

**Cornell Cooperative Extension** Lake Erie Regional Grape Program



**PennState Extension** 





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

- 2020 Winter Grower Conference Agenda and registration form
- On-line Registration link: Register NOW!
- Price Trends for 2020: Fertilizer and Chemicals- Kevin Martin
- 2020 Winter Grower Conference Preview-Jennifer Russo
- New Hobo Station/ LERGP.com Resources- Kim Knappenberger
- Spray Program Strategies to Avoid Resistance-Bryan Hed



In this Issue: REGISTER NOW

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. 2020 Lake Erie Regional Grape Program Growers' Conference March 19, 2020 Williams Center SUNY at Fredonia Campus

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- 7:00 AM Tradeshow set up begins
- 7:30 AM Registration and Tradeshow open
- 8:20 AM Welcome
- 8:30 9:15 AM Labor Trends and How Will Those Trends Affect Grape Farms in our Region *Richard Stup, Agricultural Workforce Specialist, Cornell University*
- 9:15 9:45 AM Labor Cost in our Region Kevin Martin, LERGP, Penn State University
- 9:45 10:15 AM Grape Pest Talk Greg Loeb
- 10:15 10:45 AM Break
- 10:45 11:15 AM Spray Program Strategies to Avoid Resistance Bryan Hed, LERGP, Penn State University
- 11:15 11:45 AM Pesticides, 2 ee's and Spotted Lanternfly Andy Muza, LERGP, Penn State University
- 11:45 12:15 PM Fungal Pathogens Show Promise as IPM Spotted Lanternfly Management Strategies Eric Clifton, Department of Entomology, Cornell University
- 12:15 1:15 PM Lunch and Visit Tradeshow
- 1:15 1.45 PM Vineyard Weed Management Strategies Lynn Sosnoskie, Department of Horticulture, Cornell University
- 1:45 2:15 PMHyperspectral Sensors and Plant PathogensKaitlin Gold, Department of Plant Pathology, Cornell University
- 2:15 2:45 PM VitisGen2: New Technologies Accelerate Disease Resistant Cultivar Development Lance Cadle-Davidson, USDA, Cornell University
- 2:45 3:15 PM Cold Hardiness and Climate Change Jason Londo, USDA, Cornell University
- 3:15 4:00 PM Understanding Soil & Petiole Tests and Vine Nutrition Terry Bates, CLEREL, Cornell AgriTech, Cornell University
- 4:00 PM Adjourn

LAKE ERIE REGIONAL GRAPE PROGRAM 2020 GRAPE GROWERS' CONFERENCE REGISTRATION FORM SUNY Fredonia Williams Center Thursday, March 19, 2020 **REGISTER NOW** Deadline for registration is Friday, March 6, 2020. Name (1<sup>st</sup> attendee) \_\_\_\_\_ \$\_\_\_\_ Farm Name Address, City, State, Zip Code Phone E-mail Are you enrolled in Lake Erie Regional Grape Program (LERGP)? Yes No **REGISTRATION FEES** LERGP Member 1<sup>st</sup> attendee \$ 50.00 Additional attendee on same farm \$ 40.00 Non- member \$100.00 **Additional Attendees:** Ś \*Please add a \$25.00 late fee for each reservation made after March 6. 2020 \$ \$ \$ TOTAL \$\_\_\_\_\_ Ś Please make check payable to LERGP (Lake Erie Regional Grape Program) and mail to: Kate Robinson (US funds only) LERGP 6592 W Main Rd Portland NY 14769 NY DEC/PA PDA NUMBER\_\_\_\_\_ Name NY DEC/PA PDA NUMBER Name NY DEC/PA PDA NUMBER Name Date Ck. Rec'd Call Kate at 716-792-2800 ext 201 with any questions. Amount

## **Business Management**

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

## Price Trends for 2020: Fertilizer and Chemicals

The macroeconomic news for the past decade has been one of slow and steady growth in the US. This slow growth has been unusually persistent and has led to the longest expansion in U.S. history. Throughout the period of growth there has been uncertainty in some sectors. So far, those sectors find a way through with little to no impact on the broader economy.

## LOW INTEREST DEBT: BEST PRACTICES FOR GRAPE GROWERS

Long maturity debt is sustainable for acquiring new real estate.

Debt on equipment should not be financed for longer than 3 years, unless rates are subsidized.

Debt on crop should be minimal or utilized only to lower overall debt cost.

