





Concords after the rain-Kim Knappenberger 9/11/2023

## CROP UPDATE September 14, 2023

**Cornell Cooperative Extension** Lake Erie Regional Grape Program



PennState Extension

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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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## **Viticulture** Jennifer Russo, Viticulture Extension Specialist, LERGP

#### In the Vineyard

This past week's weather, particularly the hot dry weather over the Labor Day weekend, has not progressed the way that we had hoped regarding sugar accumulation. With the larger berry size this year, the delay in Growing Degree Day accumulation, shorter days at this time in the season, and the precipitation/humidity we continue to experience, the sugar accumulation is slower than previous years. News released from wine processors this week indicates that some are wrapping up Elvira and moving into Concord production at the end of this week albeit receiving those from the Finger Lakes that experienced frost damage first. Unfortunately, the Lake Erie Region is experiencing lower numbers regarding Brix and juice grape processors are anticipating a late harvest date to allow for sugar accumulation with some not starting until October 2, 2023. Other varieties currently being harvested around the belt include Seyval, Vignole, Aurore, and Catawba coming off of the vine.

Please refer to the Veraison to Harvest, which is a weekly electronic newsletter put out by viticulture and enology extension personnel from Lake Erie, Long Island, Hudson Valley, and the Finger Lakes. Each

2. Bin of harvested early Concords taken by Jennifer Phillips Russo

issue provides accurate and up-to-date regional data while giving a statewide perspective as well. V to H begins in early September and concludes in late October. We have begun a new effort to share Veraison to Harvest updates in a different format via a podcast where listeners can hear around New York updates from the Cornell Viticulture Extension Specialist and Chris Gerling, Senior Extension Associate for Enology to enhance the Fruit Composition Report.

#### Podcast Now Available!

All previous issues available online at: <u>https://cals.cornell.edu/viticulture-enology/research-extension/veraison-harvest</u>

Below:

Table 1 below had the data for the Lake Erie AVA only this week due to Niagara County late submissions (will be updated after processed). This data compares last week's numbers with this week.

Table 2 below has the Veraison to Harvest data comparing this year with last year at the approximate same time point. The Concord 2022 Brix at this same point in the growing season was



15.5 compared to 11.5 this week for 2023. That is the difference of 4 Brix.

Table 3 below has the NEWA weather station data that has 2023 Growing Degree Data and the 2022 forecast GDD for the same week to illustrate the difference in the two seasons and how that relates to the sugar accumulation. For example, in Portland, NY 2022 growing season the forecasted GDD for September 14, 2022, was 2460 GDD and the actual GDD for September 14,

2023, is 2159; that is a difference of 301 Growing Degree Days between the two seasons and 4 Brix difference.

#### Concord Berry Curve (Dr. Bates)

Thank you to Dr. Bates and the research staff for their weekly monitoring of the Concord Berry Curve here at the Cornell Lake Erie Research and Extension Laboratory in Portland, NY. Figure 1 below is the Concord Berry Curve where the red line indicates 2023 Concord growth, the dark blue line is 2017 growth (which was above the historical average), the black line is the 24-Year historical average, and the green line is from 2016, which was below the historical average. 2023 is currently beginning to level off with tracking 2017 at this point in the growing season, and still approximately half a gram larger than the 24-Year Mean.



Concord Grape bunch- Jennifer Phillips Russo



*Figure 1. Concord Berry Curve at the Cornell Lake Erie Research and Extension Laboratory for the week of September 11, 2023, and historical data* 



Figure 2. Concord Brix Accumulation (Lake Erie) for 2023 and the 24-year historical mean

Figure 2 illustrates the Concord Brix accumulation for the same phenology vines. The black line illustrates the 24-year mean of Brix accumulation and the shorter red line is 2023. This figure depicts 2023 Brix to be approximately one Brix behind in accumulation as compared to the last 24 years at this point in the growing season. These numbers are indicative of last week's weather because the berry collection took place on Monday. We are concerned because the Brix did not progress like we hoped it would last week with the warm weather. Brix is now tracking most closely with 2004 where we did not reach 16 Brix until 42 days after veraison. We are currently 23 days after veraison at the Cornell Lake Erie Research and Extension Laboratory, which was officially called on August 23, 2023. Next week's forecast is projected to have cooler weather, but only one chance of rain on Monday. I am hoping that the upcoming week will bode well of hang time and sugar accumulation.



