Lake Erie Regional Grape Program

Concords gaining some color-
Kim Knappenberger
8/21/2023

CROP UPDATE
August 24, 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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Jennifer Russo, Viticulture Extension Specialist, LERGP

In the Vineyard

The Cornell Lake Erie Research and Extension Laboratory has officially called Concord veraison on Wednesday, August 23, 2023. Veraison is called when a majority of the clusters exhibit 5% color. Many of you may have already hit veraison. It usually occurs 69-72 Days After Bloom. The historical average for Concord veraison on the phenology block vines is August 22nd, and the historical average bloom date is June 14th ; we called Concord bloom on June 12th this year. Concord harvest usually begins approximately 100 DAB give or take and depending on the producer schedule, crop load, and vine health.

Photo 1. Concord grapes in veraison in Portland, NY.

Our Growing Degree Days from April 1, 2023, at CLEREL is at 1830 and the historical average for over forty years is 1993. That is a difference of 163 GDDs less than the historical average. There are only two years that are lower and they are 1992 and 1997. You can access all of this information on our website Click Here for Historical Phenology Data.

Per Terry Bates:
No...the Canadian wildfires are not playing a role.

Yes...we have low GDD this year more likely because of El Nino weather pattern (hot in the south, cool in the north).

The GDDs are low but not unusual. As Kim says, 92 and 97 were cooler...and both crappy ripening years. 1992 was exaggerated because 1991 was a warm year with a low crop; therefore, 92 came back with a huge crop that they could not ripen. Crop estimation and thinning was not a big thing back then.

What to expect in 2023

- Low GDD pre-bloom leading to higher-than-average berry weight. We are observing this this season.
- Extended period between bloom and veraison. On average, veraison in Concord is 69 days +/- 3 days from bloom. Shorter in warm years, longer in cool years (possibly also an interaction with berry weight). We called veraison at 72 days in 2023. Late, but again not out of the ordinary for a cool season.
- High acid. I would expect the TA to be high going into veraison, which means it will be high at harvest.
- Sugar accumulation is dependent on the weather from veraison to harvest AND on crop load. If the cool wet weather continues, sugar accumulation will be slow and there will be a pronounced effect of crop load. In warm/dry ripening seasons sugar accumulation is fast and there is less of an effect of crop load.

One unknow factor is huricane season. Sometimes a hurricane will come up the Ohio River Valley and dump a ton of rain on us...Sometimes a hurricane with skirt the east coast and knock the weather pattern in to clear and sunny in the Lake Erie region. It is up to Mother Nature.

As of Monday, August 21, 2023, Dr. Terry Bates reported that the phenology block was at 2.57g berries and 7.4 Brix. Veraison typically hits between 7.5 and 8.0 Brix. He stated that veraison was close. The figure below (Figure 1) is the Concord Berry Curve that Terry and his team track every season. It has the 22-year mean indicated by the black line, the 2016 is green, the 2017 is blue, and the 2023 Concord Berry Curve is red. In Stage II the 2023 year was above average and above 2017 at the same Days After Bloom. It continues to indicate larger berries over the 22-Year Mean but has joined lines with the 2017 Concord Berry Curve this week.