Commodity prices are quite low. Given the challenging year, many commodity producers expected prices to spike. Rallies in price failed to materialize and grain in storage is not commanding a premium. Total farm income in the US is projected at \$88 billion, down 30% from 2013. 40% of total farm income is related to trade and disaster assistance. Farm debt is approaching ½ trillion dollars. This record comes amid very low interest rates. The average length of loans is rapidly increasing. While it would be good if farmers could take advantage of low interest rates, this rapid increase in maturity indicates the debt is not sustainable for many farmers.

If you've followed agricultural business updates, you know where this is headed. Farm bankruptcy numbers remain very high. Nearly 600 bankruptcies represent a 20% increase. NY and PA represent 6% of those bankruptcies. Challenges in the milk market have been driving bankruptcies for a couple years. Growth in the problem is more complicated and probably relates to disasters, commodity prices and debt levels. Figure two makes it clear, regional patterns indicate that the problem is not



just milk. For the short-term. the news is fairly positive for grape growers. Agriculture commodity market issues have lowered demand for fertilizer and chemicals Prices in those sectors are mostly down. The market here is a bit complex, it depends on the exposure

these goods have to trade disputes and certain commodities. It also depends on how low those prices already were. General trends, however, point to lower costs and better materials for 2020 grape growers.

## Labor Outlook

Labor costs in the below \$20 per hour market has been rising by more than 5% per year. Higher paid workers, particularly with salaries and benefits have seen modest wage growth averaging between 2% and 3% over the past decade. Regulatory changes in the wage market have increased the cost of low cost labor, particularly farm labor by more than 20%.

Despite the close proximity to the P.A. border, studies indicate that (so far) these regulatory wage increases have not increased the cost of labor in any P.A. border counties. Anecdotal reports do indicate some modest increases in migrant work that crosses state lines. For the most part, particularly with hourly rates, there is a growing divergence between PA and NY labor costs. Early minimum wage hikes had no impact on labor costs. As we approach \$12.50 per hour the minimum wage easily bumped up market wages. That impacted both individuals making less than minimum wage and individuals making less than \$20 per hour.

For small growers, unemployment insurance will be a significant cost burden. The insurance typically costs between 4% and 10% of total payroll and does little to directly benefit current employees. Unlike other potential employer provided benefits it will do very little to alleviate upward pressure on price. Short-term disability is a new benefit that all farmers will have to provide. It may create logistical problems as employees will qualify for (insurance based) paid time off. This incentive may create staffing issues for farmers. The actual cost is minimal.

Other regulatory requirements and their associated costs will be discussed at the conference, so stay tuned. The big one that hasn't hit most growers yet, because of the seasonal nature of work, is over-time.



## Fertilizer Price Trends

Prices across the board for dry fertilizer are now down at least 10%. Savings per acre, assuming similar application rates, should be \$50 per acre or more. Minimal fertilizer programs should be reviewed to build soil fertility and health in this period of relatively low

prices. There is significant upside potential in these prices over the next 3 years. This is particularly true in the potassium market that will see a decline in production at these price levels. Higher prices are required to expand mining operations if commodity prices rise.

## **Fungicide Price Trends**

A fungicide program is complicated. The best strategy is to change things up every year. Forecasting actual prices for a budget is difficult because this variability in strategy should impact the level of investment made in the vineyards. This is very effective from the perspective of cost savings, resistance management and yield maximization. The least expensive chemicals cannot continually

Material	Rate	Unit	\$ Per Acre	Acres Per Unit
Captan 80WDG	1.25	lbs	5.8	24
EDBC	3	lbs	12.9	10
Endura	4.5	oz	26.8	23
EBDC	4	lbs	17.2	8
Vivando	10.3	oz	22.9	12
Abound	15	oz	23.1	9
Admire Pro	2.8	oz	1.9	46
Quintec	5	oz	17.9	6
Ziram	4	lbs	19.7	3
Altacor	2	oz	25.3	8
Copper	1	lbs	5.4	20
Intrepid	8	ΟZ	14.8	16

be relied upon and basically all highyield growers have figured that out. That being said, great chemicals like Admire Pro should not be ignored, just used sparingly. Profitability and business success require the grower to strike the right balance. I've attached an updated list of current chemical pricing. Growers should be using

nearly all the

chemicals on this list. Some, like EBDC should be used every year. Others like Ziram and Abound might be used in rotation or dependent on condition and location. In general, the prices of many expensive products (more than \$20 per acre) are lower than previous years. The price of some inexpensive products are higher. Exceptions to this trend do exist. For growers with high impact fungicide programs (more than \$175 per acre), prices this year will likely be less. For growers with low cost programs (less than \$100 per acre), prices will likely be more.

