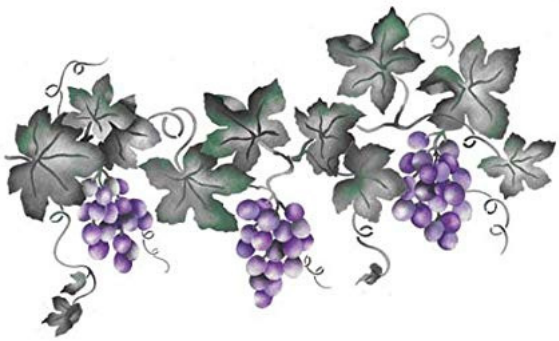
Cornell University
Cooperative Extension

Lake Erie Regional Grape Program

PennState Extension

Crop Update March 21, 2019



In this Crop Update:
*Update to the Vineyard Improvement Program
*Efficient Vineyard
*Pesticide Class information

Upcoming dates of interest:

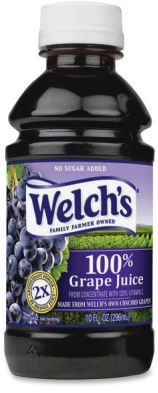
Core Pesticide Credit Training- 9:00am- 2:30pm-CLEREL, April 11, 2019
Register here: Core Pesticide Training Registration

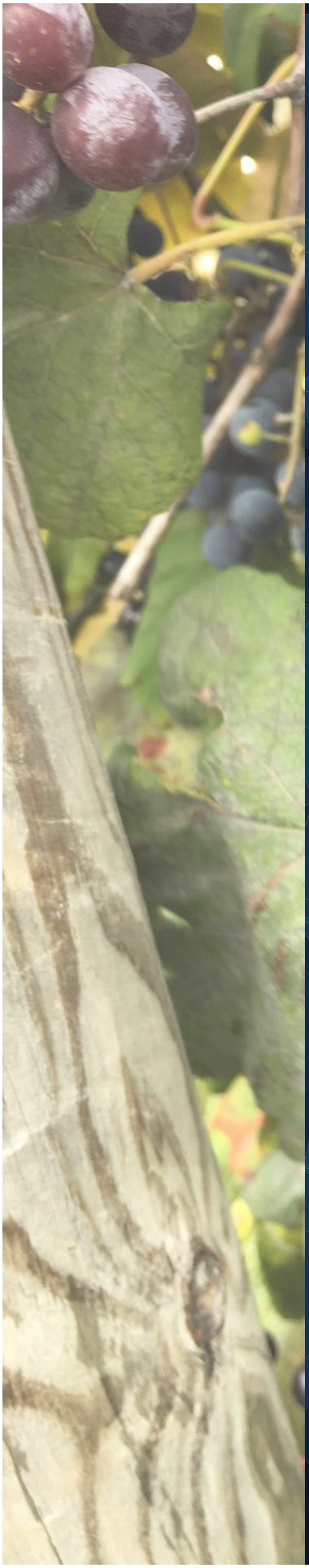
DEC Pesticide Applicator License Test- CLEREL, April 11, 2019
contact the DEC-(716) 851-7220

Thank you!

Thank you to everyone who attended the LERGP Winter Grape Grower Conference on Wednesday, March 13, 2019. It is because of the continued suppport shown by our growers and the vendors that come to exhibit that we have had another successful conference.
Now off to a successful growing season!

A special thank you to National Grape Cooperative for donating the Welch's individual serving juices for our morning beverage.





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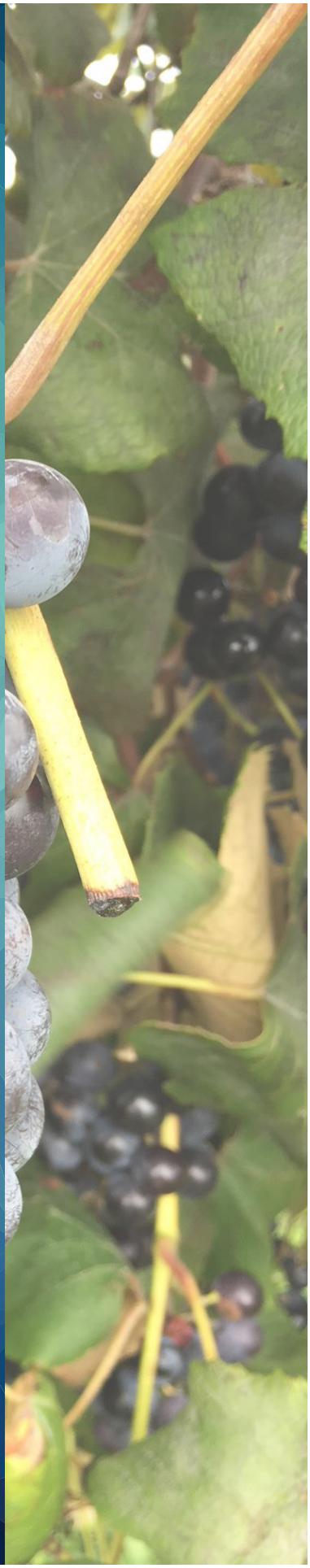