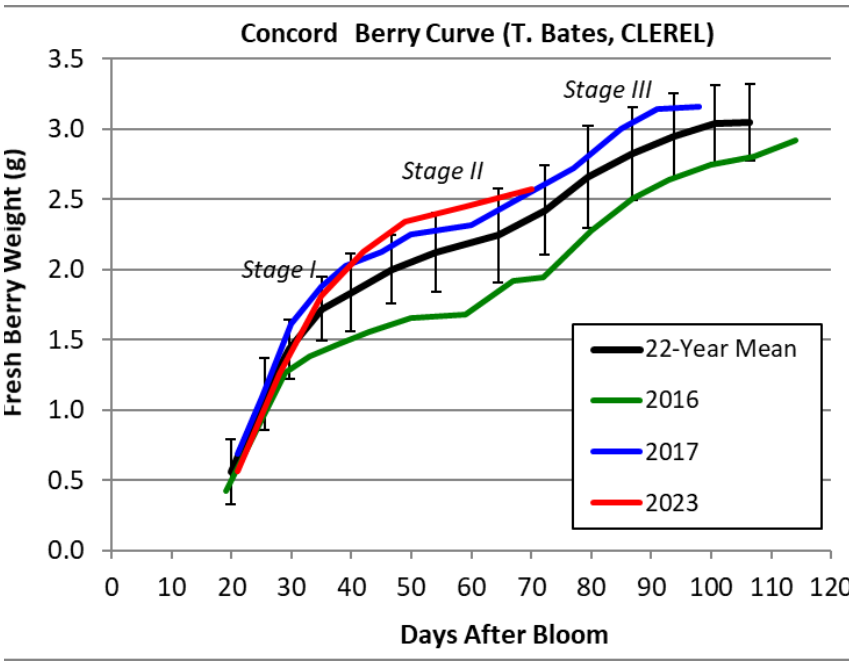


Figure 1. The Cornell Lake Erie Research and Extension Laboratory's Concord Fresh Berry Curve

MyEV

Dr. Bates also has been working with precision viticulture for many years in hopes of integrating technology and viticulture research for high quality grape production. Funded through the USDA-NIFA-Specialty Crop Research Initiative, the Efficient Vineyard project is a national effort to advance the use of precision viticulture in wine, juice, and table grape production. The disciplines of engineering, precision agriculture, viticulture, and economics come together to measure vineyard soil, canopy, and crop characteristics, model spatial data for viticulture information, and manage vineyard crop load through variable-rate machine applications. Using off-the-shelf sensors as well as developing new tools, has proved very beneficial at not only the research station, but with grower adoption. He has produced many tutorials that are housed here: Click Here for Tutorials.

As part of his research efforts, they are also fruit sampling by predicted crop load based on our estimated yield and pruning weight maps. Terry shared the following work for you to see how the visualized spatial variation could help in management decisions. The higher crop load stressed vines (red areas) have smaller berries and higher Brix...and more color. It is common for stress to induce earlier veraison but lower Brix accumulation post-veraison.

Photo 2. Screen shot of the CLEREL NDVI scan

Spotted Lanternfly

Viticulture Extension Educator, Jennifer Phillips Russo, with the Lake Erie Regional Grape Program has developed a public service announcement (PSA) to educate New York state residents of the threat the Spotted Lanternfly poses to the agricultural community and how they can fight back. Please help protect New York state agriculture by sharing this PSA widely.

The spotted lanternfly is an invasive species from southeast Asia. This insect is a phloem feeder meaning it feeds on the fluid found in plant cells, because of this it is a threat to several agriculture crops grown in New York State including grapes. As of January, 2023 there are known cases of established spotted lanternfly populations, with one in Buffalo, NY. We have been monitoring SLF traps around our region all season and have not located any. At this point in the season, one would find adults when scouting around their vineyard blocks (Photo 3 and 4).

Photo 3 and 4: Adult spotted lanternfly photos located at Cornell's NYS IPM website

If you see a Spotted Lanternfly:

1-Take a photo
2-Collect it
3-Squish it
4-Report it

NEWA Location	Wild grape bloom date*	DD total on Aug 24	Forecasted GBM GDD for Aug 29	August Rainfall to Aug 24 10:30AM
Brant	May 31	1840	1939	3.87”
Versailles	June 2	1708	1809	1.62”
Hanover	June 5	1694	1797	2.25”
Sheridan	June 1	1838	1943	2.69”
Silver Creek (Route 5)	June 9	1686	1792	3.96”
Silver Creek (Dble A)	June 2	1821	1924	2.09”
Dunkirk Airport	May 31	1960	2064	2.09”
Forestville	June 2	1765	1867	2.21”
East Fredonia	June 2	1731	1832	1.71”
Fredonia	June 6	1657	1760	
Brocton Escarpment	June 2	1731	1829	2.02”
Portland	June 3	1735	1838	1.25”
Portland (LERGP West)	June 2	1836	1941	2.16”
East Westfield	June 3	1705	1808	3.55”
Westfield	June 10	1655	1760	2.31”
Westfield (South)	June 3	1751	1855	2.59”
East Ripley	June 3	1765	1875	2.72”
Ripley	June 3	1778	1883	2.76”
Ripley Escarpment	June 2	1773	1878	2.66”
Ripley State Line	June 2	1799	1906	2.73”
North East State Line	June 2	1736	1833	3.14”
North East Escarpment	June 2	1763	1859	4.46”
North East Sidehill	June 2	1750	1845	4.71”
North East Lab	June 6	1829	1938	3.71”
Harborcreek	June 3	1801	1904	5.55”
Harborcreek Escarpment	June 3	1662	1762	3.97”
Lake City	June 6	1743	1849	2.61”
Lake City(Mason Frm)	June 2	1805	1911	2.30”
Ransomville	June 2	1864	1966	2.51”
Burt	June 12	1561	1662	
Newfane	June 8	1702	1802	2.23”
*Estimated date provided by NEWA website				