A few prices here may also be out of date. At this time of year sometimes there is price carry-over from last year. Endura, for example, is said to be significantly cheaper than last year. The price here is less, but prices going forward may continue to fall. That's great news for Concord growers. Having affordable new (to you) chemistries for powdery mildew control is always great for maximizing yield.

## **Future Outlook**

While this is all good news for 2020, the future is more complex. The driving factors that are keeping prices low are not as related to demand for grape juice. External factors like trade wars are part of the story. A shift away from corn syrup would certainly help the juice industry, as much as the health news has recently been a challenge, opportunities can be found. Chemical and fertilizer prices seem to be a bargain now and hopefully can impose moderate price increases over-time. If prices remain this low, I would expect volatility. When field crop commodity prices rise, there is a good chance volatility will give way to significantly higher prices. I can guarantee potash prices will double. It just remains to be seen if that will happen in 1 year, 5 years or 20 years. It's possible before that happens, prices will fall even more.

# Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

## The Lake Erie Regional Grape Program Winter Grower Conference

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

We have an excellent program lined up for the LERGP 2020 Grower Conference featuring experts from many fields. The grower advisory panel had many suggestions of important topics that they wanted information from. As always, the day will be full of information on the latest researchbased 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 being developed by Cornell and Penn State faculty and extension staff as well as other speakers from across the country, but many are also looking for those elusive pesticide recertification credits required by the NYS DEC and PDA. For those attending this year's conference on March 19<sup>th</sup> at Fredonia State University, you will not be disappointed.

### **How Many Credits?**

One of the questions that the LERGP extension team finds itself answering about the LERGP Growers' Conference is "how many credits are going to be available?" We have applied for NYS DEC and PDA pesticide recertification credits for the talks detailed below. We have been approved for 3.5 NYS DEC recertification credits and waiting on approval for PDA recertification credits. Check out the summary of the talks below and you will see that not only will you get recertification credits, but these talks provide you with the opportunity to get information that you need to become compliant with the changes in Labor Laws, as well as learn about the information and resources you need to sustain vineyard production.

### Labor Issues

A reliable and competitive labor workforce is one of the biggest challenges the agricultural community is recently facing, along with the 2020 changes in labor laws. Our opening speaker, Richard Stup, Ph.D., Agricultural Workforce Specialist for Cornell Cooperative Extension, will address these challenges. One of the main topics of discussion will be labor concerns and the future of the work force in regard to what the trends in labor are and how will those trends affect grape farms in our region.

Kevin Martin, LERGP, Penn State University, will follow with a discussion on current labor costs in our region.

### **Cultural Practice Tool**

The SCRI project was a multi-university and multi-state grant. The project aimed to bring precision viticulture to growers. Throughout the last four years our growers have had the opportunity to use 'loaner' NDVI sensors and DUAL EM soil sensors to start implementing this technology. Once the data was collected, Cornell Research and Extension staff completed digital mapping. With the maps, growers were given an unprecedented vantage point to visualize variation in their vineyards. The maps can be used for most all vineyard cultural practices, currently growers are relying on them to determine crop estimation, direct harvest sequence, and most of all, diagnose low producing areas of the vineyard block.

A collaborative effort between Cornell Research and Extension team members, and Orbitist is underway to bring a new viticultural tool for growers to visualize different data sets and digitally work with that data to enhance their management strategies. Nick Gunner from Orbitist will discuss how this tool will utilize grower information, 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.

#### **Disease and Insect Management and Invasive Species**

Through seven different presentations, multiple speakers will provide updates and information on pest management. Greg Loeb from Cornell University Department of Entomology will be presenting his ongoing research projects include vector-pathogen interactions (e.g. grape leafroll disease and mealybug and soft scale insect vectors, and sour rot in grapes and Drosophila. His overall goal is to understand the principal forces that influence species interactions involving plants, herbivores, natural enemies and more recently microbes with the specific applied goal of developing novel approaches to pest management with a focus on grapes.