Table 1. Data for the Lake Erie AVA only this week due to Niagara County late submissions (will be updated after processed). This data compares last week's numbers with this week.

	9/5/2023	9/11/2023	9/5/2023	9/11/2023	9/5/2023	9/11/2023	9/5/2023	9/11/2023
	Ave	Ave						
	Bry Wt							
Variety	(g)	Bry Wt (g)	Brix	Brix	рН	рН	TA	TA
Concord	3.1	3.2	11.4	11.5	2.87	2.95	15.92	15.35
Niagara	4.2	4.0	11.8	11.8	2.9	3.02	10.9	10.41
Seyval blanc	1.6	1.7	14.3	16.3	2.79	2.99	13.82	9.44
Marquette	0.0	1.4		18.4		3.06		16.18
Riesling	1.5	1.6	9.9	11.2	2.84	3	19.15	14.82
Cabernet								
Sauvignon	1.3	1.5	10.5	14.6	2.84	2.99	21.3	14.54
Lemberger	0.0	2.1		14.3		3.12		10.94
Frontenac	1.2	1.3	14.6	15.4	2.85	2.91	24.53	22.26
Vignoles	1.7	1.9	14.3	14.9	2.89	2.91	24.42	18.78
Cabernet Franc	1.4	1.6	9.3	11.6	2.68	2.99	24.44	15.1
Traminette	1.5	1.7	8.6	9.6	2.7	2.86	20.87	15.79
Gewurztraminer	0.0	1.5		15.4		3.21		9.28
Chardonnay	1.7	1.7	12.5	15.6	2.89	3.15	20.91	11.27

Table 2. Veraison to Harvest data comparing this week in 2023 with last year (2022) at the approximate same time point.

	9/11/2023	9/14/2022	9/11/2023	9/14/2022	9/11/2023	9/14/2022	9/11/2023	9/14/2022	9/11/2023	9/14/2022
Variety	Berry Weight	Berry Weight	Brix	Brix	рН	рН	ТА	ТА	YAN	YAN
Cabernet Franc	157.2	156.2	11.6	16.0	2.99	2.97	15.1	11.9	163	87
Cabernet Sauvignon	152.92		14.6		2.99		14.5		154	
Chardonnay	166.09		15.6		3.15		11.3		246	
Concord	315.14	343.9	11.5	15.5	2.95	3.12	15.4	10.1	207	150
Gewurztraminer	147.65	181.0	15.4	19.4	3.21	3.43	9.3	7.1	238	191
Lemberger	207.82		14.3		3.12		10.9		186	
Marquette	144.18	HARVEST	18.4		3.06		16.2		378	
Niagara	402.68	368.6	11.8	14.9	3.02	3.07	10.4	7.8	116	96
Riesling	161.79	152.0	11.2	16.3	3	3.05	14.8	10.8	221	155
Seyval blanc	165.88	HARVEST	16.3		2.99		9.4		73	
Traminette	166.19	170.5	9.6	16.9	2.86	2.88	15.8	11.3	124	95
Vignoles	191.93	172.9	14.9	20.8	2.91	3.01	18.8	12.8	380	233