PA Update

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

Weather: We accumulated about 438 growing degree days and 3.47 inches of rain in August, cooler and wetter than average. The short-term forecast for North East PA has rain for tonight (August 24), a 30% chance of precipitation tomorrow, 20% chance of precipitation on Saturday and dry on Sunday. High temperatures over the next several days will hover around the mid-70s.

Phenology: Concord blocks across the Lake Erie belt have reached veraison as we see berries taking on some color. Our 12 acre Concord block (farthest from the lake) approached 8 brix on August 23. Our Concord block on route 5 (on the lake), is at 7.8 brix as of August 24.

Diseases: Regular rain over the past 2 and half weeks continues to fuel downy mildew leaf infections (fruit have been resistant to powdery and downy mildew and black rot, for several weeks). **The remainder of any fungicide applications should focus on control of powdery and downy mildew on leaves.**

Scout your vineyards to maintain good control of downy mildew. With all the rain we've been getting, it continues to be a threat for varieties with susceptible leaves. Look for it primarily on young leaves of still actively growing shoots. Under these wet conditions, its very important to keep this disease under tight control: if this disease blows out of control (and it easily could if we continue to receive regular wetting periods in August and control measures are not taken seriously), it can defoliate a vineyard and essentially end the season for that block**.** If you get into a pinch and downy mildew blows up on your leaves, 2-3 consecutive 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.

Continue protecting leaves from powdery mildew for as long as you feel necessary to ripen the crops you have developing. This is especially important for high-end wine grapes (Vitis vinifera). Also, the larger the crop beyond your average, the more justification you'll have for continuing to keep leaves clean and firing on all cylinders. For juice varieties, average to small crops require no additional powdery mildew control. It's important to start the ripening period with a relatively clean, efficient canopy, and those first 2-4 weeks after veraison are critical to reaching the finish line. Of course, the weather is the wild card over which we have no control. As we all know, cool, wet weather will slow the ripening process.

In the rest of this update, I'm borrowing information from blogs I wrote a few years ago, so as not to try to reinvent the wheel.

Downy mildew

The pathogen that causes downy mildew is dependent on wet conditions; without a wet plant surface, no infection takes place. Fortunately, the fruit of most varieties are resistant to direct invasion by this pathogen by about 3 weeks after capfall. In other words, a developing berry is only susceptible to direct penetration of the pathogen from about the time the flower cap comes off (at the beginning of bloom) to about 3-4 weeks later. Obviously, we are now well past that point in

time. However, the cluster stems may remain susceptible for a couple weeks or more after fruit are resistant, and for this reason, fruit loss can continue to occur from cluster infections 4 or 5 weeks after capfall. Once we get past the critical sprays for fruit protection (*which we always apply, rain or shine!*), scouting for the distinctive white 'downy' sporulation on the undersides of leaves and on cluster stems is very important, and yields valuable information with regard to future need to spray (Figure 1). Growers of susceptible varieties do well to keep closely monitoring their vineyards for active sporulation to determine if and when infection periods have occurred.

Figure 1. Late summer leaf symptoms of downy mildew (Niagara) showing 'blocky' lesion development and discoloration on the top side (left) and 'downy' white sporulation on the underside of a grape leaf (right). The late summer leaf blotches can differ dramatically from the yellow 'oil spot' symptoms that are observed in spring.

