



CROP UPDATE

August 26, 2021

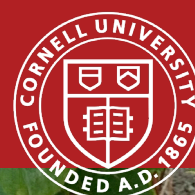
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Russo

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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Check out the video that Dr. Bates posted on
[MyEV on variable rate fruit thinning](#).

Business Management

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

Grape Price Announcement Update

I wanted to expand on the crop update last week as we do have a bit more data and continue to try to get more. The market for grapes not named Concord or Niagara is always quite a bit more complicated. Sometimes there is a tendency to categorize grapes into groups and summarize. In some years this can be useful but this year we are seeing parallels between natives, hybrids and vinifera. Grapes are responding to supply and demand by variety. Overall the wine market is healthy but less healthy than juice. Even Concord prices for wine are likely to be slightly lower than Concord for juice.

Other natives and hybrid prices are mostly similar to last year. Hybrids in particular have drifted lower over the years, but seem to have stabilized. These lower prices, when compared to long-term average, are not universal but do impact a majority of hybrids. Red natives seem to be similar. White natives have faced a more substantial dip in price. There are a number of explanations for the negative price trend on some white natives. There are probably too many reasons these grapes are experiencing price declines to make an exhaustive list. In general, the market has not been kind to the types of wine that many of our regional white natives and hybrids make.

Profit margins for wine grape growers are trending lower. Increased input costs, particularly labor, will hit those growers a bit harder. The price announcement was a good reminder to me that it is important to stay diversified in wine grapes. While there are times these prices all move in parallel, this year profit margins of one variety could help business sustainability while others may prove to be a drag on the business. Having more than a few varieties at scale can help balance net profitability in these market conditions and provide capital flow to allow for adjustments. That's a fancy way of saying good grapes can pay for removal and planting of unwanted varieties. We've been talking all year about the shortage of Concord and its impact on price. Much of this occurred after harvest 2020, although even then things were looking good. Cooperative payments have been ticking up all year as has the price of bulk juice concentrate.

Full impact on the market takes more time as prices for cash market growers are announced on August 15th. The cash market producers mirror trends in the whole industry. Demand and profits are up, more dramatically for juice than wine overall. Average cash market Concord prices will exceed \$325 per ton. Average Concord prices in the East may exceed \$350 per ton. There is a bit of forecasting that goes into play that is not as known, but all things do point in that direction. For many growers' gross revenue will exceed \$2,500 per acre as these unusually high prices are not driven by a disaster in the tri-states. Many growers have already used higher prices and government subsidy to reinvest in depreciated capital investments (fancy way of saying harvesters, tractors and wire). We expect cash operating expenses to be much higher this year, likely approaching \$1,000 per acre for vineyards that are debt free and harvested by owner operators. That leaves a record \$1,000 - \$2,500 per acre to renew depreciating capital, realize profits and pay down expensive debt.

These are big numbers for Concord growers and I wouldn't plan on them lasting. The improved financial performance of Cooperatives will definitely help maintain higher returns for Eastern growers overall. However, demand for juice has established itself as inelastic. Consumers are shaking off these higher prices the same way they shook off lower prices. Changing the price does not significantly impact demand.

So, for growers that escaped the frost and hail, or emerged from such disasters with a reasonably sized crop, the investment opportunities will need to be carefully planned out to ensure that vineyards are better equipped to manage low prices with higher input costs when the next downward cycle hits this industry. That's not a prediction it will happen in 2022, I continue to remain optimistic that it will not. In all honesty, I don't have any idea. I am confident that labor will be expensive, fertilizer is likely to be expensive (we will know for sure in about 4 months) and other input costs are also likely to rise. Investments in the vineyard now, if capital is available and borrowing can be limited, set growers up for success, despite those challenges.



