LERGP Crop Update November 10, 2016







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Tuesday, March 14, 2017- Annual Winter Grape Grower Conference

Wednesday, March 15, 2017- Shaulis Symposium

March seems like a long time from now, but it will be here before we know it!

We will be having our Winter Grower Conference on Tuesday, March 14th, followed the very next day(Wednesday, March 15) by a one day Shaulis Symposium. This Symposium will consist of topics addressing Vineyard Efficiency, such as; Precision Viticulture, Variable Rate Management, and Mechanization. We also hope to tie the two meetings together with dinners on both Tuesday amd Wednesday evenings. These events are in the early planning stages, more information will become available as plans are confirmed.

Business Management

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

Evaluating Impact of Project on Profitability

It has been about a year since we discussed Net Present Value (NPV) in the crop update. For a financial or business analyst, NPV is a key benchmark as standard as pruning weight or yield per acre. As winter frost sets in, some growers find themselves completing financial analysis of an investment; others tear into a diesel engine. Both represent value added skills, above and beyond the requirements of all growers. Both skills lead to a competitive advantage. Hiring others to complete these tasks, relative to other tasks, is rather expensive.

As grape prices present challenges, it's important to differentiate your business model and to add value with skills and information. If you're thinking about making an investment that is more than 10% of your gross income, calculating your NPV (or paying a fee based financial advisor) should be step one. As a third alternative, you can always call your regional specialist.

- Why do you think the strategy will increase net income?
- Positive net income: What year does the project yield net income? How much? Do you expect net income to grow more significantly than inflation in some or all years?
- Net Present Value of the project
- NPV = $\sum \{ \text{Net Period Cash Flow}/(1+R)^T \}$ Initial Investment
- In Excel: Column A is the date. Column B is the Year number. Column C is the net income for that particular year. Cell C1 is the discount rate. Column E contains both
- the formula as well as the Net present value of this hypothetical project.

One important variable is the length of time required to recoup an investment. In no instance should an analysis exceed the useful life of the investment. In many cases,

14	A	B	C	D	E	F
1	Discount Rate		5%			
2	2016	1	-50000	NPV =	\$101,808.72	
3	2017	2	-50000	Formula	"=NPV(C1,C2:C21)"	
4	2018	3	0			
5	2019	4	20000			
6	2020	5	20000			
7	2021	6	20000			
8	2022	7	20000			
9	2023	8	20000			
10	2024	9	20000			
11	2025	10	20000			
12	2026	11	20000			
13	2027	12	20000			
14	2028	13	20000			
15	2029	14	20000			
16	2030	15	20000			
17	2031	16	20000			
18	2032	17	20000			
19	2033	18	20000			
20	2034	19	20000			
21	2035	20	20000			

where market conditions are unfavorable, even that length of time is too long. For most growers, delaying investment in tractors will offer necessary flexibility to bridge the gap. Innovative machine purchases that reduce the number of tractors required for the operation will likely result in a relatively high NPV.

A detailed analysis of capital and large expenditures might seem like boring homework. It might also seem like a foreign language. However, harvest this year was large and prices will remain lower than average. Making it through a price trough of any length is going to require smart planning.

Cultural Practices Luke Haggerty, Viticulture Extension Associate, Lake Erie Regional Grape Program

Soil Tests: Replenishing What You Have Removed

Over the past couple weeks Kate has been busy boxing up soil samples and shipping them off to Cornell. Post-harvest seems to be a popular time for soil tests. Although, there is never a bad time to test your soil, I think after spending many hours in the field over harvest, there are a few things fresh in your memory. Weak areas that were showing foliar symptoms, heavy cropped spots might need a little extra 'potash', or sometimes we're



trying to remember the last time we did a soil test. Whatever the reason, there are a few things to keep in mind.

Potassium: For every ton of grapes harvested we remove around 5 pounds of potassium. We replace potassium with potash which contains 52% potassium. So if you picked 10 tons per acre you need 100 pounds of potash to replace what was removed. However, if your soils were low to start with you would obviously need more. Potassium is very immobile in the soil so when it's applied it does not leach like nitrogen does. Most of the soil tests I see have over the recommended amount of potassium (150-200 of K per acre), in some cases three to four times the recommended amount and could take a potash break for a couple years. You don't know unless you test your soil.

pH: The recommended pH in Concords is between 5.5 and 5.8. Although Concords can tolerate a low pH (4.5-5.0) they are much more productive at 5.5. Nutrient availability in low pH soils are relatively low. Meaning they bond to nutrients tightly and are less available for roots to access them. We commonly use 'lime' to adjust pH. Lime contains mostly calcium with some magnesium. However, when we increase the pH from 4.5 to 5.5 many of the bond nutrients are now more available. If your soils have a low pH a lime application will give you the biggest bang for your buck.