NEWA Location	Wild grape bloom date*	DD total on 14-Sep	Forecasted GBM GDD for Sept 19	Sept Rain to Sept 14 10:30AM	2022 Wild grape bloom date*	2022 Forecasted GBM GDD for Sept 13
Brant	31-May	2263	2322	1.90"	27-May	2489
Versailles	2-Jun	2118	2176	1.02"	30-May	2361
Hanover	5-Jun	2110	2170	Technical issues	30-May	2429
Sheridan	1-Jun	2269	2330	1.20"	28-May	2561
Silver Creek (Route 5)	9-Jun	2130	2192	2.28"	31-May	2509
Silver Creek (Double A)	2-Jun	2254	2311	1.13"	28-May	2564
Dunkirk Airport	31-May	2420	2480	1.81"	29-May	2576
Forestville	2-Jun	2186	2245	0.92"	29-May	2467
East Fredonia	2-Jun	2145	2204	0.71"	31-May	2369
Fredonia	6-Jun	2066	2128	Mesonet	31-May	2387
Brocton Escarpment	2-Jun	2145	2203	1.35"	30-May	2406
Portland	3-Jun	2159	2221	Technical issues	30-May	2460
Portland (LERGP West)	2-Jun	2274	2338	2.09"	29-May	2569
East Westfield	3-Jun	2122	2184	1.53"	31-May	2381
Westfield	10-Jun	2083	2148	1.77"	31-May	2432
Westfield (South)	3-Jun	2174	2236	1.42"		
East Ripley	3-Jun	2009	2086	1.19"		
Ripley	3-Jun	2215	2281	1.53"	30-May	2512
Ripley Escarpment	2-Jun	2196	2261	1.33"	30-May	2437
Ripley State Line	2-Jun	2239	2305	0.87"	30-May	2498
North East State Line	2-Jun	2154	2213	1.32"	31-May	2372
North East Escarpment	2-Jun	2187	2244	0.91"	29-May	2473
North East Sidehill	2-Jun	2172	2229	0.96"	30-May	2417
North East Lab	6-Jun	2264	2340	0.75"	30-May	2557
Harborcreek	3-Jun	2246	2315	1.03"	30-May	2479
Harborcreek Escarpment	3-Jun	2065	2126	0.99"	31-May	2316
Lake City	6-Jun	2181	2247	0.82"	31-May	2488
Lake City(Mason Frm)	2-Jun	2238	2305	0.68"		
Ransomville	2-Jun	2299	2363	0.75"	30-May	2554
Burt	12-Jun	1956	2024	Mesonet	7-Jun	2176
Newfane	8-Jun	2119	2186	0.61"	1-Jun	2358

#### 2023 Post-Veraison in Pennsylvania

A weekly grape maturation report for the PA grape and wine industry. <u>Save for later</u> <u>Print</u> Updated: August 29, 2023



Image: Cain Hickey, Penn State

#### Report #3

#### Samples taken the week of September 4

This is the second weekly report for the inaugural season of Post-Veraison in Pennsylvania (PVIP), a grape maturation reporting system across Pennsylvania vineyards. Reports will consist of weekly grape ripening updates from cultivars planted widely across Pennsylvania (PA) vineyards (based on growers' feedback documented within <u>Cultivars in the Commonwealth</u>). Henceforth, PVIP reports will cover some or all of the following cultivars: Cabernet franc, Chambourcin, Chardonnay, Riesling, and Vidal blanc. Due to the time required for grape samples to be shipped, processed, and measured, reports will reflect maturation from the previous week. Participating stakeholders for the 2023 edition of PVIP manage vineyards in the following Pennsylvania counties: Berks, Erie, Fayette, Snyder, and York; thanks to these stakeholders for their participation and collaboration on this project! If you have a commercial vineyard in Pennsylvania, please let us know if you are interested in participating in a future edition of PVIP!

#### Fruit composition report:

(note: unless specified otherwise, "changes" are relative to last week's report). In general, grapes remained most mature in York (southeastern PA near the Maryland border) and least mature in Erie (northwestern PA near the New York/Ohio border) (Figure 1, Table 1). Relative to last week's report, Cabernet franc Brix increased in all counties, with the greatest increase observed in Snyder and the smallest increase observed in York (Figure 1). Cabernet franc pH was greatest in York, followed by Snyder, Fayette, Berks, and Erie, and pH increased in all counties. Titratable acidity (TA) minimally changed in York, while it was observed to decrease by almost 8.0 grams per liter (g/L) in Erie; TA also decreased in Berks (-3.87 g/L), Fayette (-5.03 g/L), and Snyder (-3.38 g/L).

