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CLEREL on 09/22/2022
Kevin Martin

CROP UPDATE September 22, 2022

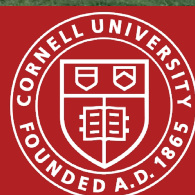


Cornell Cooperative Extension
Lake Erie Regional Grape Program



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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.

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Business Management

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

Borrowing Costs

We all know inflation has been a struggle the past 12 months. The blunt instrument used to control inflation is borrowing costs. It is the chief way our modern economy regulates the supply of money and therefore the amount of spending. A decrease in the supply of money and spending will slow inflation and increase borrowing costs. On Thursday the federal reserve increased the Target range upper limit (for overnight borrowing) from 2.5% to 3.25%. This is the 5th rate increase since March. The last time rates were this high were just before the recession in 2008.

The current state of the market is based on the best predictions of what the market will be in the near term. Consensus is that borrowing costs will rise by a total of 300 – 500 basis points. Nearly 300 have already been priced in. For example, a loan that was 5% two years ago is 8% now. A loan that was 2% is now 5%. Longer term fixed rates have risen less than shorter term variable rates. Even long-term residential mortgages have increased considerably. Only long-term debt that cannot be refinanced has increased in price less.

The grape industry has always been divided between those trying to build equity and those that already have. The goals between younger (indebted) and older (owned) operations may continue to diverge. The one exception, of course, are those already carrying the debt that they need. So long as they aren't about to finance another tractor or more acreage, fixed loans from 2020 and prior are returning very positive returns. Inflation has and will continue to make these payments more manageable. New growth in the business, however, will be more difficult.

It is also not unlikely that there will be enough owned businesses and other economic activity to keep the price of vineyards, tractors, and other capital investments relatively high. Therefore, growers that use debt to grow and invest capital will need to slow the pace of their growth as borrowing rates increase. Growers that have assets subject to the pressures of inflation may find capital investments more tempting than prior years.



Figure 1: Corporate borrowing costs averaged 4% and have increased to 8%.



Figure 2: Mortgage Rates for personal borrowers have increased from 2.7% to 6.3%.

