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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.







The Only FRAC Group U6 Fungicide

Labeled for Grapes & Cucurbits Highly Effective on Powdery Mildew No Cross-Resistance Protectant / Preventative Action



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# **Business Management**

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

### **Required Professional Development for Employees**

#### Worker Protection Training

The worker protection standard was modified back in 2015 and enforcement efforts continue to expand as the details of the rules have been worked out. Among many new requirements is one that mandates training of all employees. Employees must be trained either as handlers or as agricultural workers. Training for handlers is slightly more involved. Showing videos annually is one good way to meet the training requirement. Owners or managers should watch the videos with employees as some questions cannot be answered with videos alone. Safety equipment, central posting, SDS sheets are all records that need to be maintained and accessible to employees. Employees need to know where this information and equipment is located. Training also needs to be completed in a language that is understood by the employee.

The following links are two of many approved videos to assist vineyard owners in meeting WPS requirements. Growers should keep records and signatures of workers that attend showings of these videos. Please note that some versions of WPS trainings require handlers to watch one video, usually about an hour long. The PSU version was edited differently. The video is shorter and requires handlers to watch both videos.

Approved video for Handlers: (English) Approved video for Handlers (Spanish)

Approved video for workers: (English) Approved video for workers: (Spanish)

#### Work Agreements

Federal and state agreements are required for Agricultural workers. NYS requires additional information be included in work agreements and that they are updated more frequently. State and Federal labor agencies offer templates that partially fufill the requirement. Work agreements should be written in a language the employee can understand and terms of employment should also be covered in the on-boarding training.

### NYS: Sexual Harassment Training

NYS requires sexual harassment training for all employees as well. The employer is required to have a sexual harassment prevention policy. Training videos can assist in training if the employer adopts the model policy and model complaint form. All employees must be trained in an interactive way. That means a supervisor or owner must ask employees questions about the training, allow employees to ask questions or require feedback from employees about the training and materials. Questions should address industry specific issues, reporting processes and hypothetical sexual harassment case handling. Model policies, complaint forms and training videos can all be found <u>here:</u>

While WPS requires immediate training, sexual harassment training needs to be completed annually and within a reasonable time after the start date.

#### Minimum Wage and Pay

Wages continue to rise for low wage workers earning between minimum wage and \$20 per hour. Low unemployment, immigration rates and generational retirement is creating pressure on wages everywhere. Discussions about increasing federal minimum wage are being debated but won't impact Pennsylvania before 2020.

NYS has increased minimum wage to \$11.10 per hour, rising to \$11.80 and then \$12.50 at the end of 2019 and 2020 respectively. In addition to that, NYS is considering proposals to apply unemployment, workers' compensation and overtime pay to all farm workers. For growers not already subject to UC and WC, this adds about 7% - 15% to the cost of labor per hour. Overtime is being debated in Albany and how it is defined, when it applies, and the ability of growers to prevent overtime hours will make it difficult to know the actual cost of overtime legislation.







# **INSURING GRAPES**

NY. 2019

Crop insurance is a safety net for farmers that helps you manage risk. If you have a crop failure, crop insurance can help you farm again next year.

#### **Important Insurance Deadlines**

- Aug. 15, 2018: Premium Billing Date
- Nov. 20, 2018: Sales Closing, Policy Change, Cancellation, Termination Date
- Nov. 20, 2019: End of Insurance Period
  - Jan. 15, 2019: Acreage / Production Report Date

#### Over 40 grape varieties are insurable in these counties:

Cattaraugus Chautauqua Erie Niagara Ontario Schuyler Seneca



#### **NYS Grape Crop Insurance**



crop insurance premiums from 2012 to 2016, they received \$2.07 in losses

#### Learn more & sign up:

Learn more about crop insurance options available to New York producers at <u>agriskmanagement.cornell.edu</u> To sign up, contact a crop insurance agent. Find an agent using the Agent Locator tool at rma.usda.gov/en/Information-Tools/Agent-Locator-Page

Cornell University delivers crop insurance education in New York State in partnership with the USDA Risk Management Agency. Diversity and Inclusion are a part of Cornell University's heritage. We are an employer and educator recognized for valuing AA/EEO. Protected Veterans, and Individuals with Disabilities.