While the greatest changes in Chambourcin Brix, pH, and TA were observed in Erie, these metrics were relatively more "advanced toward maturity" in Snyder and Fayette (Table 1). The greatest increase in Chardonnay Brix was in York (from 18.5 to 20.4); Brix increased equally (by 1.5) in Berks and Snyder. Chardonnay pH minimally changed in Snyder and York but increased by 0.24 in Berks. Chardonnay TA minimally changed in Snyder but decreased equally (-0.33 g/L) in Berks and York. Riesling Brix and pH were highest in Fayette (16.9 and 2.97, respectively), followed by Berks (16.7 and 2.92, respectively) and Erie (12.9 and 2.77, respectively); TA decreased by over 14.00 g/L in Erie while changes in TA were less remarkable in Berks and Fayette. Vidal blanc Brix increased by 1.3 in both Erie and Snyder, but Brix values are behind in Erie (9.3) when compared to Snyder (16.0). While pH and TA values changed more so in Erie than in Snyder, these metrics were further "advanced toward maturity" in Snyder.

#### Notes from the field:

Many white-berried cultivars have been harvested for both still and sparkling wine and wine production throughout southeastern counties of PA; these include, but are not limited to, Muscat cultivars, Semillon, Chardonnay, Viognier, Sauvignon blanc, Albariño, Cayuga White, and Chardonel. PSU Grape and Wine Extension Team members have also heard reports that Pinot noir has been harvested for sparkling wine production; Zweigelt, a red-berried cultivar from Austria, has also been harvested in southeastern PA. If you are interested in sharing your harvest updates so they can be shared here, please send them to <u>viticulture@psu.edu</u>. Thank you!

#### Update to grape price listing for 2023 from Hans Walter Peterson

Hi everyone - we received a few more entries since we sent out the first version of this year's Grape Price Listing, so I have updated it to include them. You can find the updated list on our website at <a href="https://blogs.cornell.edu/flxgrapes/2023/09/14/updated-flx-grape-price-listing/">https://blogs.cornell.edu/flxgrapes/2023/09/14/updated-flx-grape-price-listing/</a>.

## PA Update

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

<u>Weather:</u> We accumulated about 265 growing degree days and 0.66 inches of rain in September so far. The short-term forecast for North East PA looks to be cooler than average with high temperatures in the upper 60s. There is a chance for rain on Sunday (50% chance) and Monday (30% chance) of next week.

Phenology: Our Concord and Niagara blocks on route 5 (on the lake), are at 12.4 and 14.3 brix, respectively, as of September 13.

<u>Diseases:</u> The buzz word for the past several weeks has been DOWNY MILDEW. Aside from the past couple of weeks which have been rather dry (up until Tuesday and Wednesday of this week), downy mildew got ramped up in late July and August and "never looked back". I am seeing plenty of downy mildew come in on leaves of susceptible varieties in many wine and juice grape vineyards. I'm even seeing it on Concord leaves (although its quite minimal), which tells me conditions for it are just about ideal.

As downy mildew continues to be a problem, I am repeating the same rants as I have for the past several weeks: Scout your vineyards to maintain good control of downy mildew as it continues to be a serious threat. Look for it primarily on young leaves of still actively growing shoots. However, as the disease progresses unchecked, it can jump to older foliage and begin "chewing" on the entire canopy. The sight of active, white sporulation on the undersides of leaves means the downy mildew pathogen is capable of spreading quickly under wet conditions, and that sprays for downy mildew should continue for susceptible varieties. Humid nights that result in heavy dews by morning, can continue to fuel downy mildew development, generating fresh sporulation that can spread the disease rapidly when plant surfaces get wet with rain. If this disease blows out of control (and it easily could if we continue to receive regular wetting periods in September and control measures are not taken seriously), it can defoliate a vineyard and essentially end the season for that block. It will also hamper or prevent shoot ripening for next year's crop. Your grapevines go into winter dormancy in a weakened state, and are more vulnerable to damage by severe cold, leading to crown gall and expensive trunk renewal the following season, with little or no crop to pay for it; all that stuff is connected. This is especially critical on Vitis vinifera.

If you get into a pinch and downy mildew blows up on your leaves, copper sprays (on varieties that can tolerate copper) can go a long way to bringing things back under control. For wine varieties that don't tolerate copper, captan may be an option for treating an epidemic of downy mildew. It won't eradicate what's already there, but it will help to control future infections and there is relatively little concern about resistance development with captan.