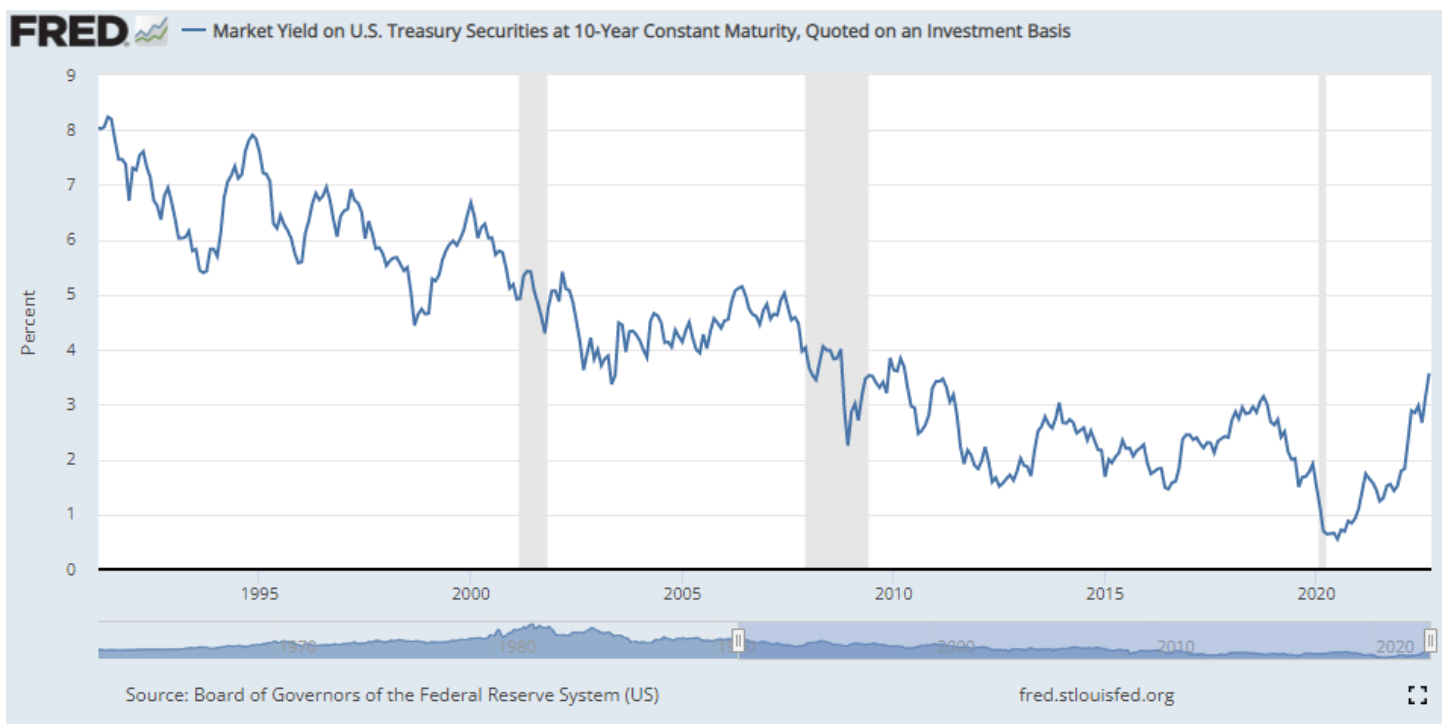


Figure 3: Government borrowing costs are following an identical trend. The scale looks different here because there are more years of data. This shows that borrowing costs have risen sharply this year but remain at historically low levels.

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Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

In the Vineyard

I hope that everyone is having a safe and productive harvest thus far. In my discussions with industry representatives, The Niagara harvest finished very well. The quality was excellent and it was a very clean crop. Growers did an excellent job this year in terms of insect and disease control. I applaud all of you for efforts. The Concord harvest is now underway and the industry reports that it is going well. There are still concerns about shelling and Grape Berry Moth. Incoming grapes are of good quality and very clean. The Concord canopies are definitely mature and it was mentioned that they look a lot better than last year. One representative mentioned that powdery mildew is just starting to show up in the vineyards with top-shelf spray programs, which is outstanding. The periderm is hardening off well and it looks like we will have excellent fruiting wood with great crop potential for next season.



photo 1. Concord clusters

We continue our Veraison to Harvest efforts and we send out the link the latest publications via text. If you wish to be added to our text blast list, please contact Katie Robinson at kjr45@cornell.edu.

Please be safe out there.



photo 2. Grape bins awaiting harvest

The table below is the Brix analysis for the varieties located at the Cornell Lake Erie Research and Extension Laboratory in Portland, NY. The Concord Berry curve is reported by Dr. Terry Bates below.

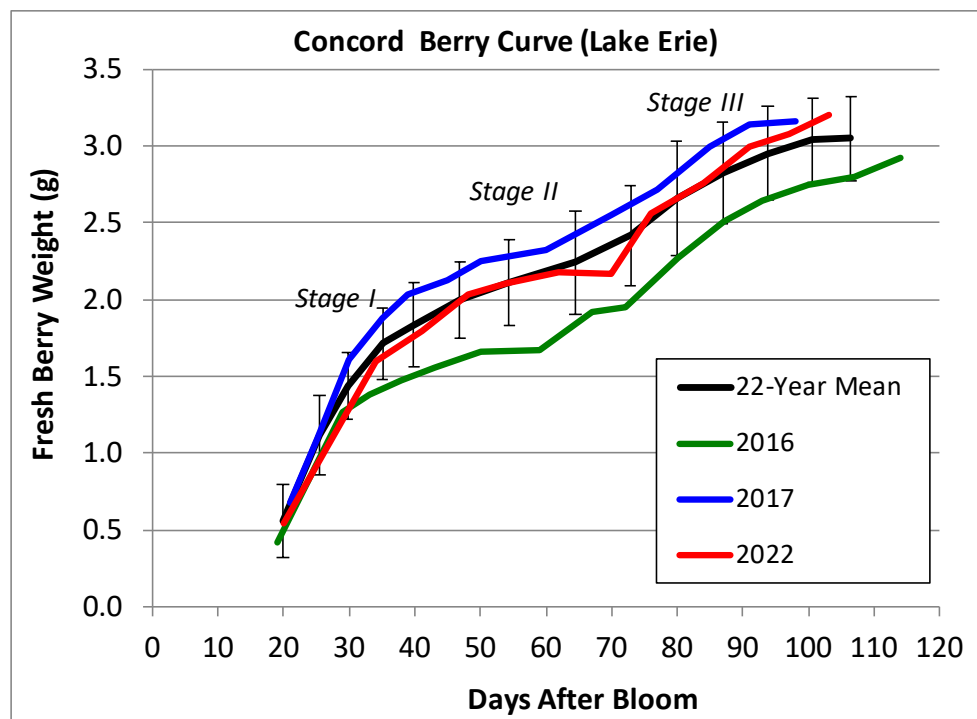
Date	Variety	Berries	Gram Wt.	Gram Wt. berry	Brix
9.20.22	Vignoles	harvested	*	*	*
9.20.22	Niagara	harvested	*	*	*
9.20.22	Seyval	harvested	*	*	*
	West				
9.20.22	Riesling	106	212.17	2	17.9
9.20.22	East Riesling	110	223.36	2.03	17.8
9.20.22	Vincent's	108	228.95	2.12	16.6
9.20.22	Ives	104	257.48	2.48	17.1
9.20.22	Delaware	harvested	*	*	*