# IPM

#### Tim Weigle, NYSIPM, Cornell University, LERGP Team Leader

# Intrepid 2F receives Special Local Needs Label for Grape Berry Moth in New York

Grape growers in New York will now have an extra tool in their toolbox when it comes to grape berry moth management in vineyards thanks to a Special Local Needs label. Intrepid 2F, active ingredient Methoxyfenozide, has been used effectively in other grape growing regions in the United States for a number of years now. Unfortunately for growers on Long Island, this SLN label does not include use in Nassau or Suffolk Counties.

According to the New York and Pennsylvania Pest Management Guidelines for Grapes; Intrepid 2F is an insect growth regulator that interferes with larval development. It appears to be most effective when appliced at the start of egg-laying rather than at egg-hatch. Hence, Intrepid 2F should be applied somewhat earlier than broad-spectrum materials. Intrepid has been shown to have long residual (several weeks). Latron B-1956 spreader/sticker is recommended to maximize coverage. To assist in timing of Intrepid 2F sprays, use the grape berry moth phenology-based degree day model found on the <u>NEWA website</u>.

Some things to keep in mind when using Intrepid 2F in New York with the Special Local Needs Label;

- Use of Intrepid 2F is subject to all use precautions and limitations imposed by the label affixed to the container for Intrepid 2F
- The SLN label must be in possession of the user at the time of application.
- You should refer to the Intrepid 2F label for General Use Precautions, Mixing and Application Instructions
- Intrepid 2F is a restricted use pesticide

A copy of the approved SLN label is posted to the <u>NYSDEC's product registration website</u>. Enter Intrepid 2F in the "Product name" search box to locate the SLN.

As seen in the snapshot of the SLN label on the next page, application rates vary depending on timing. At the full label rate of 8 - 16 fluid ounces per acre (a limit of 48 ounces total per acre per year) there is a 30 day preharvest interval. To reduce the preharvest interval to 21 days, a reduced rate of 8 - 12 fluid ounces per acre should be used.

And a special thanks to Mark Amidon of National Grape Cooperative who led the effort in getting this material available for grape growers in New York.

If you have questions on how to incorporate Intrepid 2F into your grape berry moth management strategy please give me a call at 716.792.2800 or email me at <u>thw4@cornell.edu</u>

#### Application Rates, Application Timing and Restrictions:

Application Rate (fl oz/acre)	Application Timing	Restrictions
8 - 16 (0.12 – 0.25 lb ai/acre)	For internal feeding lepidoptera larvae, apply at initiation of egg hatch for each generation. Reapply within 10 to 18 days to ensure complete coverage of rapidly expanding fruits or foliage.	<ul> <li>Preharvest Interval: Do not apply within 30 days of harvest.</li> <li>Do not apply more than 16 fl oz per acre per application or more than a total of 48 fl oz of Intrepid 2F (0.75 lb ai) per acre per year.</li> </ul>

Please follow the	use directions below	for a reduced PHI	for Grape to 21 days

Application Rate (fl oz/acre)	Application Timing	Restrictions
8 - 12 (0.12 – 0.19 lb ai/acre)	For internal feeding lepidoptera larvae, apply at initiation of egg hatch for each generation.	<ul> <li>Preharvest Interval: Do not apply within 21 days of harvest.</li> <li>Do not apply more than 12 fl oz per acre per application or more than a total of 48 fl oz of Intrepid 2F (0.75 lb ai) per acre per year.</li> <li>Do not make more than 4 applications per season.</li> <li>Do not reapply less than 21 days apart</li> </ul>



# Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

### I Have a Map, Now What?

Spoiler Alert! The Concord marketplace has not changed much in the last couple decades – profits are attenuated by stable crop prices as input costs continue to increase.