Leaves will remain susceptible all season, though they do become less susceptible as they age. For this reason, the limiting or elimination of new shoot growth by veraison, through good nutrient and/or canopy management, can help to reduce the supply of susceptible tissue in the vineyard during ripening, and make post veraison control of this disease more manageable. I have gone into vineyards in late August-early September and observed that downy mildew was largely present on new shoot growth, but not on mature leaves at older nodes. There were two reasons for this: i) new shoot growth is more susceptible than older, mature growth, and ii) new shoot growth, unless just sprayed, is unprotected or less protected by previous fungicide applications. Symptoms on mature leaves in late summer may appear different from those on young leaves in early spring (Figure 1).

The sight of active, white sporulation on green vine tissues means the downy mildew pathogen is capable of spreading quickly under wet conditions, and that sprays for downy mildew should continue, especially for susceptible varieties. Even 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 are wet. If you let downy mildew get out of control, it can strip vines of their leaves and in the worst cases, effectively end fruit ripening for the year, and shoot ripening for next year's crop. Your grapevines go into winter dormancy in poor condition,

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, so you want to keep downy mildew under *very tight control, especially on Vitis vinifera.*

Chemical control: Your list of chemical control options will start to dwindle as we get within 66 (Mancozeb products, Ridomil MZ), 42 (Ridomil copper), 30 (Ranman, Reason), 21 (Ziram), and finally 14 (Revus, Revus Top, Zampro) days of harvest. In the end you'll be left with Captan (which will also control ripe and bitter rot), copper, and phosphorous acid products (0-day pre-harvest interval), which have their own shortcomings, discussed below.
Products like Ridomil (the mefanoxam component), Ranman, Reason, Revus/ Revus Top, Phos acid products, and Zampro, are more rainfast than the surface protectants (like copper, mancozeb, ziram, and captan) but contain chemistries that are prone to the development of resistance. Therefore, they **should not be used** to put down an epidemic, which will only speed up the resistance development process. Even phosphorous acid products can be lost to resistance through repeated applications on a diseased vineyard, so keep downy mildew well under control. *The resistance prone materials (Ridomil, Ranman, Reason, Revus/Revus Top, Zampro, Phos Acid products) are best used to maintain a clean vineyard, NOT to put down an epidemic.* Conversely, the surface protectants (the old standards) would be least risky in terms of the development of resistance and can be an effective means of controlling downy mildew late into the growing season. Just be aware of seasonal limits, so plan ahead as best you can.

Here are some precautions to consider with use of the 'old standard' protectants:

- Some insecticides and oils should not be applied with Captan.
- 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 cut-off 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: https://www.canr.msu.edu/news/late_season_fungicide_sprays_in_grapes_and_potential_effects_on_fermentatio

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).

Powdery mildew

In contrast to downy mildew, the fungus that causes powdery mildew is dependent on rainfall only for the initial release of spores in early spring. There is no requirement for plant wetness beyond that, which is why this disease is a problem even in dry climates like California. Once primary spores (ascospores) land on a susceptible grape surface, they germinate and form colonies that grow across the plant surface (Figure 2), sucking resources from the plant and producing secondary spores (called conidia) that are now spread by wind/air currents. The disease spreads rapidly under ideal conditions of high humidity, cloudy skies, and warm (but not hot) conditions. During the mid-late summer period, *every day can be a powdery mildew infection period*. Fortunately, just as for downy mildew, fruit of most grape varieties becomes resistant to powdery mildew after about 3-4 weeks past capfall, although native varieties like Concord may be resistant just 2-3 weeks after capfall. Nevertheless, it's especially important to tightly control the disease on fruit of *V. vinifera* and susceptible hybrids *up to 4 weeks after bloom*, as even tiny amounts of powdery mildew infection on fruit (amounts you can't even see) can leave microscopic breaches in the berry skin, and increase the susceptibility of that fruit to bunch rots later near harvest.

Figure 2. Greyish-white colonies of powdery mildew on the upper surface of grape leaves.