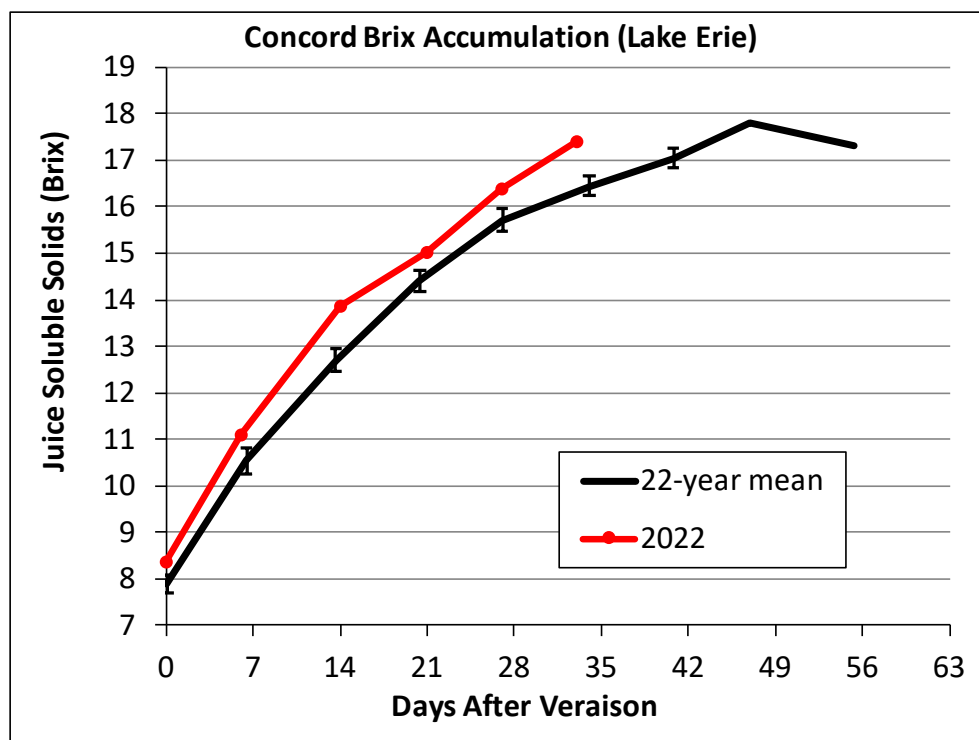
2022 Lake Erie Update

9/21/2022

Terry Bates

Adequate precipitation and moderate temperatures over the past week are causing both fresh berry weight and juice soluble solids in Concord to climb. The fresh berry curve has been tracking with the long-term mean for most of the season, as our berry weight model predicted, but is now running above average with the high vine water status. Commercial Concord harvest has started in the Lake Erie AVA and reports from the field indicate that crop estimation numbers from 30 days after bloom are holding true.





NOAA's National Weather Service Forecast by 12 Hour Period

Notes: Weather forecasts are sourced from National Oceanic and Atmospheric Administration's (NOAA) National Weather Service.

