for control of Concord leaf infections:</u> On leaves, powdery mildew was first observed around July 28 (about 5 weeks after first observations on clusters).

- Within each program, rotations of "newer" materials (Endura, Cevya, Gatten) provided superior powdery mildew control to rotations of "older" materials (Quintec, Vivando, Torino).
- Within programs of "older" or "newer" materials, control improved as more post bloom sprays were applied.
- Powdery mildew control was lost in all programs of older materials (1, 3, and 4 post bloom

sprays) by mid-September, whereas rotations of 3 and 4 post bloom sprays of newer materials continued to provide significant control of leaf infections until at least the fourth week in September.

 Three post bloom applications of the newer materials were equal to (at veraison AND the fourth week in September) or superior to (at 2 weeks after veraison), 4 post bloom applications of the older materials.

What we can take away from this is that the newer materials provide better mildew control and there may be little reason for use of the older materials in 2023, especially if prices are comparable. We also found that you may be able to get as good disease control with fewer sprays of the "newer" materials compared to using the "older" materials. To add to this, better mildew control can buy some "forgiveness" if you miss a spray or accidentally stretch a spray interval. It can also mean that better mildew control in 2022 or 2023, will likely lead to better mildew control in 2024 (or more "forgiveness for missing a spray and/or exceptionally bad weather at critical points in the season) and beyond... etc.

Overall, the most effective (and cost-effective?) powdery mildew program on clusters AND leaves in these Concord trials was: apply one pre bloom spray and 3 post bloom sprays of the "newer" powdery mildew materials, and keep intervals to 14 days.



Extension Programs

Kimberly Knappenberger, Viticulture Assistant, LERGP

VIP update

The Vineyard Improvement Program has been in effect for over 4 ½ years and was originally intended to wrap up on March 31, 2023. It was set in motion as a result of the Concord Grape Summit in April 2018 when it was proposed that the New York State Department of Agriculture and Markets would fund the removal of unwanted Concord vineyards in order to replant grape varieties or other agricultural crops. This \$1.35 million commitment by New York State which is funded by the Southern Tier Agricultural Industry Enhancement Program, aims to strengthen the grape industry by encouraging the elimination of abandoned Concord vineyards which are a reservoir of disease and insect pests, and establishing healthy agricultural crops, be it Concords, other grape varieties or another agricultural commodity.

This program is open to applicants in the Southern Tier Region of New York State which includes Allegany, Broome, Cattaraugus, Chautauqua, Chemung, Chenango, Delaware, Erie, Niagara, Steuben, Schuyler, Tompkins and Tioga counties.

During these past 4 ½ years there have been 37 applicants that represent Chautauqua, Steuben, Schuyler, Niagara, Erie, and Cattaraugus counties. 21 of these projects have been completed and the applicants reimbursed or are in the process of being reimbursed. These 21 projects account for almost 260 acres of Concord vineyard that have been removed. Replanted crops include Concord grapes, Aurore, Pinot Meunier, Cabernet Franc, Pinot Gris, Ives, Foch, Chambourcin, Itasca, Seyval, Vincent, and Gruner. There have also been many acres replanted to hayfields, cover crops, field crops, and pasture. The other 16 projects that are still in progress account for a little over 100 acres of Concord vineyard being removed. These projects are intended to be planted to Concord, high density apple orchard, various vinifera and table grape varieties, strawberries, rhubarb, asparagus, fruit and nut trees, vegetable crops, hayfield, field crops and pasture.

To date the applicants have been reimbursed a total of \$343,149.03. Funding is up to \$3,000 per acre which includes 50% of removal cost of Concord vineyard up to \$,1500 and 25% of replanting eligible crops up to \$1,500. Each eligible project can not exceed \$50,000.

We continue to accept applications for the program. Funding is still available for more projects moving forward. If you are interested and would like to learn more about it please contact Kim at <u>ksk76@</u> <u>cornell.edu</u> or 716-792-2800 ext 209. Or you can go to <u>lergp.com</u> and click on the big purple Vineyard Improvement Program button.

see photos next page.





Figure 1 Before

Figure 2 After - new Concord planting





Lake Erie Regional Grape Program Team Members:

Jennifer Phillips Russo, (jjr268@cornell.edu) Viticulture Extension Specialist, 716.792.2800 ext 204 Kevin Martin, (kmm52@psu.edu) Business Management Educator, 716. 792.2800 ext. 202

This publication may contain pesticide recommendations. Changes in pesticide regulations occur constantly, and human errors are still possible. Some materials mentioned may not be registered in all states, may no longer be available, and some uses may no longer be legal. Questions concerning the legality and/or registration status for pesticide use should be directed to the appropriate extension agent or state regulatory agency. Read the label before applying any pesticide. Cornell and Penn State Cooperative Extensions, and their employees, assume no liability for the effectiveness or results of any chemicals for pesticide usage. No endorsements of products are made or implied. Cornell University Cooperative Extension provides equal program and employment opportunities. Contact the Lake Erie Regional Grape Program if you have any special needs such as visual, hearing or mobility impairments. CCE does not endorse or recommend any specific product or service.

> THE LAKE ERIE REGIONAL GRAPE PROGRAM at CLEREL 6592 West Main Road Portland, NY 14769 716-792-2800