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Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

Concord Veraison

The weather between bloom and July was relatively warm and dry and the vines struggled to maintain acceptable water status. Then July happened and the precipitation deficit ended, and it continued to rain throughout the month with sums over 10 inches in some areas. The damp and cooler weather slowed down berry development. Concord grape phenology data predicts veraison 69-70 days after bloom. CLEREL officially called Concord bloom on August 20, 2021, only two days earlier than the 55-year mean of 8/22 even though bloom was a week early.

Veraison is the start of the berry ripening process. Berries begin their transformation from hard, green, and bitter, to aromatic and sweet as sugars accumulate and acids drop, and berry color changes. This physiological change is the vine's way of making the berries, that contain the seeds and future genetic material for reproduction, attractive to seed dispersers. If the berries are sweet and smell good, then the animals will eat them and disperse the seeds on their way.

I traveled the belt yesterday checking vineyard blocks and veraison was evident in every block I entered. There was even the tinge of the smell of grapes in the air in a couple of places. Just as the data, on average, has veraison 69-70 days after bloom, harvest tends to fall 100 days after bloom and that would put us around September 20th as the start of harvest this year weather permitting.

Per one of our producers, some of the early varieties are experiencing the worst splitting that most growers have ever seen. Many wineries are picking early to avoid rot.

Table 1 below show the first week's results for Veraison to Harvest. We will continue to collect weekly, send out for analysis, and report to you as we receive the results.

Veraison to Harvest Week one sampled on 8/23/21						
			100 Count			
Variety	Grower	Region	Berry Weight	Brix	pH	TA
Cabernet Franc	Portland	Lake Erie	125.83	6.9	2.6	28.94
Concord	Portland	Lake Erie	296.73	8.2	2.73	21.03
Frontenac	Sheridan	Lake Erie	104.77	13.5	2.97	21.74
Marquette	Fredonia	Lake Erie	156.93	17.4	2.95	15.27
Niagara	Portland	Lake Erie	389.91	10.2	2.93	13.19
Noiret	Sheridan	Lake Erie	147.34	11.4	2.89	18.01
Riesling	Portland	Lake Erie	160.55	12.4	2.93	17.37
Seyval blanc	Portland	Lake Erie	164.35	13.3	2.98	10.98
Traminette	Portland	Lake Erie	125.38	9.3	2.69	21.96
Vignoles	Portland	Lake Erie	141.3	13.3	2.87	21

PA Update

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

Weather: Here by the lake in North East, our rainfall total for August remains at 2.55" (below average), after a solid week of dry weather. We have accumulated about 592 growing degree days (gdds; above average) so far in the month. This may help us make up for any 'ground' we might have lost back in July (?) Gdds since April 1 are at 2237, also ahead of average. Our short-term weather forecast estimates a 30-40% chance of rain Friday, Saturday, and Sunday, with highs in the mid-80s and lows in the low 70s. High temps look to be cooling down a bit next week, with highs in the 70s and lows in the 60s.

We recorded veraison in Concord on August 20 (last Friday), here by the lake.

Diseases; Dry weather over the past week has put downy mildew on hold somewhat...for now. However, the infection periods from the previous week of wet weather (August 10-18) have clearly left their mark: canopies of susceptible varieties, particularly those of *V. vinifera*, have become flecked with downy mildew leaf lesions and sporulation, that required immediate attention with fungicide sprays. The damage has left some wine grape canopies looking a little ragged, especially at the margins where the disease has been chewing hardest on the newest growth.

The elevated humidity that followed that solid week of wet weather, left vineyards dripping wet on many mornings over the past week, enabling those lesions to continue sporulating, and posing a continued threat to susceptible varieties in the region, despite no actual rainfall. Continue your scouting efforts in combination with a close eye on the weather. If you have active sporulation of downy mildew in your susceptible vineyard, there may be continued need for fungicide sprays to put down that sporulation. This is especially critical if we get more rain. Please refer to my earlier crop updates for a list of materials that might still be available to you for control of this disease.