At four weeks post capfall the focus for powdery mildew control shifts to keeping leaves clean, to ensure optimal ripening of fruit and shoots/canes, to ensure optimal cold hardiness, and to more effectively and more easily manage fungicide resistance. There is also another important reason (especially for growers of *Vitis vinifera* varieties), demonstrated by some excellent research conducted by Wayne Wilcox and others at Cornell University, who showed that controlling powdery mildew up to about Labor Day can reduce overwintering inoculum and disease pressure the following spring. Why Labor Day? When powdery mildew infected leaves die by that first hard frost in fall, the mildew on those leaves also dies…UNLESS it has had time to form fully mature, winter resistant structures called chasmothecia. These are the tiny, dark, period sized (.) structures you observe in heavily infected tissues in late summer. If the chasmothecia do not have time to fully

mature before the leaf dies (as we would expect from infections that occur *after* Labor Day), they will not be tough enough to survive the dormant period (winter) and will not contribute to the bank of primary inoculum that infection periods draw upon the following spring. Knowing this, a grower can continue their spray program up to Labor Day, to control the 'size' of the powdery mildew problems he/she will potentially face next spring. Once again, this is most important if you are growing *Vitis vinifera* and less important for growers of native varieties like Concord and Niagara.

Chemical control: Fungicides like Quintec, Vivando/Prolivo, Torino, Endura, Luna Experience/ Sensation, Miravis Prime, Cevya and other sterol biosynthesis inhibitors (tebuconazole, tetraconazole, difenoconazole products) can be used for additional post bloom applications to control powdery in early/mid-summer in vineyards that have maintained tight control of the disease ('clean' vineyards). Do not rely on strobilurin fungicides for control of powdery mildew. Remember to try and limit the use of any one FRAC group to 2 applications per season (the FRAC group designation is on the label). However, where disease control has been less than ideal, and especially for late summer applications (August and September), options for powdery mildew control should emphasize materials that are less risky in terms of the development of resistance, like formulations of sulfur on varieties that are not sensitive to it (which could also be tank mixed with the aforementioned synthetics to manage resistance). The more expensive, micronized formulations of sulfur will generally perform better (more effective per pound, more rainfast) than the cheaper, wettable powder formulations, especially for *V. vinifera* (you get what you pay for). Also, according to the **New York and Pennsylvania Pest Management Guidelines for Grapes**, "sulfur activity is strongly influenced by formulation, rate, frequency of application, and weather"; that is, higher rates and shorter spray intervals will provide better control than lower rates and longer spray intervals. Do not apply sulfur within 14-21 days of an oil application. Sulfur residues on fruit at harvest have been correlated with increased hydrogen sulfide and sulfurous off-aroma formation during fermentation, and so growers will need to phase out sulfur applications at some point well before harvest. This is mostly a problem for wines that are fermented on the skins (reds) where most of residues at harvest are found. Work published by Dr. Misha Kwasniewski showed that "sulfur residues are likely of low concern in white wine making, especially when juice is clarified before fermentation. However, residue levels in red fermentations (fermented on skins) can exceed levels associated with increased hydrogen sulfide production when some sulfur sprays are applied within *8 weeks of harvest*" (Kwasniewski et al. 2014). However, in that same study, ceasing sprays no later than 5 weeks before harvest, resulted in sulfur residues that were below a concentration consistently shown, in previous literature, to increase hydrogen sulfide production. Therefore, for reds fermented on the skins, one may need to end sulfur applications a month or two before anticipated harvest date, to avoid increased H2S production during fermentation. Another strategy can include early-mid summer sulfur applications with micronized formulations (that are longer lasting/more rainfast) and making the later sulfur applications with a wettable powder formulation that is more quickly reduced by weathering.

Other late season options include coppers, potassium salt sprays like Nutrol, formulations of potassium bicarbonate, and horticultural oils. Keep in mind that the later oil applications are made, the greater the chance they will negatively impact ripening. Therefore, the current recommendation is to discontinue oil sprays as you near veraison. As for coppers, the same concerns that were mentioned in the section on downy mildew, apply here as well. These materials can be a good way to maintain decent control of powdery mildew on leaves, while minimizing the chances for the development of resistance to the riskier materials used earlier in summer.