Bryan Hed, Penn State Lake Erie Regional Grape Research & Extension Center, has been with the Lake Erie Grape Program for nearly 20 years. Bryan will discuss some of the latest research and share information in grape disease management with tips for managing fungicide resistance.

Andy Muza, will be talking about pesticides and 2ee's for vineyard management. Also, Spotted Lanternfly is a serious invasive species with current infestations in Southeast Pennsylvania, Virginia and Delaware. Andy will present on the history, basic biology, impact and management of this pest.

Eric Clifton, Department of Entomology, Cornell University will present *Fungal Pathogens Show Promise as IPM Spotted Lanternfly Management Strategies.* Spotted Lanternfly is a serious invasive species with current infestations in Southeast Pennsylvania, Virginia and Delaware. While Tree of Heaven is its preferred host, grapes have been found to be the preferred crop for this pest. Eric will present his research on use of native fungal pathogens as SLF management strategies.

Lynn Sosnoskie recently joined the Department of Horticulture, Cornell University. Her presentation on *Vineyard Weed Management Strategies* will look at some of the hard to control weeds commonly found in Lake Erie Region vineyards as well as some options to controlling them. Lynn's presentation will explore the use of integrated weed management strategies to help growers reduce the risk of resistance development to the herbicides currently used in the industry. Any tips on controlling these weeds would be a vital tool for the toolbox.

Kaitlin Gold recently joined the Department of Plant Pathology, Cornell University. Katie will discuss *Hyperspectral systems for pre-symptomatic agricultural disease detection in Grape IPM*, highlighting some of the tools and approaches for Grape IPM. Katie will talk about the latest hardware and software for remote imaging with future application to digital agriculture and grape production. Research developed through the VitisGen2: *New Technologies Accelerate Disease Resistant Cultivar Development* will be presented by Lance Cadle-Davidson, USDA, Cornell University. Lance will talk about how VitisGen2 project identifies and address threats from diseases and insect pests. The program's development of novel methods to improve resistance to these pests and diseases and improve production efficiency and profitability long term throughout the table grape, raisin, and wine industry.

### **Cold Hardiness and Climate Change**

Jason Londo, USDA Research Geneticist, Cornell University will talk about his research on bud dormancy and cold hardiness, which are critical adaptations for surviving winter cold stress for temperate perennial plant species, with shifting temperature-based responses during the winter. This information can be used to refine models predicting effects of climate change on dormancy and cold hardiness in grapevine.

## **Understanding Soil & Petiole Tests and Vine Nutrition**

Terry Bates, CLEREL Director, Cornell AgriTech, Cornell University, will talk about reading and understanding your soil and petiole tests and how they reflect vine nutrition. Terry's innate ability to break down scientific information into useful chunks that can frame your understanding of complex scientific interactions and how they can work for you and your operations will be front and center. This information will guide your nutritional strategies and inform your decision making.

## We hope to see you at the conference!



## Call to Action!!!

We will have a table set up at the 2020 Winter Growers Conference on March 19, 2020 to give attendees the opportunity to express their concerns and support to hire a grape IPM specialist to fill Tim Weigle's position. There is a void in the services that Tim provided to our region, with no immediate plan to fill it. It is IMPERATIVE that the decision makers hear from all of you. Please stop by the table and we will send all of the letters written that day together in one formidable package.

Your support and immediate action are required to ensure the grape integrated pest management position housed in the Lake Erie Grape Region continues into the future. To address this need, letters of support from our grower stakeholders are necessary to convey the importance of the work that Tim Weigle provided to our industry and the impacts, or success stories, that have improved your operations.

As of November 4, 2019, the industry lost critical support at Cornell University in grape pest management because of the retirement of our resident IPM specialist, Tim Weigle. In his 30-year career as NYSIPM 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 rootworm, Japanese beetle, and grape berry moth. Tim had 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.

It is our understanding that the grape IPM position will not be immediately refilled by the NYS IPM and the future of the position is uncertain due to funding constraints. Furthermore, alternate proposals are being considered because **Cornell is not hearing from our industry.** This is our opportunity to let our voices be heard and state the importance of Tim's position in our region or it may go away. The Lake Erie AVA is the largest and most productive grape region in the eastern US, and we need programs to support and grow this vital economic engine.