Soil tests can be taken any time of the year. However, samples need to be collected when the soil is semi dry (not fully saturated). How often to take soil samples depends on fertilizer program, yields, and the results from the previous test. I work with many growers that have a portion of their vineyards soils tested every year. Sites that have had nutrient levels in acceptable ranges, average yields and aggressive fertilizer program should have their soils tested every two to three years. Vineyards that have pH and or nutrient problems should have soils tested every year until acceptable levels are reached. If you have to stop and think when the last time your vineyard was tested it's time to bring a sample to the lab (5 years is a long time between tests).

Turnaround time has been less than 10 days and I usually complete recommendations a couple days after the results are returned. Soil tests help determine what nutrients are available in your soils and guide decisions on which and amount of nutrients you need to apply back to your soils. The procedure for submitting soil samples is as follows.

- Check a soil survey map to get an idea of how many samples are needed for good representation of your vineyard blocks.
 - If needed, Rhiann or Kim our GIS specialists can print soil survey maps of your property here at the extension lab.
- For surface samples dig a hole 8 inches deep and collect ~1.5 cups of soil. (most common)
- For sub-surface samples dig a hole from 8 to 24 inches deep and collect ~1.5 cups of soil.
- Let soil samples dry and place them in labeled plastic or paper bag.
 - Label should include location and soil type for example, Route 5 vineyard block
 3; Chenango Gravely Loam.
- Bring soil samples to 6592 West Main Road Portland, NY 14769.

The cost of a soil sample is \$17 per sample, \$15 if you are submitting 5 or more samples. We have been getting results back within seven to ten days after submission. Upon receiving results we **provide a consult and detailed nutrient recommendations** over the phone, email, at your location, or here at the extension lab. If you have questions about taking a soil sample please get ahold of me. Call me at (716) 792-2800 or email me at <u>llh85@cornell.edu</u>

IPM

Tim Weigle, NYSIPM, Cornell University, LERGP Team Leader

Why was my vineyard floor blue?

A question the extension team has been hearing frequently is "Why were there so many grapes on the ground this year at harvest?" Some of the culprits that have been mentioned have been Phomopsis fruit infections, grape berry moth and powdery mildew. Another answer is the berries just got to the point where they were ready to come off the vine. The answer to this question is going to vary from vineyard to vineyard as well as from area to area within vineyards. To get the answer to what happened in a specific vineyard block will take some detective work. Combine all the information you have to get a handle on what you can do next year to limit the recurrence of the problem.

Some questions to ask;

- Does the vineyard have a history of **grape berry moth damage**? While we did not see severe levels of grape berry moth during the July and August, we did see grape berry moth egg-laying continue into the harvest period. Document areas where grape berry moth damage is suspected and give it special attention next year either through additional scouting and insecticide applications (if scouting shows them necessary) or by scheduling those areas to be among the first to be harvested.
- Were rachis infections of **powdery mildew** present? We did see more powdery mildew rachis infections this year than we had expected and there have been reports of crop loss due to these infections. If you did not scout your vineyards to determine the level of disease after bloom, at least look at your spray records to determine if the appropriate timing, intervals and materials were used.
- Were there infection periods for Phomopsis during the critical prebloom to immediate post bloom period? Phomopsis fruit infections occur at, or shortly after, the bloom period and then remain latent in the berry until just before harvest as the fruit matures. The berries then turn a light-brown color, small black dots (pycnidia) appear on the surface and the berry shrivels (these late season infections can be easily mistaken for black rot). We had a very dry year this year so I would look at the level of overwintering inoculum for diseases as well as the frequency of infection periods for those diseases. A great tool to help determine if weather conditions favored Phomopsis fruit infections is the grape infection events log found on the Network for Environment and Weather Applications (NEWA) website http://newa.cornell.edu This tool allows you to access infection periods for Phomopsis and black rot for a specific station found on NEWA.