As for powdery mildew, the elevated humidity over the past week has ramped up the progress of that disease across the belt and canopies have started to show heavier levels of powdery mildew leaf infection as a result. However, we generally see this occurring every year about this time and the canopies that have been well maintained earlier, still look quite functional. There is little need for continued protection on juice varieties, especially in vineyards with average crops. For Concord vineyards with monster crops, I'm more concerned about the weather at this point; we need sunny, dry weather to maximize our chances at hitting minimum sugar standards by harvest. On the other hand, there is little to be done in terms of spraying at this point, to revive poorly maintained canopies.

Some wine varieties, especially those of *V. vinifera*, will still need protection from powdery mildew leaf infections, possibly until harvest. Unfortunately, the go-to materials at this point are limited. The use of things like copper and sulfur, may leave enough residues of these elements on skins by harvest, so as to cause problems with fermentation in the wine making process (copper is toxic to yeast). Of course, this will be a bigger problem with reds – that are fermented on the skins - than with whites. On the other hand, young, non-bearing wine vineyards will benefit from continued sprays of sulfur and copper for both powdery and downy mildew. These materials are very effective for controlling these diseases on leaves, and they're a great option for managing the development of resistance to the newer, more resistance prone fungicides that might have been used earlier in

the season. For bearing vineyards, your options at this time may be limited to eradicanants, like potassium bicarbonate sprays (for example, Armicarb or Kaligreen). Other potassium products, like Nutrol or Harvest More are cheaper options, but you get what you pay for. These materials will eradicate powdery mildew on leaf surfaces, but only to a limited extent: they will not wipe clean a heavily mildewed vineyard, and they provide no residual control of future infections. However, they can be used to slow down an epidemic or keep clean leaves, clean, longer.

And lastly, the advantage to controlling powdery mildew through early September in highly susceptible wine vineyards, is that most of the mildew colonies that begin to develop after about Labor Day will not have time to produce mature overwintering structures capable of surviving the winter, before the leaves are killed by that first hard frost. This helps to maintain a lower level of inoculum that the disease has to draw on in the following spring, reducing the level of early season infections that require control.

Bunch rot: In wine varieties, especially those that produce tight clusters, a Botrytis specific fungicide spray at veraison and about 2-3 weeks later can help manage bunch rots but will only control Botrytis. Botrytis specific fungicides will not control other organisms that can lead to sour rots, that we often see developing in warm, wet harvest seasons. Fruit zone leaf removal, applied earlier around bloom, can significantly reduce bunch rot development now in these varieties. However, the research has shown that the benefits of leaf removal tend to diminish the later its applied, especially if its not applied until veraison.

The development of bunch rots depends heavily on the generation of injuries to the berry skin, whether by birds, hail, insects (like berry moth), or those that occur through excess pressure in overly compact clusters. Even microscopic injuries caused by powdery mildew can leave breaches in the berry skin, that are entry points for microbes that cause bunch rots. Cultural and chemical controls that limit such injuries can go a long way to preventing the development of late season bunch rots.

And finally, work by Megan Hall and Wayne Wilcox shows that controlling fruit flies (with insecticides) during the latter part of the ripening period (beginning around 15 brix) can significantly reduce sour rot development. Applying insecticides with sterilants or antimicrobials like Oxidate or Fracture can further improve control over insecticides alone. However, always rotate insecticide chemical classes to delay the development of resistance.

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PA Update

Andy Muza, LERGP Extension Team & Penn State Extension- Erie County

In the Vineyard (8 -26- 21)

Grape Berry Moth

Scouting a Severe Risk site this week I found a few GBM eggs, numerous injured berries and 3 leaves in the canopy containing pupae (Figure 1). This indicates that at this point in the season, depending on your location, potentially all stages of GBM (eggs, larvae, pupae, and adults), are occurring in vineyards.

According to the GBM Model, **“If 1620 DD occurs prior to August 5, you can expect continuous pressure from grape berry moth through harvest. Model results are not good predictors of timing of population pressures. Multiple additional insecticide applications may be necessary in high pressure vineyards to address the extended egg-laying and overlapping generations. Continuous coverage is necessary to avoid excessive crop loss. NOTE: Insecticide applications after mid September will have limited effectiveness in preventing damage.”**



Figure 1. Grape berry moth pupa inside folded over flap of Concord leaf. Photo – Andy Muza, Penn State.