IF YOU believe there is a critical and obvious need to support farm-level grape integrated pest management in western NY and Erie County, PA. As of November 4, 2019, the Grape IPM Specialist position has been vacant. Having a physical presence of IPM in our region has assisted in adoption of IPM practices and sustainability of our industry. A grape IPM specialist on the Lake Erie team will ensure that research and extension efforts will immediately address our current needs in IPM, invasive species, and address the continual need to modify spray programs to maintain pest control. What would happen to your operations if the following bullet points were to go away?

This position has been an integral part of the four-member, two-state, five-county Lake Erie Regional Grape Program since its inception in 1992. This vacancy leaves a hole in our industry and we need support to immediately address our current needs in:

- Integrated pest management
- Pesticide recommendations
- updating NY and PA Pest Management Guidelines for Grapes
- pesticide credits at Coffee Pot meetings
- invasive species education
- contact to address the continual need to modify spray programs to maintain pest control
- updating grape berry moth and disease models on NEWA

If you agree, it is imperative that you contact the decision makers now and let them know that our industry needs IPM support in the Lake Erie Grape Region and to request additional funding support for Ag IPM. Stop by the table and we can assist you in the letter writing and send all of them to each of the decision makers.

The following points from NYS IPM to express their support of the position:

#### Grape IPM Impacts & Needs across NYS

Tim Weigle – grape IPM educator has retired and lack of sufficient funding means the NYS IPM Program can't refill this position. *We stand to lose grape IPM effort in New York State!* Attaining the means to refill the grape IPM educator position will support our growers' ability to practice IPM: to protect their crops, their livelihood, and our environment. Integrated pest management, IPM, is <u>the</u> way to grow grapes — sustainably with minimal impact on the environment.

Thirty years ago, industry leaders in the Lake Erie region worked with Assembly Member William Parment to garner funding to create a grape IPM position to address the need for pest management research and extension. The NYS IPM Program embraced the grape IPM position and, for 30 years, Tim did excellent, outcome-based work in the Lake Erie region and all across New York State in collaboration with grape growers and colleagues at Cornell University, and Pennsylvania State University. Over those 30 years, the grape IPM educator helped bring in millions of additional dollars in grant funding to support IPM research and extension, which benefitted our grape industries.

#### Grape IPM impacts and why they are important for our future

**Grape berry moth** control was relying on four or five sprays. Tim got sprays down to one or none with Cornell IPM knowhow. Crops were still clean and juice delicious.

With 58 bills in the legislature that deal with pesticides, they need to know that *IPM is the solution to pesticide reduction.* 

**Spotted lanternfly** threatens to invade our state and, in Pennsylvania, it has killed vineyards by sucking vines dry. But vineyard IPM can save our vines.

♦ We need a grape IPM educator in NY who can advise our growers on *IPM to protect their vines from invasive species.* 

**IPM forecasts** inform growers when their crops are at risk — or not — reducing extra sprays. Grape IPM forecasts address the five main threats to vineyard health.

We need a grape IPM educator to keep these up-to-date and develop new ones so growers can *protect their crops with a minimum of pesticide input.* 

**Current weather conditions** detected by sensors inform IPM forecasts. Tim doubled Lake Erie weather stations to 44, sending IPM forecasts to growers at <u>newa.cornell.edu</u>.

♦ Let's continue to grow a tech-savvy grape industry to *utilize the latest in digital IPM tools to keep vineyards healthy.* 

**TracGrape software** helps growers keep spray records and generate reports so workers stay safe and processors know their juices and wines are of the highest quality.

More sophisticated IPM tools are evolving and we'll need more workshops to educate vineyard managers on the latest IPM technologies.

**Reaching over 1500 people yearly** — growers, processors, fruit workers — via educational meetings, workshops, webinars, talks, podcasts, YouTube, newsletters, etc.

Education is the goal of extension. We need a grape IPM educator delivering information on the latest advances in IPM to achieve sustainable vineyards.

In 2018, grape listening sessions conducted across all grape-growing regions of the state identified IPM as the top priority need. Our industry needs alternate strategies for dealing with historical and emerging IPM issues that threaten vine health and crop yield — grape rootworm, sour rot, climate change. The wine grape industry needs IPM solutions to reduce reliance on pesticides, since these varieties are more susceptible than juice grapes. Overall, our grape industry benefits from the transfer of Cornell research knowledge into practical solutions for all grape pests (insects, diseases, weeds, birds). A grape IPM educator will teach growers about IPM practices to protect their crops with a minimum of pesticide inputs. They will advance grape IPM research. This educator will help the NYS industry meet the increasing demand for sustainable practices on the part of the grower, the processor, and the marketer. The grape IPM educator is pivotal to maintaining sustainable vineyards in New York State.