Botrytis bunch rot control; a recap

Hopefully premium wine grape growers have applied **fruit-zone leaf removal** to open their fruit to better sunlight and aeration and better pesticide penetration. Research has repeatedly shown that there are great benefits of this practice in our wet, humid climate. It is one of the most effective cultural treatments for reducing the susceptibility of the crop to disease of all kinds (especially bunch/sour rots (Figure 3)), and improving coverage, and therefore efficacy, of fruit protection sprays. Though the benefits of leaf removal may generally be reduced the later it is applied after fruit set, it's not too late yet. However, there is a greater danger of sunburn on your fruit the later this leaf removal is applied. For this reason, mid-late summer leaf removal may be best confined to the east or north side of the trellis (depending on row orientation), especially in areas where very hot mid/late summer temperatures are expected. Fruit zone leaf removal can be mechanized and is probably performed most effectively on vines trained to a vertical shoot positioned (VSP) or some other two-dimensional trellis system with a relatively focused and narrow cluster zone.

Fungicide sprays for bunch rot are mostly for Botrytis and there are many products to choose from: Vangard, Inspire Super, Switch, Rovral/Meteor, Elevate, Endura, Luna Experience/Sensation, Fracture, Miravis Prime, and the strobilurins (Flint, Pristine, Intuity). Use them sparingly (once or twice per season) and always rotate FRAC groups with every application. Also, pay close attention to pre-harvest intervals on each label. A Botrytis specific fungicide at full bloom and pre closure, especially in varieties with very compact clusters, can be extremely important to reduce 'latent' Botrytis infections that continue to accumulate throughout the 'green' berry development period. The next fungicide application for Botrytis is made just before or at veraison, as fruit begin to soften and skins become thinner and more easily penetrated by fungal pathogens like Botrytis. After veraison, fruit are also more likely to become injured by birds, insects, excess moisture/humidity (rain cracking), and overcrowding of berries in tight clusters. Botrytis fungicides can protect intact fruit surfaces and may help to reduce the spread of Botrytis rot on fruit, even after they have become injured.

Finally, a Botrytis fungicide application about 2-3 weeks after veraison, especially under wet weather conditions, can reduce further rot development during the last stretch of ripening. However, Botrytis fungicides *control Botrytis* and will not provide protection against sour rot organisms that often destroy fruit of overly compact clusters, despite the application of a full Botrytis fungicide program. Photos on next page.

Figure 3. Botrytis bunch rot (top left photo) and sour bunch rot (top and bottom right photos) in Vignoles.

Sour rot
Work conducted by Dr. Megan Hall, a former graduate student of Wayne Wilcox at Cornell University, demonstrated how additional pesticide applications during the latter stages of ripening (beginning around 15 brix) can significantly reduce the development of sour rot. Her work has shown that there is a close connection between fruit flies and sour rot development, and that the presence of the flies is important to the accumulation/generation of acetic acid in rotting fruit. Treatments composed of weekly, tank mix applications of an insecticide (to control the flies) and an antimicrobial (to kill bacteria) have been found to reduce sour rots by 50-80% over unsprayed vines. The best results appear to occur when weekly sprays are initiated just before sour rot symptoms are observed (preventive sprays before about 15 brix).

Good canopy and fertility management is essential to maximizing the effectiveness of your pesticide applications: make sure shoots are tucked and spaced within catch wires and that shoots have not flopped over to block spray penetration into the fruit zone. Also, as stated above, limiting shoot growth after veraison with good fertility management will limit the supply of new green tissue that is hyper susceptible to powdery and downy mildew and will make late season management of these diseases more effective.

PA Update

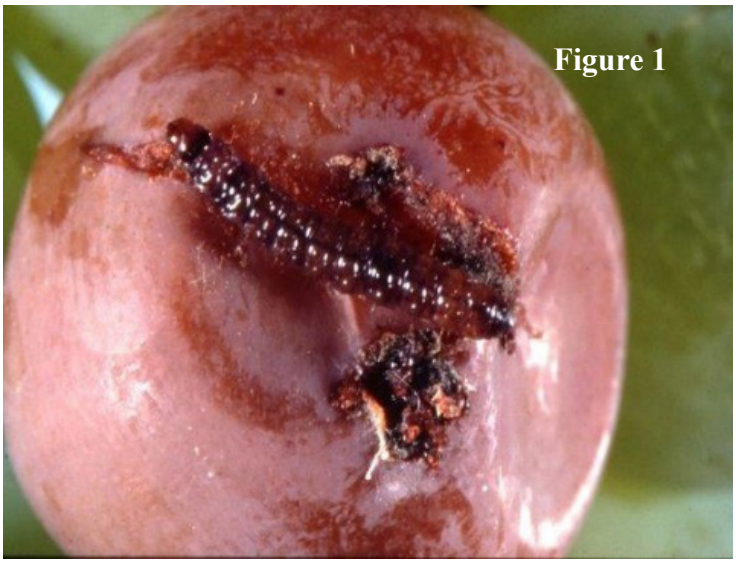
Megan Luke, Penn State Extension Viticulture and Tree Fruit Educator