As reported in last week's Crop Update, only one NEWA station (Sheridan) reached 1620 DD before August 5. However, 11 sites reached 1620 DD between 8/5 - 8/8 so there is a possibility of a fourth generation at some locations. Egg laying for the fourth generation should be occurring at 2430 DD, however, the GBM Model results are not good predictors of timing of population pressures this late in the season.

Currently, the Sheridan station is expected to reach 2430 DD as early as 8/30/21 while at least 5 stations will reach this mark the first week in September. The remainder of the stations will reach 2430 sometime in the second week of September. (See the Table below of NEWA stations around the Lake Erie Region, that Kim Knappenberger provided, showing the Date when 2430 GBM DD was expected to be reached across the region. This expected date in reaching 2430 was based on an estimated daily accumulation of 28 GBM DD starting on 8/27/21). Check the GBM Degree Day Model in NEWA <http://newa.cornell.edu> , choosing the closest station near your vineyard, for more specific timing of when 2430 DD will be reached.

Growers, at least those with vineyards in areas that are expected to reach 2430 DD the first week in September, should consider whether to apply an insecticide application taking into consideration the history of GBM pressure in their vineyard blocks. If applying an insecticide, then be aware of the preharvest interval of the insecticide that will be used.

Honeyvine Milkweed

Honeyvine milkweed (HvM), also known as climbing milkweed, is a twining, perennial vine which grows rapidly and reproduces both vegetatively (by sprouting shoots from buds on lateral roots) and

by wind disseminated seed dispersal.

During scouting this week, I found HvM in the trellis and producing pods (Figure 2). Scout your vineyard blocks **NOW** for HvM. If found, HvM should be pulled out of the trellis, laid on the ground, and seed pods should be collected in a plastic garbage bag and disposed of. After pod collection, HvM vines that were placed on the ground should be thoroughly sprayed with a high concentration of an herbicide containing the active ingredient glyphosate. (Management of perennial weeds is most effective when glyphosate is applied to mature leaves capable of translocating the herbicide throughout the plant.) To avoid injury to grapevines **DO NOT** allow spray to contact green tissue. Applications should be made with shielded sprayers or wiper equipment. **Read the Label** for specific use and restrictions concerning application of glyphosate in vineyards.



Figure 2. Honeyvine milkweed in the trellis. Photo – Andy Muza, Penn State.



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NEWA location	Wild Grape Bloom date*	GBM GDD total for 8/26/2021	Date expected to hit 2430
Ransomville	5/31/2021	2106	9/6/2021
Burt	6/6/2021	1943	9/12/2021
Corwin	6/2/2021	2046	9/8/2021
Brant	6/1/2021	2091	9/7/2021
Versailles	6/1/2021	2009	9/10/2021
Hanover	6/2/2021	2046	9/8/2021
Sheridan	5/22/2021	2297	8/30/2021
Silver Creek	6/3/2021	2047	9/8/2021
Silver Creek Double A	5/26/2021	2184	9/3/2021
Dunkirk Airport	5/29/2021	2211	9/2/2021
Forestville	5/27/2021	2096	9/7/2021
East Fredonia	5/31/2021	2034	9/9/2021
Fredonia	6/2/2021	2022	9/10/2021
Brocton Escarpment	5/31/2021	2036	9/9/2021
Portland	6/1/2021	2055	9/8/2021
Portland (LERGP West)	5/29/2021	2157	9/5/2021
Westfield	6/2/2021	2018	9/10/2021
Ripley	5/27/2021	2126	9/6/2021
Ripley Escarpment	5/26/2021	2102	9/6/2021
Ripley State Line	5/26/2021	2133	9/5/2021
North East State Line	5/26/2021	2062	9/8/2021
North East Escarpment	5/24/2021	2132	9/5/2021
North East Sidehill	5/25/2021	2067	9/8/2021
North East Lab	5/26/2021	2181	9/3/2021
Harborcreek	5/26/2021	2208	9/2/2021
Harborcreek Escarpment	5/30/2021	1971	9/11/2021
Lake City	5/26/2021	2165	9/4/2021

"*Estimated date provided by NEWA website . Wild grape bloom occurs when 450 base 50BE degree days have accumulated from January 1st of the chosen year.