Let people know how important the grape IPM educator position is to you and your farm business. Help the NYS IPM Program garner funding to sustain grape IPM excellence. Below are suggested contacts:

Your local Legislators and Assembly Members

Richard Ball Commissioner, NYS Department of Agriculture and Markets 10B Airline Drive Albany, NY 12235 <u>Commissioner@agriculture.ny.gov</u>

Kathryn J. Boor Dean, College of Agriculture and Life Sciences at Cornell University 260 Roberts Hall Ithaca, NY 14853 <u>calsdean@cornell.edu</u>

Christopher Watkins Director, Cornell Cooperative Extension 366 Roberts Hall Ithaca, NY 14853 <u>chris.watkins@cornell.edu</u>

Jennifer Grant Director, New York State IPM Program 607 West North St., Geneva, NY 14456 jag7@cornell.edu

#### Andy Goodell -- District 150

Fenton Building 2 E. 2nd Street, Suite 320 Jamestown, NY 14701 716-664-7773 LOB 446 Albany, NY 12248 518-455-4511 goodella@nyassembly.gov

NYS Senator George Borrello Borrello@nysenate.gov

DISTRICT OFFICE 700 W. State Street Westgate Plaza Olean, NY 14760 Phone: 716-372-4901 Fax: 716-372-5740

ALBANY OFFICE 188 State Street, Legislative Office Building Room 706 Albany, NY 12247 Phone: 518-455-3563 Fax: 518-426-6905

SATELLITE OFFICE 2-6 E. Second Street Fenton Building, Suite 302 Jamestown, NY 14701 Phone: 716-664-4603 Fax: 716-664-2430





## Vineyard Improvement Program

Kimberly Knappenberger, Viticulture Assistant, LERGP

## New Weather Station at CLEREL

It doesn't look like much yet, but it will! In early February we got a delivery from Onset Computer Company for a brand new, NEWA compatible, HOBO station. This station will be configured to produce a batch of weather data similar to the Rainwise stations that most of you are familiar with. The sensors included in the station are: temperature and relative humidity, wind speed and direction, rain gauge, solar radiation, and leaf wetness. In addition this station will have the capacity to measure soil moisture and temperature.

We are planning to keep both the Rainwise and HOBO stations operating at CLEREL. In this way we will be familiar with both types of stations and be able to help growers with any questions that arise.



HOBO station in pieces awaiting construction. *photo- Kim Knappenberger* 

The station should be operational once we get a decent day for set-up. More information will come later and possibly a podcast to introduce you to what HOBO has to offer.

## Resources on **LERGP.COM**

Many of you already know and are aware of the resources available to you on our website at lergp. com, but there are a few recent additions.

As always, when you access the website the first things you will see are the purple buttons to take you to the podcasts, Vineyard Improvement Program details, and Events page. If you continue to scroll down you can find an area labeled Key Stats Today. This section is updated most days Monday – Friday and represents the total from the previous day. For example, in the picture below you can see that the date is 2/9/2020. This represents the Growing Degree Days as of February 9, 2020 as well as the precipitation to date. Below that is the 35 year average precipitation for that day. This number is from data collected at the lab in Portland for the past 35 years and serves as a way to compare what the year looks like to this point. A picture and description of the current stage of phenology is below that.

The most recent addition comes next. With the new ability to test bud hardiness at our lab, we are able to report the findings on our website. Here you can see the Lethal Temperature for 10%, 50% and 90% of buds tested for Concord, Niagara, Riesling and Traminette. Also you can click the link below that chart to view data for recent and historical data from around our state on the Cornell CALS Viticulture and Enology website.

Feel free to look around at all of the information on this website. We hope it will be a useful tool for you. If you have any comments or suggestions please feel free to send them by way of the Contact button located at the top and bottom of the page.



#### Key Stats Today:

#### **BUD HARDINESS**

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. We can measure this critical temperature through a procedure called differential thermal analysis, which involves controlled freezing of a sample of buds collected from vineyards. With funding from the New York Wine and Grape Foundation and the Kaplan fund, we are monitoring bud hardiness in four key varieties: Riesling, Cabernet Franc, Concord, and Cayuga White. We monitor samples from Geneva weekly from November to March, and every two weeks for samples from Finger Lakes and Lake Erie vineyards between mid-winter and March.