Business Management

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

Reduce Cost of 3” Spray

Just a reminder from last year that Captan is still labeled for use in grapes and can be used on Concord in pre-bloom. The efficacy of the product has been well researched and its use in a prebloom spray rotation is as much a question of business and economics as it is disease management.

One thing to keep in mind is that Captan provides significantly weaker results than EBDC when it comes to protection of black rot. Black rot is not a serious issue in Concords when proper spray intervals and materials are used. For this reason, the cost savings of Captan is not worth the risk in the immediate pre-bloom spray. It may also not be an ideal material for 10” spray.

The material does provide excellent control of phomopsis cane and leaf spot. Growers are often reluctant to invest in a 3” spray. If a material that is even less expensive than EBDC provides motivation, this would be a real opportunity to reduce phomopsis pressure. A low rate of Captan will cost the grower approximately $4-$5 per acre in materials. There have been some growers that have issues with sprayer compatibility and sourcing the product. If you don’t have experience with the product it will be helpful to talk to growers with similar equipment and pre-order product.

On the materials side, this will lower the cost of pre-bloom spray materials to $25-$30 for control of phomopsis, black rot and downy mildew. Control of powdery mildew should introduce variability in cost. A number of different materials are available and should be used in rotation. The number of applications should be based on disease pressure. In vineyards with higher bud counts, particularly mechanized vineyards, I view this program as a basic starting point for high yield and quality.

Farms less than 150 acres often save mostly fuel and materials. The primary goal of full and complete coverage in the in the first 30 days is to reduce material cost or improve yield/quality. Reducing passes through the vineyard, while tempting, does not significantly increase efficiency in most cases.

Update to the Vineyard Improvement Program: up to $3,000 per acre!

Kim Knappenberger, LERGP, VIP

The Lake Erie Regional Grape Program is providing leadership in the implementation of the Concord Vineyard Improvement Program, a cooperative project through the New York State Department of Agriculture and Markets with funding through the Southern Tier Agricultural Industry Enhancement Program. Late last week we got a clarification to how the funds are to be applied. It is still a matching grant that offers reimbursement of 50% of expenses to remove unwanted Concord vineyards and 25% of expenses to replant that acreage back to an agricultural commodity (vines or trees - the replant money does not reimburse seed cost). The change comes in the total reimbursement allowed per acre. Previously it could not exceed $1,500 per acre for both removal and replant. Now the cap is set at $3,000 per acre: $1,500 for removal plus $1,500 for replant. The total reimbursement for each project still cannot exceed $50,000.

If you have an unwanted/abandoned Concord vineyard, or know someone who has one, go to lergp.com and click on the Vineyard Improvement Program button on the home page. It will give you more information and when you have all the answers you need, you can apply online. If you have additional questions, please contact us at the lab.

Kevin Martin 716-792-2800 ext 202, Jennifer Russo ext 204, Kim Knappenberger ext 209

Vineyard with poor drainage

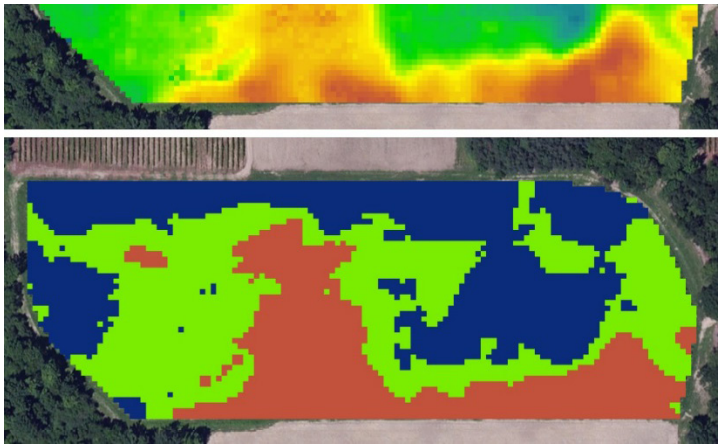
Precision Vineyard Management: Collecting and Interpreting Spatial Data for Variable Vineyard Management-

Heather Barrett, NYS IPM Program, Cornell University

Commercial vineyard blocks, in general, are managed uniformly because producers lack the tools and technology to measure and respond to variation in environmental resources, vine growth, and crop production. With increasing pressure on land, water, and labor resources, it is imperative for the U.S. viticulture industry to develop and adopt new management strategies to improve overall production efficiency. The goal of the USDA/NIFA SCRI project, Efficient Vineyard, is to deliver an innovative, science-driven, and approachable precision viticulture platform to measure and manage sources of vineyard variation.