Growers have had to become resourceful and figure out techniques to remain productive in our pressing agricultural market. There may, or may not, be practices of crop blending to achieve certain thresholds during harvest that is time consuming and sometimes loads are turned away for not meeting standards. This is where I will restate that Dr. Terry Bates' *Efficient Vineyard* project seeks to increase profitability by way of reducing input costs, and **improve ripening** and **crop production** uniformity across vineyards.

We have our **FREE** Loaner Sensor Program that can help guide management decisions to **MEASURE** variation in your vineyards, **MODEL** that variation on data-driven maps, that guide informed **MANAGE**ment decisions. So, I know that you have heard much about this research and many of you have scanned your vineyards and received a map.





**Now what?** In the very simplest sense, these maps direct growers to "problem areas", perhaps to focus management for tasks such as vine renewal or more intensive nutrient or pruning management, or, conversely, to not spend as much time focusing on an area that is performing well. Growers know where their problem spots are, but sometimes the eye cannot pick-up the extent of the issue where the maps can direct you to zones of variation. Larger problem areas mean less actual production acreage, which means less income for the grower. The sooner the grower acts to manage these areas, the sooner they will see an increase in net returns.

Take a look at Map 1, this may look familiar to you, you may have received a similar one. This is a normalized difference vegetation index (NDVI) map of one of our blocks at CLEREL. We scanned when our shoots were two to four inches to **MEASURE** growth variation in that block; the variation is **MODELED**, or color coded on the map, where blue is most photosynthetic (shoots and leaves) and the red is the least. This information guided us to go to the different management zones, note the stars, and validate at the stars the number of shoot counts present at that location.

From that information we then constructed Map 2, which is a shoot count map. Looking at the maps side by side, you can see that the areas match up. The blue color on the NDVI map (Map 1), had the most shoot counts when we went out and counted, see that blue on the shoot count map (Map 2) measured greater than 95 shoots, and the red zones had the least, less than 65 shoots. Now for the **MANAGE** part, because our Map 1 was created by scanning, each point on that map is georeferenced. That means that there is a GPS position for each point. We can now take our prescription map and tell our Ag Leader monitor what we want it to do, in this case it was shoot thinning for vine balance. The language our Ag Leader software uses is gallon per acre, but we did some fancy smoke-and-mirror work and tricked the monitor to really perform strikes per linear foot. The tractor drives and the machine knows what GPS point it is at and what zone it is in, then it applies the variable shoot thinning rate per **MANAGE**ment zone.

The information that you can derive from the maps range from guiding you to different zones to handsample for more efficient crop yield estimation taking into account that some parts of your vineyard may outperform others, data-driven management zones for shoot or fruit thinning where vines are overcropped, to guiding fertilizer applications putting more inputs on lower producing vines and less on high performing areas.

Some of our growers have adopted this technology and have harvested a more uniform crop throughout the years of the research project. Crop estimates were off 15-20 % of actual harvest before adoption and with precision mapping, they've been less than 5% off for four years and less than 2% off for two years.

Signup today to make an appointment to use the loaner sensors, and then let's sit down and look at your maps together to discuss possible management strategies to balance your vineyards. Use the research that was inspired by you to **Farm Smarter**, **Not Harder**.

On a cultural practice note, now is the time to start fertilizer applications! Our vines need fertilizer two weeks before bloom and up to four weeks after to boost their nutrition and optimize production. Look for more information in next month's Newsletter!

# PA Update Andy Muza, LERGP Extension Educator, Penn State University

### In the Vineyard (5-30-19)

Concord shoot growth just south of Rt.5 (in North East, PA.) ranged from  $5^{\circ}$  – 12<sup>°</sup>, from W. Middle Road to Sidehill Road shoot growth ranged between  $5^{\circ}$  – 16<sup>°</sup>, and south of I-90 shoot growth ranged between  $7^{\circ}$  – 17<sup>°</sup>.