#### Lake Erie (Monitoring from 1/28/2020)

DATE	LOCATION	VARIETY	LT10	LT50	LT90	<b>BUD MORTALITY %</b>
1/28/2020	Portland	Concord	-6.0	-10.0	-14.8	
		Niagara	-7.7	-11.4	-15.0	
		Riesling	-6.2	-8.9	-10.2	
		Traminette	-5.0	-10.5	-12.8	

## PA Update

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

## **Spray Program Strategies to Avoid Resistance**

**I)** Resistance management strategies to preserve the efficacy of our fungicides. We will review i) our list of fungicides available to us, ii) the FRAC code system on labels and iii) general resistance delaying strategies to keep our arsenal of chemical tools as robust as possible. Strategies will include:

1. Scouting ("what's going on in my vineyard? is my program working...or not?")

2. Apply IPM/cultural control (to reduce reliance on fungicides)

3. Avoid consecutive applications/no more than two applications/season of each high or moderate risk FRAC code (minimize the number of times a pathogen population is 'challenged' to develop resistance)

4. Rotate in and out of as many different FRAC codes as possible throughout the season/apply tank mixes (minimize the opportunities for resistant pathogen populations to increase)

5. Keep diseases well under control/avoid playing catch-up (minimize the size of the pathogen population you are 'challenging', minimize the size of the resistant population)

6. Use full rates, maximize coverage (to maximize your 'kill').

7. Etc.

Fungicide use restrictions do not generally apply to copper, sulfur, mancozeb, captan, and ziram fungicides, which are at much less risk for the development of resistance.

Gavel	22
Phosphorus acid products: Prophyt, Phostrol, Fosphite, Rampart, Reveille, etc.	33
Quintec	13
Ranman	21
Revus,	40,
Revus Top	40+3
Ridomil Gold/MZ, Ridomil Gold/Copper	4
Sterol inhibitors: Rally, Elite, Orius, Rhyme, Mettle, Tebuzol, Tebustar, Inspire Super,	
Revus Top, Aprovia Top, Luna Experience, Topguard EQ, Viticure, Trionic, Procure,	
etc	3
Strobilurins: Flint/Flint Extra, Sovran, Abound, Azaka, Quadris, Quadris Top,	
Pristine, Reason, Luna Sensation, Dexter Max, Topguard EQ, Intuity	11
Succinate dehydrogenase inhibitors: Luna Experience, Luna Sensation, Aprovia,	
Aprovia Top, Pristine, Endura, Miravis Prime	7
Torino	U6
Vivando, Prolivo	U8
Zampro	40+45

Here is a list of our 'at risk' fungicides, arranged by chemical class/product and FRAC codes

#### II) Trials to help with combating powdery mildew resistance

1) Add a *succinate dehydrogenase inhibitor* to your spray program.

In a simple trial we conducted on Concord last year, we compared several powdery mildew materials for efficacy on fruit around bloom: Quintec and Vivando (which we typically recommend for fruit protection

around bloom) were compared to Endura and Luna Experience (fungicides containing succinate dehydrogenase inhibitors or SDHIs). Luna Experience and Endura outperformed two rates of Vivando (10.3 and 15.4 fl oz/A), while Luna also outperformed Quintec. If you've not used any of the SDHIs and have been dissatisfied with mildew control lately, try an SDHI fungicide around bloom (Endura for juice varieties, Aprovia/Aprovia Top, Luna Experience/Sensation for wine varieties). The newer SDHIs (Luna, Aprovia) are likely to be *pricey*, but the older product, Endura, looks to be coming down in price significantly (just under \$20/A, depending on supplier), making it more appealing to Concord and Niagara growers, who have likely never applied this chemistry to their acreage before. The best position (best "single shot" bang for your buck) for a single application of one of these SDHI materials would be at "first post bloom" spray, when fruit are most susceptible.

#### 2) <u>Use of Harvest More Urea Mate</u>

In 2017, we started a three-year trial (Concord) to examine the integration of Harvest More Urea Mate (HMUM) into disease management programs for <u>powdery mildew control</u>, as well as effects on brix, yield, and grapevine nutritional status. Applications were made every 12-14 days, starting at 3-6" shoots, then 10-12" shoots, immediately before bloom, followed by 2 post bloom sprays (5 sprays total). There were 4 treatments: an unsprayed check, Harvest More Urea Mate alone (HMUM at 5 lbs/A), a standard rotational program (SRP) of conventional fungicides (rotations of Quintec, Vivando, and Tebustar), and a tank mix combination of HMUM x SRP.