[National Weather Service Forecast \(click to link\)](#)

[NOAA's Disclaimer \(click to link\)](#)

Friday: A slight chance of rain showers before 2pm. Mostly sunny, with a high near 59. Northwest wind 6 to 14 mph. Chance of precipitation is 20%.

Friday Night: Partly cloudy, with a low around 49. North wind around 7 mph. Saturday: Mostly sunny, with a high near 64.

Saturday Night: A chance of rain showers after 2am. Mostly cloudy, with a low around 54. Chance of precipitation is 40%.

Sunday: A chance of rain showers before 2pm, then showers and thunderstorms likely. Mostly cloudy, with a high near 65. Chance of precipitation is 60%.

Sunday Night: Showers and thunderstorms likely. Mostly cloudy, with a low around 53. Chance of precipitation is 70%. Monday: Rain showers likely. Mostly cloudy, with a high near 61. Chance of precipitation is 60%.

Historical Precipitation (inches) for Cornell Lake Erie Research and Extension Laboratory in Portland, NY as of 9/21/2022

Notes: Current season accumulation is reported as the thick blue line from January 1 through date of this report. Historical season data is reported between January 1 and December 31 of each year. The legend indicates how many inches of precipitation had accumulated by the same date in previous years and the final total for the year on December 31. Data is sourced from Cornell's Northeast Regional Climate Center (NRCC) high resolution gridded data service.

As of September 21, 2022, we are tracking 3.8 inches below the five-year average of 35.2 inches on that date. However, it allows seems to fall at harvest complicating our efforts.

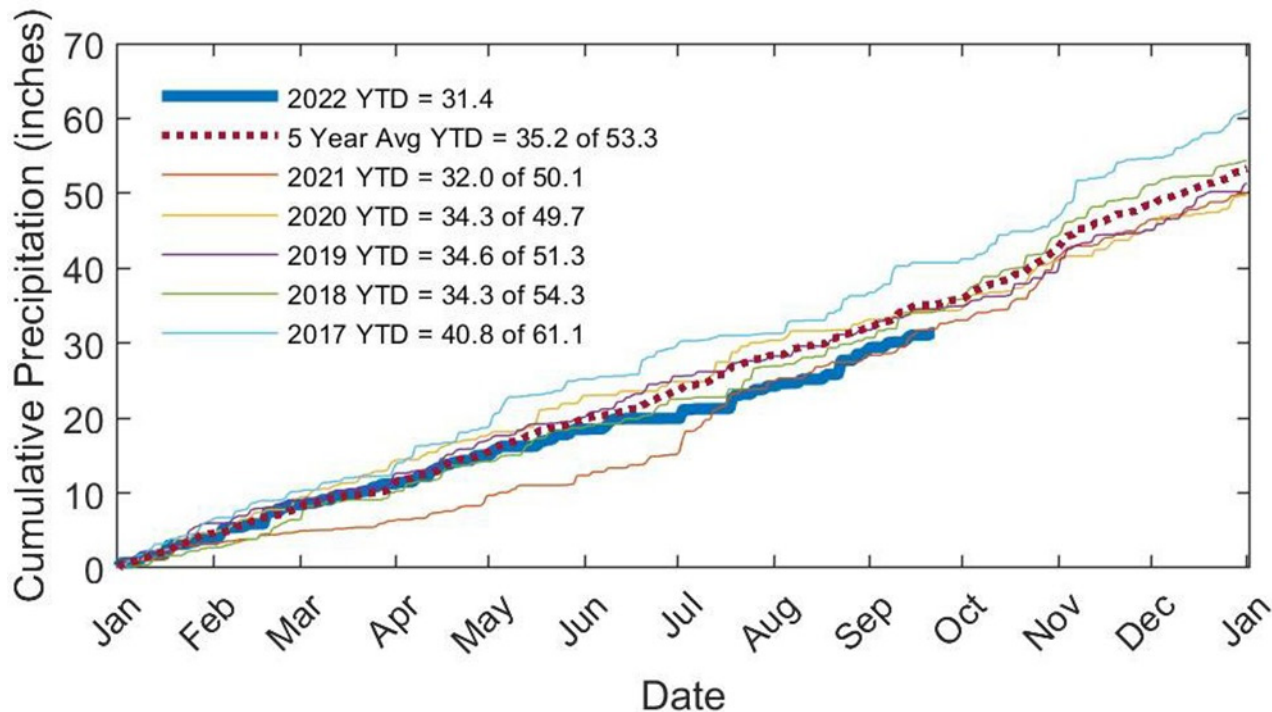


Figure 1. Historical Precipitation in inches for Cornell Lake Erie Research and Extension Laboratory in Portland, NY