<u>Phomopsis</u> – Lesions are now visible on basal leaves. Leaf lesions are visible as small brown-black spots surrounded by a yellow margin (Figure 1). Although leaf infections are not of concern in further spread of the disease they can serve as indicators of the presence/extent of this disease in the vineyard. However, it is important that rachises and pedicels (berry stems) are protected until Phomopsis spores are depleted (i.e., about peasized berry stage).

<u>Black Rot</u> – Vineyard blocks that had black rot problems last season should receive a protectant fungicide application when new shoots are about 10" – 12" long. At this time, a mancozeb application is suggested since this is



Figure 1. Phomopsis leaf lesions on Concord leaf. Photo- Andy Muza

the most effective and economical broad-spectrum protectant fungicide against black rot, Phomopsis and downy mildew.

<u>Powdery Mildew</u> – In a Riesling vineyard (south of Rt. 20) shoot growth ranged between 5" – 12". Do not delay sprays for powdery mildew beyond this stage in blocks with *Vitis vinifera* or highly susceptible hybrid varieties.

<u>Insects</u> – Insects that were observed in vineyards this week included: grape plume moth (Figure 2), adult grape leafhoppers and a nymph of the plant bug *Lygocoris inconspicuous*. For information



concerning these insects consult the <u>2019</u> <u>New York and Pennsylvania Pest Management</u> <u>Guidelines for Grapes</u>.

Figure 2. Grape plume moth larva. Photo- Andy Muza

# PA Update

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

**Weather:** After a relatively wet April (almost 6 inches of rain in some places), May has been dry across the Lake Erie grape belt. The first two weeks of the month were somewhat average, but the water just shut off to a trickle for nearly two weeks after that. The dry spell was broken on Tuesday when a half to three quarters of an inch of rain fell in some places along the belt, but some places still have had little or no rainfall over the past two weeks. Here at our site along the lake, we have accumulated 2.73" of rainfall so far in May, well below our 20-year average of about 3.8". We have accumulated about 203 growing degree days (gdds) in May and will likely finish the month on the cool side of average (dry and cool...weird). We've accumulated 257 gdds as of April 1 (again, cooler than average). For North East PA, there is rain in the short-term forecast for today (May 30) and Saturday (June 1). High temperatures over the next few days will remain a little below average, so I suspect vine development will plod along a bit slower than average in the lead up to bloom.

Phenology: Concord shoots at our site have reached about 4-5 leaves per shoot.

**Diseases:** We are right at the point in grapevine development when downy mildew should be added to our list of disease control concerns. Our vines here by the lake are not quite at the 5-6 leaf stage (the trigger for downy mildew), but vines farther inland are going to be farther along. Get out in the vineyard and assess your general growth stage and your history of downy mildew to size up the situation in each of your blocks, particularly if you're growing susceptible varieties. Also, check out the NEWA station nearest your location to see if you've had a downy mildew infection period IF you're at, or past that 5-6 leaf stage. If you're not sure if you should be concerned about downy at this time, an application of a mancozeb product for black rot and Phomopsis should also cover you for downy mildew anyway.

According to NEWA, we have racked up more black rot and Phomopsis infection periods in places that received some rainfall over the 28-29 of May. Infections of black rot on Concord and Niagara at this time are likely to leave leaf lesions in the fruit zone (on leaves 3-6) that will lead to fruit infections during bloom and early berry development. To detect these in your vineyard, scout your vineyards just before that immediate pre-bloom spray period. During these latest infection periods, leaves at nodes one and two are nearing full expansion and are therefore less likely to show lesion development, whereas leaves at nodes 3-5 are still expanding, and if infected during the rainy periods earlier this week, will show the typical tan lesions of black rot during the second week in June. Phomopsis infections at this time are less likely to affect the basal-most nodes and internodes, but could still leave lesions on nodes farther out and on cluster stems that lead to losses from fruit rot later during ripening. Conditions for another powdery mildew primary infection period (0.1" rain and above 50 degrees) were also met on May 28 as well. For these reasons, it's important to continue to protect shoot growth at that 8-12" stage.