Over 3 years, the average reductions in powdery mildew on fruit were 28.5% (HMUM), 50% (SRP), and 61% (HMUM x SRP). On leaves in August and September, reductions in mildew were 34.6 and 11.2% (HMUM), 73 and 30% (SRP), and 69.3 and 44.9% (HMUM x SRP), respectively. However, the apparent boost in control of powdery mildew with the addition of HMUM to the SRP (over the SRP alone), was not generally significant.

**The takeaway:** HMUM is not a fungicide but can enhance the efficacy of a Standard Rotational Program of conventional fungicides for powdery mildew control. When tank mixed with standard synthetic fungicides, its mode of action is generally thought to provide a measure of protection against resistance development by the powdery mildew fungus. However, within the 3-year trial, there are *still no clear beneficial effects* on yield, brix, or vine size associated with the addition of HMUM to a Concord spray program.

#### III) New fungicide for grape disease management:

Lastly, let me introduce Cevya, a new sterol inhibitor (same FRAC class as tebuconazole, tetraconazole, difenoconazole, flutriafol, etc) that appears to be good to excellent on powdery mildew. However, its black rot activity has not been firmly defined. \*\*\*There is a caveat: the label states that it **cannot be applied to** *Labrusca* **and** *Labrusca* **hybrids**, so it is currently only for you *Vitis vinifera* growers. Not yet available for NY growers.



swnyteam@cornell.edu

## Cornell Cooperative Extension

Southwest NY Dairy, Livestock and Field Crops Program

swnydlfc.cce.cornell.edu

A partnership between Cornell University and the CCE Associations in these five counties: Allegany, Cattaraugus, Chautauqua, Erie, and Steuben.

## CORE Pesticide Training & NYSDEC Exam

## \*Pre-Exam Training and Test to Become a Certified Pesticide Applicator\*

## CORE PESTICIDE TRAININGS

#### - PRE-REGISTER 3 DAYS PRIOR TO DESIRED EVENT -

**Register by calling:** Kelly Bourne at 585-268-7644 ext. 10 or email at klb288@cornell.edu or sign up online at: <u>https://swnydlfc.cce.cornell.edu/events.php</u>

For event information contact: Josh Putman, Field Crops Specialist, at 716-490-5572 or jap473@cornell.edu.

Workshop cost: \$20/person Checks payable to: SWNYDLFC Pay by card through online registration.

Please plan to bring your own lunch as it will NOT be provided.

Training classes will be held on:

#### Thursday, March 26, 2020 from 8:30AM - 12PM

CCE-Chautauqua @ JCC-Carnahan Center 241 James Avenue Jamestown, NY 14702

#### Thursday, April 2, 2020 from 8:30AM - 12PM

CCE-Steuben 20 East Morris Street Bath, NY 14810

#### THE CERTIFICATION EXAM

Will be administered following each training from 1PM-4PM by **DEC** to qualified applicants.

#### Fee for the exam is \$100.

Checks or money orders payable to **NYSDEC** the day of the exam.

To register for the exam, or for exam related questions, please contact:

Rob Freese (Jamestown event) at 716-851-7275 or Chris Wainwright (Bath event) at 607-622-8264.

#### You MUST pre-register for the exam!

All participants will need to have the most recent CORE manual and applicable category manuals.

\*\*CORE and category training manuals are available through the Cornell Store by calling (800) 624-4080 or visiting: <u>http://store.cornell.edu/c-876-manuals.aspx</u>

## 3.0 Pesticide recertification credits in the CORE category have been applied for.

Participants looking to receive their applicators license must have experience working on their own farm, or through employment on another farm. **Participants must register directly with DEC to take the exam!** 

If you have any questions on exam eligibility they will be answered by DEC representatives.

#### This training DOES NOT qualify for the 30 hour pre-test commercial training.

The SWNY Dairy, Livestock & Fields Crops Program offers educational programming and research based information to agricultural producers, growers, and agribusinesses. Cornell Cooperative Extension is an employer and education recognized for valuing AA/EEO, Protected Veterans, and Individual with Disabilities and provides equal program and employment opportunities. For accommodations, please contact Josh Putman 716-490-5572 or jap473@cornell.edu at least one week prior to the event.



#### Pales Pales

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