Dr. Terry Bates published a very helpful blog on September 20, 2022, please take a moment to read it and utilize the MyEV Tool in your vineyard operations.

Scouting for Nutrient Deficiencies in the Vineyard

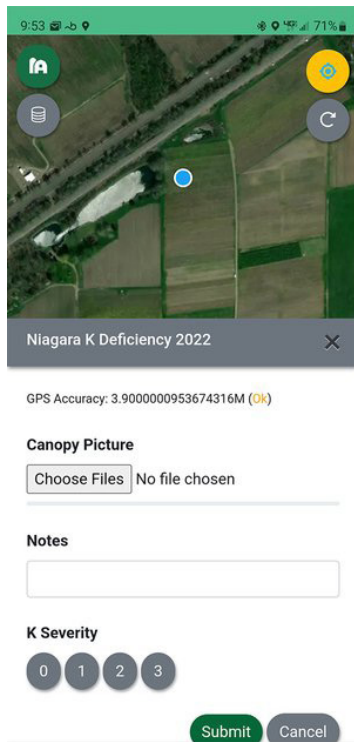
Written By [Terry Bates](#)

As we were harvesting Niagara grapes this week, I was noticing some classic potassium (K) deficiency symptoms on the leaves periodically throughout the vineyard. Although there is not much I can do to correct the deficiency at the end of this season, I am going to want to add potassium fertilizer to this block next spring. I would like to add a little more fertilizer where the vines are deficient and a little less where the vines are healthy...but I am never going to remember where that is next season. I would like to use a sensor to tell me the vine potassium status but I do not have that...yet (see the [Hi-Res Vineyard Nutrition project](#)). Alternatively, I decided to scout for K deficiency by creating a MyEV Data Collector.



Sometimes the best fertilizer is still the grower's footprints in the vineyard. Scouting for late-season potassium deficiency with a spatial data collector. Inside of the MyEV software, I created a new [data collector](#) by tapping on the clipboard in the bottom right of the map screen. In my data collector, I created options to take a photo of the vines I was observing, to take notes, and, most importantly, to rate the severity of potassium deficiency from 0 (no deficiency) to 3 (severe deficiency with crispy black leaves).

In the field, I launched the data collector from the MyEV smartphone application. From there, I could see my location in the vineyard, make observations, and rate the level of deficiency. Once I made a rating, I hit the “Submit” button at the bottom to record my observation. I walked the vineyard at a steady pace and went down every third row, collecting ratings as I walked.



Customize your own Data Collector

Track your location in the vineyard

Name of Data Collector

GPS Accuracy

Take a photo and tag it to a location or data point

Add observation notes

Design your own scouting data

Automatically save your data to MyEV as you go

My simple and customized data collector for potassium deficiency.

After hitting “submit” for the last time in the field, I went back to my office and pulled up the “Niagara K Deficiency 2022” data layer saved in MyEV. I checked the data for any errors or strange mistakes I may have made in the field and then [interpolated my observations into a spatial map](#).



My resulting potassium map that I will compare with other data layers I may have and use for variable rate fertilizer applications in the spring.



Could this save you some money?

The price of potassium fertilizer (potash) is up so let's do some quick math to see if you can save some money next spring. Generally, when we see late season K deficiency in a field, we will recommend a recovery dose of 300-400 pounds potash/acre, and this is usually applied uniformly across the block. In this example, we will use a uniform application of 300 pounds potash/acre. For a variable rate comparison, I will suggest a maintenance rate of 100 pounds/acre in the blue zone (where we saw no deficiency), 200 pounds/acre in the green zone, and 400 pounds/acre in the yellow and red zones.