The difference in wild grape bloom between Portland and Portland LERGP is likely due to marginal differences in the readings coming off of respective sensors or even marginal differences in microclimate. A spread of 2 days falls within the margin of error and the models give advance messages that bloom is approaching."



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Updates and Information

Kimberly Knappenberger, Viticulture Assistant, LERGP

NEWA Stations Update:

The station in Ransomville can still be found on newa.cornell.edu but shouldn't be relied on for your models. We recommend looking at some of the other nearby stations.

Portland Escarpment is not currently reporting temperature and relative humidity. That sensor is not responding. Rainfall and wind data appear to be reliable.

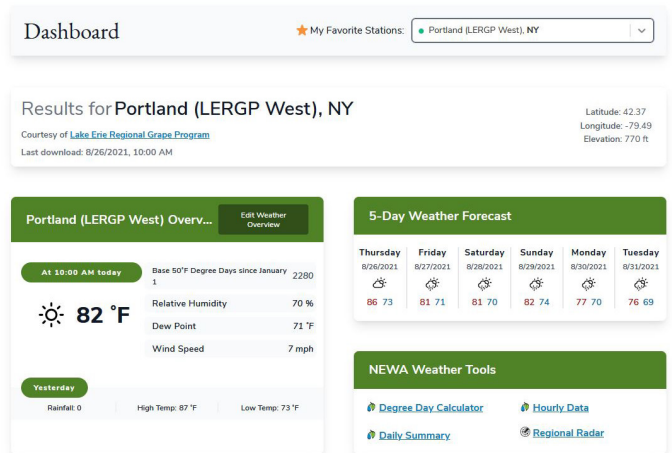
The East Westfield station is still waiting on the part to get it back up and running. It should arrive in September.

As always, if you notice something is not quite right on your favorite weather station please send an email to ksk76@cornell.edu.

Remember to try out the new NEWA website at dev.newa.cornell.edu. At the end of this year it will be the only NEWA website. All models should be working. You can create an account that allows you to customize your dashboard with the stations and tools that are most important to you. To learn more about creating your profile you can click this link to [Get Started with NEWA](#).

Vineyard Improvement Program Reminder

The time is now! If you or someone you know has been wanting to apply for this program but is unable to prove that it is/was a Concord vineyard, veraison to fruit maturity is the perfect time! Concord grapes have a distinctive smell and taste that make it easy to confirm and we are happy to come take a look. We realize that most of you probably don't have those neglected vineyards that can be found driving around the area, but you might have a neighbor, friend or relative that does. Feel free to send them to the website at lergp.com and click the big purple button that says Vineyard Improvement Program, or have them contact Kim at ksk76@cornell.edu. This is only for New York state and only for Concord vineyards at least 1 acre in size.



PPE

If you need hand sanitizer and masks we have it! Let Kim know at ksk76@cornell.edu.



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[Efficient Vineyard:](#)

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General Questions & Links:

<https://eden.cce.cornell.edu/>

Food Production, Processing & Safety Questions:

<https://instituteforfoodsafety.cornell.edu/coronavirus-covid-19/>

Employment & Agricultural Workforce Questions:

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Cornell Small Farms Resiliency Resources:

<https://smallfarms.cornell.edu/resources/farm-resilience/>

Financial & Mental Health Resources for Farmers:

<https://www.nyfarmnet.org/>

Cornell Farmworker Program

www.farmworkers.cornell.edu

www.trabajadores.cornell.edu (en espanol)