We are also nearing that stage when Eutypa becomes very noticeable as stunted, chlorotic shoots along a section or an arm of a vine. Managing this disease involves pruning out of affected branches, making sure to prune several (6-8) inches back from wood cankers, to make sure you've removed all diseased wood.

### The Respirator Fit Test Process

Jim Harvey, Office of Rural Health, Penn State

It's been over three years since the EPA released the revised Worker Protection Standard (WPS) and all aspects of that revision are in effect and are being inspected for now. Probably the area that has created the most confusion is the respirator fit test. The only Handlers that must go through this are those Handlers working with pesticides requiring a respirator as part of the required personal protective equipment. This requirement also includes owner handlers – no family exemption here! The respirator fit test is a three part process. The first part is getting a medical evaluation done. This can be done at a local occupational safety and health department which is often affiliated with a hospital. The medical evaluation can also be done online through a number of providers. In some cases the evaluation might raise a red flag that might require an actual physical. Once the evaluation or physical is passed be sure to keep the release documentation for at least two years and longer if the release is longer.

The second part of the process is the actual fit test and it must be completed every year as long as the Handler is using pesticide products requiring a respirator. This can be done at an occupational safety and health department or it can be done on the farm using a fit test kit from a safety supplier such as Gemplers or Grainger. No special training or certification is required for the fit test kit testers. The kits come with easy to read instructions. Be sure to document the test and keep that documentation at least two years.

The third step in the fit test process is the respirator training. This is an annual training as long as handlers are using pesticides requiring a respirator. It involves seven basic topics such as how often should canisters & filters be changed out, how to clean your respirator and how to deal with a respirator emergency and other essential respirator issues. Owner-handlers must self- train. Document the training and keep the documentation for at least two years.

Growers that want more details or sample documentation forms can get those from me (e-mail - jdh18@psu.edu or call at 814-863-8656). I will also be speaking at the Coffee Pot meeting at North East Fruit Growers, 2297 Klomp Road, North East, PA on June 5<sup>th</sup>

# If any Erie County, PA growers want me to visit your farm June 4 – 6, to go over the WPS regulation in general or the respirator fit test process with you, then contact me as soon as possible to schedule an appointment.

I will also have my loose fitting powered air purifying respirator (PAPR) with me if anyone wants to try it out. Loose fitting PAPRs will exempt handlers from the actual fit test but <u>NOT</u> the medical evaluation or respirator training. See you in June.

# Research

#### Variable Rate Shoot Thinning Demo in the Finger Lakes By Heather Barrett, Program/Extension Aide

The Efficient Vineyard Project entered its fourth and final year with a mission to demonstrate variable rate shoot thinning. The short window of time that shoot thinning can be done had the EV team flying across the country to work in California vineyards, thinning in the vineyards at CLEREL and finishing up in the Finger Lakes to bring the variable rate technology to growers' front door steps. Last Friday was our latest demonstration and the first of the season to take place in New York State.

Stever Hill Vineyards in Branchport, New York kindly hosted a variable rate shoot thinning demonstration in one of their Concord blocks. Two technicians from



the Efficient Vineyard Project and Dr. Terry Bates had been out previously, on Wednesday, to scan for shoot density and soil electrical conductivity, then returned on Friday for the shoot thinning demonstration. Using the two sets of data, the team's GIS specialist was able to create a prescription map indicating which portions of the vineyard needed to have more shoots removed than others areas, with the overall goal being to increase vine health.



Variable rate shoot thinning can be implemented by controlling the hydraulics powering the paddles. This enables the necessary speed control to reduce or increase paddle speed, potentially leading to a more uniform vine size across the vineyard block. Shoot thinning is a method for yield control in wine varieties while it is used to control the canopy in juice varieties like Concord. The practice of shoot thinning is a new one to the Northeast sector of grape growers but is gaining in popularity as a way to increase control of vine health.

Although shoot thinning demonstrations are finished

for this growing season, videos of past demonstrations can be found on <u>efficientvineyard.com/</u> <u>podcasts</u>. Also available on the website are blogs discussing prices and savings associated with mechanization, upcoming events, and a list of equipment used by the Efficient Vineyard Project.