The map key in MyEV gives the area for each zone, and you can download the zone statistics to a .csv file, if needed. With this information, you can calculate how much potash will be needed for the uniform vs variable-rate application. In this example, 0.54 tons potash would be needed for the uniform 300 pound/acre application and 0.42 tons would be needed for the variable-rate application. At \$800/ton for potash fertilizer, that would be \$432 for the uniform application and \$336 for the variable-rate application...a savings of 22%.

In addition to saving over 20% in fertilizer costs, the variable-rate application would be putting more potassium where it is needed and not wasting fertilizer where the vines are already healthy.

Why this may be helpful to you:

- No sensor or fancy equipment was needed to generate a useful spatial management map.
- It takes advantage of a seasonal and variable observation and the grower's knowledge.
- The Data Collector is a customizable tool.
- Data collected in the field are automatically saved in MyEV for processing and visualization.
- The resulting map can be directly used for variable rate applications.

I hope you find the MyEV platform useful and we would love to hear how you are using it in your vineyard management. [Leave a question or comment here.](#)

[Terry Bates](#)

Cornell AgriTech Viticulturist and Director of the Cornell Lake Erie Research and Extension Laboratory.

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PA Update

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

Weather: We have logged about 2.9" of rain so far in September; our 20-year average for the month is about 4". We've accumulated just under 400 growing degree days (gdds) so far during September, which will leave us ahead of average in heat accumulation for September, by end of the month. We've accumulated about 2741 gdds since April 1. The short-term forecast predicts dry and sunny tomorrow to Saturday night, when there is a 30-60% chance of rain, increasing to 80% on Sunday and Monday.

Phenology: Brix accumulation in our Concord blocks has moved over the past week; we are just over 15 brix at our location.

Diseases: As rains continue, downy mildew remains a threat to susceptible wine varieties, especially vinifera. I have seen some downy mildew coming in on leaves in wine varieties in some commercial vineyards, but I have not seen any full-blown epidemics. There aren't a lot of choices for fungicides remaining, but there are some. Unfortunately, materials like Captan and Copper/lime can leave residues on fruit that stop or delay fermentations. On the other hand, these materials might be useful for varieties already harvested, that could benefit from a few more weeks of photosynthesis in preparation for winter (especially for *Vitis vinifera*). Phos acid materials can also be used about up to harvest and are very effective on downy, but applications to more than a little downy mildew can create a cascade of consequences down the road, accelerating the development of resistance to this important FRAC group. For example, IF you choose to apply a phos acid fungicide to a downy mildew infested vineyard to avoid defoliation and crop loss, you should follow up with an application of one of the old standards (captan, mancozeb, copper/lime) after harvest, to quash the population of potentially phos acid resistant isolates of the downy mildew pathogen that may have survived that phos acid spray. Do not tank mix phos acid with copper/lime. IF you're unable to follow up with the old standards, be mindful that phos acid resistant isolates of the downy mildew pathogen may have been selected to overwinter and may make up a portion of downy mildew disease cycles next spring, in which case it would be wise to avoid relying on phos acid fungicides during pre-bloom applications in 2023.

Botrytis and sour rots continue to build in our rot susceptible Vignoles and Elvira here at the lab. At this point in time, fruit fly control with insecticides is the most effective way to keep sour rots at bay. Tank mixing antimicrobials (like Oxidate or Fracture/ProBlad) with your insecticide can add an additional layer of control to the spread of sour rot in rot susceptible wine varieties. For Botrytis, there are several chemistries/FRAC groups of fungicides that are still available. Just be mindful of pre-harvest intervals (PHI). Most Botrytis materials carry a 7 or 14 day PHI. Elevate (fenhexamid) is a 0-day PHI.

And lastly, monitoring of cracked/split Concord berries seems to be showing some development of sour rot, but cooler weather will slow that process. Many of the damaged berries tend to be associated with berry moth damage, but this is not the case everywhere. Growers I've spoken to are saying that damaged berries are rotting and shelling, especially today with wind speeds up.

Back in the day.....

Can you help us?

We want to include a picture of an old piece of grape farming equipment or a nostalgic photo of back in the day grape farming on each month of our 2023 LERGP calendar. We would love to have your photos for our calendar!

If you would like to share a photo, email it to me at kjr45@cornell.edu

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