The Efficient Vineyard Project evaluates commercial off-the-shelf sensors and develops new sensors to spatially measure vineyard soil, canopy, and crop characteristics. Spatial sensor data is collected, processed, and validated against manual measurements in the field. In this way, mobile sensors are used to create high-resolution spatial maps of soil properties, canopy growth, grapevine yield components, fruit color, final grape yield, and harvest juice soluble solids in both research and commercial vineyards. These sensors facilitate comprehensive mapping in juice, wine and table grape vineyards.

A rapid and nondestructive yield prediction technique is being developed by Carnegie Mellon University where grape berries can be detected on-the-go in a variety of conditions by using all three visual cues for grape berries (color, shape, and texture). This technique is still a work in progress and requires more research to determine if it is a good alternative to destructive harvest. This imaging system by CMU, along with robust algorithms that have been developed over the past 4 years, is being used to not only detect berries, but also to measure canopy size, berry size and color, crop size and even bud and shoot counts in order to predict crop size. The imaging system also has the potential to apply variable rate technology such as shoot thinning. More information can be found at bloomfield.ai.



Understanding where the variation exists within a vineyard can help ensure that they remain economically sustainable. Over the last four years, researchers have tested various soil, canopy and crop sensors used to collect layers of data in both research and commercial vineyards. These layers can be compared and analyzed to determine if the vineyard would benefit from implementing a variable rate management plan. Traditionally, vineyards are operated under a uniform management plan where the entire block was treated with the same amount of fertilizer or pruned the same regardless of vine health or crop potential. Efficient Vineyard technology can be used to support

management on a sub-block level through the creation of management zones which allow growers to implement production practices specific to the needs of a particular zone.

To create a map of potential management classifications, individual data layers are combined to identify regions that may justify differential management. The development of a prescription map is the transition from modelling to managing. These maps contain the digital instructions that guide variable-rate equipment in the field. This makes it possible to apply the right amount of fertilizer or to thin the right number of shoots or fruit to create a more productive vineyard.

With the decrease in the quantity and quality of vineyard labor, more vineyards are turning toward vineyard mechanization for crop load management, such as mechanical pruning, shoot thinning, and fruit thinning. In 2018, five commercial vineyards in the Lake Erie region were used to test either variable rate shoot or fruit thinning. Spatial data were collected, mapped, validated, and converted into management classifications. A management decision (either desired shoot number or cropping level) was made for each zone by the cooperating grower. A spatial prescription map was generated, which controlled the farm implements through integration with a field computer, liquid flow controller, and variable hydraulic valve. In separate mechanical shoot thinning and fruit thinning experiments, variable rate applications have demonstrated improved crop load balance across a vineyard. The result of this trial suggests that by removing shoots or fruit and bringing the vines more into balance allows the vine to produce a better quality crop (increased Brix) while also allowing the vine to retain what it needs to get through the dormant season (pruning weight) and produce a good return crop the following year.

Efficientvineyard.com is the place to find all things related to this project. For growers or researchers interested in getting in contact with the Efficient Vineyard team, you can contact us through the Contact page on the website with a brief message and your email address. Or stop by CLEREL or give us a call and we would be happy to speak with you about the project.

PA Update

Andy Muza, Extension Educator, Penn State

Need Pennsylvania Pesticide Recertification credits by March 31, 2019?

Pennsylvania growers trying to acquire Pesticide Recertification credits before their license expires have a few upcoming opportunities (listed below) to obtain Core and/or Category credits before the end of March.

Grape Disease and Insect Management Workshop

Thursday, March 28
Description: The grape disease and insect management workshop will review the major disease and insect problems for Pennsylvania grape growers and provide recommendations on management practices from faculty and Extension educators. The program will also address the recent changes to the EPA worker protection standard regulations.

PDA recertification credits: Available pending approval.
Fee: To be determined.
Time: 8 AM – 12:30 AM

Location: The event will be live broadcast via Zoom at the Lake Erie Regional Grape Research & Ext. Center, 662 North Cemetery Rd, North East, PA 16428.
Registration: To be determined. Call Erie County Extension at (814) 825-0900 for more information. **NOTE:** Registration limited to 10 participants.