### Vineyard Improvement Program

Just a reminder that if you are considering taking advantage of the Vineyard Improvement Program you need to start with going to our <u>website</u> to learn more and apply for the program. We are required to do a site visit before removal begins so it can be confirmed that it is in fact a Concord vineyard.

Once the application is completed, we will set up a site visit. After that is complete you have 1 year to finish removal of the vineyard. Replants have an additional 2 years to be completed. Once that is done we will come and do another site visit to confirm that all of the work has been completed.

During the process any invoices accumulated should be sent to Kim to be included in your file. At the end of the process you will be reimbursed for the work done: 50% of removal costs up to \$1,500 per acre, and 25% of replant costs up to \$1,500 per acre for a total max per acre of \$3,000. There is a maximum reimbursement of \$50,000 for individual submitted projects.

If you have more questions about how this program can work for you, please feel free to call or email Kim at <u>ksk76@cornell.edu</u> or 716-792-2800 extension 209.



Abandoned vineyard

### **Grape Canopy Management Seminar**

New York State Wine Grape Growers will be hosting a half day seminar on grape canopy management and grape vine trunk disease featuring Dr. Richard Smart, the Flying Vine Doctor, on Monday June 3, 2019. The event will be held at Hazlitt 1852 Vineyards, 5712 Route 414, Hector, NY, from 1 to 5 PM. The seminar will be free to members of New York State Wine Grape Growers and their employees. The cost will be \$30 each for non-member. Those who are not members will be encouraged to join NYSWGG at a reduced half year rate of \$40. We ask that anyone planning to attend make reservations to <a href="https://www.nyswgg@gmail.com">nyswgg@gmail.com</a> to ensure we have space for everyone.

Dr. Smart has studied and lectured on grape growing all around the world, including in the Finger Lakes, where he did studies for his Doctorate under Dr. Nelson Shaulis at Cornell. His book, "Sunlight Into Wine", has been heralded for many years as the ultimate guide to canopy management for optimum yield and wine quality, and has been used by growers worldwide to increase their bottom line.

A wine and cheese reception will be held after the seminar for all who attend. We ask those attending to bring along a favorite bottle of wine to share. Cheese and snacks will be provided, and Women for New York State Wine will provide their services for the reception.

#### Thank you to our event sponsors:

- Chris King, Sawtooth Vineyard Management and Consulting
- Nutrien Ag Solutions
- Helena Agri-Enterprises

### For additional information, contact Jim Bedient 315-521-1057



# LERGP 2019 COFFEE POT MEETING SCHEDULE

Location

## Date Time May 1, 2019 10:00am May 8, 2019 10:00am May 15, 2019 10:00am May 22, 2019 10:00am May 29, 2019 10:00am June 5, 2019 10:00am June 12, 2019 10:00am June 19, 2019 10:00am June 26, 2019 July 3, 2019 10:00am July 10, 2019 10:00am July 17, 2019 10:00am July 24, 2019 10:00am July 31, 2019 10:00am

John Mason Farm Sprague Farms Paul Bencal Arrowhead Winery Militello Farm Supply North East Fruit Growers Thompson Ag - Corner of H Kirk Hutchinson NO COFFEE POT Betts Farm Jim Vetter

Brian Chess

Tom Tower Farm

# 8603 West Lake Rd. Lake City PA 16423 12435 Versailles Rd. Irving NY 14081 2645 Albright Rd. Ransomville NY 14131

**Address** 

12073 East Main Rd. North East PA 16428

2929 Route 39 Forestville NY 14062

owers 2297 Klomp Rd. North East PA 16428

Thompson Ag - Corner of Hanover & Dennison Silver Creek NY 14136

4720 West Main St. Fredonia NY 14063

7366 East Route 20 Westfield NY 14787 12566 Versailles Rd. Irving NY 14081 11480 E. Main St. North East PA 16428 10289 West Main Rd. Ripley NY 14775 759 Lockport St. Youngstown NY 14174