Here are precautions to consider with the use of the 'old standard' protectants like copper and captan, as there are serious downsides to having excess residues of these materials on grapes going into the fermentation for wine. However, one needs to keep in mind how much long-term damage downy mildew can cause to susceptible wine grape canopies late in the season; there may be consequences from defoliation that stretch way past the current vintage.

• There is the concern for plant injury by copper applications, which will be exacerbated by application under slow drying conditions and application to wet canopies (for example, don't make applications to dew covered canopies in the early morning). The addition of lime to the

application raises the pH of the spray solution and reduces the chances for plant injury.

- Consider that copper is poisonous to yeasts and that excessive copper residues at harvest
  can interfere with fermentation, and wine stability and quality. Unfortunately it's impossible to
  predict how high residues will be on fruit at harvest; that's going to depend on the copper
  formulation (some of the newer coppers utilize lower copper concentrations), rate of material
  used, number and timing of applications made, spray coverage, and amount of rainfall from
  application to harvest. I am not aware of any information that establishes a nice, clean cutoff date or pre-harvest interval for avoiding excessive copper residues at harvest, but I have
  heard that cutting off copper use about a month before harvest may be sufficient in most
  cases.
- There is also evidence that late Captan sprays can delay fermentation and have negative effects on wine quality but the consequences seem less severe and irreversible than those associated with copper use. For more on this, consider this online article by Dr. Annemiek Schilder, former fruit pathologist at Michigan State University: <u>https://www.canr.msu.edu/news/late\_season\_fungicide\_sprays\_in\_grapes\_and\_potential\_effects\_on\_fermentation</u>

If you are protecting a non-bearing, young vineyard from downy mildew (you're not selling/ harvesting a crop), you can continue to use mancozeb products to control downy mildew past the 66-day pre-harvest interval. You can also consider using mancozeb after harvest to keep canopies clean of downy mildew and 'firing on all cylinders' until that first frost. The longer your vines can continue to produce and store carbohydrates after harvest, the better prepared they'll be to withstand winter cold without damage (and the crown gall that follows).

And again, here's a repeat regarding bunch and sour rots: Botrytis specific fungicides have active ingredients that are prone to the development of resistance by the Botrytis fungus. Below is a list of these materials according to the FRAC (Fungicide Resistance Action Committee) group that each product belongs to. FRAC numbers group together active ingredients with the same mode of action.

For example, Vangard and Scala are in the same FRAC group, 9. This means that if a population of Botrytis in a vineyard has developed resistance to the active ingredient in Vangard, then it will also be resistant to the active ingredient in Scala, even though the active ingredients may be different chemical compounds (cyprodinil in Vangard and pyrimethanil in Scala). Nevertheless, the mode of action of these two chemistries (the way in which the fungicide disrupts a specific metabolic pathway in the fungus, killing it) is the same, or similar enough that pathogen resistance to one chemistry will confer resistance to the other.

- 1. Rovral/Meteor: FRAC group 2, 7 day pre-harvest interval
- 2. Endura: FRAC group 7, 14 day pre-harvest interval
- 3. Luna Experience: FRAC group 7 (and 3, which is not for Botrytis), 14 day pre-harvest interval
- 4. Pristine: FRAC group 7 and 11, 14 day pre-harvest interval
- 5. Vangard, Scala: FRAC group 9, 7 day pre-harvest interval
- 6. Inspire Super: FRAC group 9 (and 3, which is not for Botrytis), 14 day pre-harvest interval
- 7. Switch: FRAC group 9 and 12, 7 day pre-harvest interval
- 8. Flint and Intuity: FRAC group 11, 14 and 10 day pre-harvest interval, respectively.
- 9. Elevate: FRAC group 17, 0 day pre-harvest interval

**Botrytis specific fungicides will provide little or no control of sour rot.** This is where late season insecticide applications come in. Work by Drs. Megan Hall and Wayne Wilcox at Cornell

University has shown a close connection between fruit flies and sour rot development and spread. <u>Weekly sprays of insecticides (to control the fruit flies) initiated just before sour rot symptoms are</u> <u>observed (preventive sprays just before about 15 brix) can provide significant control of sour rot.</u> The addition of antimicrobials (Oxidate, Fracture, for example) could improve sour rot reductions even further, though most of the sour rot control will come from the insecticide. Be careful to rotate insecticides as fruit flies can develop resistance to insecticides very quickly. This could be an important part of your rot control program if you're growing varieties like Pinot noir/gris, Vignoles, Chardonnay, or Riesling, especially if the last leg of the ripening period is a wet one.