To access the grape infections events log, go to the NEWA homepage and use the drop down menu under Pest Forecasts in the blue bar near the top of the screen. Choose Grape Forecast Models from the menu. You will be directed to a page where you can choose the disease or insect you want (select Grape Diseases from the menu), the state the station is located in, the weather station name (if you do not know the name you can choose the station using the map on the right hand side by clicking on the raindrop/ leaf icon for your station) and the date of interest. Once you hit the calculate button you will be taken to the Grape Disease Infection Events page for the station location you selected. Scroll down the page to the area below the Disease Management section where you will find a yellow box with the text **Show grape infection events log**. Click on that button and you will see all the infection events for Phomopsis and Black rot for the year up to the date of interest you selected. Looking at the 2016 season, bud break was May 10 and Concord bloom at CLEREL was recorded on June 12. I used June 25, 2016 as my date of interest as that would include the period from bud break to approximately two weeks after bloom. I checked the infection events log for the Portland site and found that there was only one infection event for Phomopsis during this time period on June 4 as seen in the figure below. Notice that three other infection events were recorded but they were all prior to bud break so they should not be considered. The timing of the June 4 infection event was 8 days prior to bloom so did not really hit the sweet spot for fruit infection of bloom to shortly after bloom. Rain events were spotty this year so I also checked Sheridan where the grape infection events log showed Phomopsis infections on June 4, 6 and 16. Check NEWA for infection information from the station nearest you to get the information that can help identify, or eliminate, whether or not disease could have played a big role in crop loss in your vineyard this year.

		Gra	ape Inf	ection H	Events Log		
When calc precipitation,	ulating combine 2) successive w hou	ed wetting j etting perio irs or a wet	periods we ods are con ting period	use the follo abined into a with no pre	owing rules: 1) an : a single infection e cipitation is encou	infection event must st vent until a dry period ntered.	art with of over 24
Starting Date/Time	Ending Date/Time	Hours LW	Avg Temp	Total Rain	Phomopsis	Black Rot	Combined Event
						Download Time: 6/25	/2016 23:00
Jun 4 23:01	Jun 5 22:00	10	67.1	0.29	Infection	Infection	Yes
Apr 30 21:01	May 3 9:00	34	47.1	0.97	Infection	No infect; temp<50	Yes
		12	55.6	0.37	Infection	Infection	Ves
Mar 31 4:01	Apr 1 5:00	15	55.0	0.57	intection	intection	103

• Finally, look at what the Brix readings were at harvest in the vineyards where you saw crop on the ground. If Brix levels were well above average for a block, it may be that the vine was just ready to be done and some of the stronger winds we had this fall helped to remove the berries from the vine.

Take home message: There are a number of reasons why a vineyard block lost some of its crop to the ground this year. Doing some homework to determine the exact cause will help in adjusting your vineyard IPM strategy for next year.



To be held at Erie 2-Chautauqua-Cattaraugus BOCES, 2615 North Maple Road, Ashville, NY.

This CDL training (Class A or B License) is being organized by Cornell Cooperative Extension of Chautauqua County and will be taught by CDL instructors from Erie 2-CC BOCES, Ashville, NY.

The cost of the training is \$1,125.00 per person for Class B or \$1,250.00 for Class A, which includes the classroom training and the individual drive-time (scheduled individually following the classroom training and after obtaining the CDL permit). The cost of the CDL permit, road test and DOT physical will be an additional cost paid by each participant. Each person should also bring their dinner, beverages, and snacks each day.

To register for this CDL Training, please contact Lisa Kempisty, Cornell Cooperative Extension Educator at 716-664-9502 Ext. 203 or ljk4@cornell.edu to request an application and additional details.

Please Note: Registration will be accepted on a first-come first serve basis (maximum of 12 participants) by date payment is received. Full payment must be received at Cornell Cooperative Extension of Chautauqua County, 3542 Turner Road, Jamestown, NY 14701 by November 15th to participate in this CDL training program. Once payment is received, additional details will be provided regarding the DOT physical which is required before the first day of class on November 29th.





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> Dave Pieczarka 315.447.0560

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LERGP Website Links of Interest:



Cornell Lake Erie Research & Extension Laboratory Facebook page https://www.facebook.com/Cornell-Lake-Erie-Research-and-Extension-Laboratory-678754995584587/?fref=ts

SCRI project web-site: https://www.efficientvineyard.com/

Table for: Insecticides for use in NY and PA: http://lergp.cce.cornell.edu/submission.php?id=69&crumb=ipm|ipm

Crop Estimation and Thinning Table: http://nygpadmin.cce.cornell.edu/pdf/submission/pdf65_pdf.pdf

Appellation Cornell Newsletter Index: http://grapesandwine.cals.cornell.edu/cals/grapesandwine/appellation-cornell/



Veraison to Harvest newsletters:

http://grapesandwine.cals.cornell.edu/cals/grapesandwine/veraison-to-harvest/index.cfm

Go to http://lergp.cce.cornell.edu/ for a detailed calendar of events, registration, membership, and to view past and current Crop Updates and Newsletters.





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



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