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## PA Update

Megan Luke, Penn State Extension Viticulture and Tree Fruit Educator

#### **Spotted Lanternfly**

There have been unconfirmed reports of adult SLF in Erie County, PA. The Pennsylvania Department of Agriculture has not found an established population of SLF so far this year, all adult insects have been individual "hitchhikers" from infested areas. Erie County is not currently expected to come under quarantine.

That being said, the PDA and Penn State Extension is strongly encouraging any sightings to be reported. In the event of the discovery of an aggregation or established population in Erie County, the PDA will provide mitigation and eradication of the pest on your property to prevent it from spreading.

## If you see an adult SLF, catch and crush it, take a photo, report it, and contact a member of the LERGP team immediately!

- Pennsylvania Reporting: 1-888-4BAD-FLY (1-888-422-3359) or <a href="https://services.agriculture.pa.gov/SLFReport/">https://services.agriculture.pa.gov/SLFReport/</a>
- New York Reporting: <u>https://survey123.arcgis.com/share/a08d60f6522043f5b-d04229e00acdd63</u>

Additionally, if you or someone you know is traveling into a quarantine zone, be sure to check vehicles for adult SLF hitchhikers upon arrival in Erie, PA or Chautauqua County, NY.



Current SLF quarantine map in PA

#### General scouting and management:

Current pests of concern include multi-colored Asian lady beetle which can emit a noxious chemical when disturbed leading to taint of juice and wine, and fruit flies which can promote sour rot. If you have observed these pests in high numbers in previous years or have high levels of damage in your vineyards, it is imperative to scout for these pests in order to reduce the risk of rejected shipments at the processor. **Multi-colored Asian lady beetle (MALB)** Harmonia axyridis (**Figure 1**): Multi-colored Asian lady beetle is typically a beneficial insect in vineyards, consuming pest insects such as aphids, as well as spider mites. Late in the season MALB can at times congregate within grape clusters, and when this occurs they can emit a noxious chemical when they are disturbed, such as during harvest activities. This chemical can lead to taint in juice and wine, and a high number of MALB may be grounds for rejection of harvested grapes.



Multi-colored Asian lady beetle-Jon Yuschock, Bugwood.org

**Fruit flies:** Sour rot infections appear to be a function of bacteria, yeast, and fruit flies on damaged grape berries that encourages disease progression throughout the entire cluster as ripening progresses. Sour rot symptoms have been observed when berries are around 15 Brix and daily temperatures are at least 68°, and tight-clustered cultivars (e.g., 'Pinot gris', 'Riesling', 'Sauvignon blanc', 'Vignoles') are at greatest risk compared to those that have looser clusters. A chemical program using antimicrobials and insecticides directed at controlling yeast, AAB, and fruit flies can minimize risk of sour rot. Weekly applications of insecticides and antimicrobial sprays, commencing at 15 Brix, may be necessary for vineyards with extensive disease or insect damage to prevent added pressure from sour rot.



Drosophila species on grape clusters (left) and Botrytis bunch rot on sour rot-infected grape clusters (right). Note the fungal growth, which is not part of the sour rot complex but exacerbates the damage. Left photo courtesy of Rachael White, University of Georgia; right photo courtesy of Cain Hickey, Penn State Extension.

For Pennsylvania growers, the Erie County Conservation District has funds available to growers for implementing projects such as cover cropping and stabilization of access roads through the VinES Program.

Information for these funds is available here: VinES Program Website

#### To get your free workbook, contact Ryan Nageotte at (814) 825-6403

#### Office schedule (September 18th-September 22nd)

M 8am-4:00pm CLEREL Portland, NY T 8am-4:30pm LERGREC North East, PA W 9:30am-4:30pm Out of office (available by email or phone) Th 8am-4pm Summit Municipal Building, Erie, PA F 9:30am-4:30pm Out of office (available by email or phone)

#### **Contact information:**

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