Save the Date!

There will be a 2+2 Winter Grower Meeting held at Penn State Behrend Campus on January 10th, 2024. This meeting will have two core credits and two category credits available for PA growers needing recertification credits. NY credits will be applied for as well. Details will be provided in September.

Scouting and management: Current pests of concern include grape berry moth, grape leaf hopper, and spider mites. With the cool conditions and frequent rains, extreme damage from spider mites is unlikely, but if you have been applying high rates of insecticides and are observing bronzing or stippling with curling leaves you should check the undersides for signs of mites. Dark specks along with fine webbing are the telltale signs, high enough populations can reduce plant vigor and cause defoliation. If spider mites pressure exists, be sure to include an acaricide or pesticide listed for mite control in your next application, examples would be abamectin, acequinocyl, bifenazate, etoxazole, fenpyroximate, and fenbutatin-oxide. Be mindful of your PHI (pre-harvest interval) in early-harvest grape varieties.

Grape berry moth (GBM) (Figure 1): At this time, damage is visible as small holes in berries with a purplish discoloration and sometimes a split in the skin with frass or webbing (Figure 2). In warm years and at high-risk sites, growers need to continue chemical control on a 10-to-14-day interval from mid-August to mid-September. Good coverage of the fruiting zone is essential. Remember when scouting that the goal is to get a handle on potential damage levels and whether you are exceeding economic thresholds. For Concord grapes, if the percent of clusters that show some GBM damage to berries is **greater than 6% at second flight** and **greater than 15% at third flight**, then a treatment is recommended.



Grape Berry Moth Larvae and Damage *Photos courtesy of Penn State Extension, Andy Muza & Megan Luke*

Grape leaf hopper: As we reach the end of August, the grape leaf hopper is the other primary pest to be concerned with (Figure 3). The final round of scouting is performed in late August. If you see stippling (white dots on leaves caused by leafhopper feeding) throughout the vineyard block, you should be counting nymphs to determine if an insecticide treatment is recommended (Figure 4). Sampling for leafhoppers at this point in the season is focused on the abundance or quantity of second-generation nymphs. Check four different areas in the vineyard (two exterior and two interior). At each area look at five lower (basal) leaves (leaves #3-#7 when counting from base of shoot) per shoot on five different shoots at each location and check for leaf feeding. If no damage or minimal injury is observed, proceed to the next sampling site. If moderate to heavy leaf stippling is observed, then begin counting nymphs on the undersides of leaves. **If you are observing heavy damage, and a threshold of ten nymphs/leaf is reached, then an insecticide application is recommended.**

Grape leaf hopper adults, leaf damage, and nymph Photos courtesy of Penn State Extension, Andy Muza

EPA Herbicide Re-Registration Update

Link to public comments: [EPA Herbicide Practices Comment Link]

The EPA has been under fire in recent years with multiple lawsuits claiming that the agency has been negligent in its assessment of pesticides and their risks to species and their habitats as defined and protected under the Endangered Species Act.

Last week, the EPA hosted a webinar to address these concerns and to outline new measures for mitigating risks of damage to protected species and habitats by creating new label requirements for herbicide use. As we all know, the label is the law when it comes to pesticide applications, so these measures will affect agriculture and individual farming operations as soon as next year.

Recording of webinar: https://youtu.be/vmm_oTmxdLU

Key takeaways:

- The EPA is working with the U.S. Fish and Wildlife service to create maps of every endangered and protected species in the USA and their critical habitat.
- If your farming operation is within 1000 feet of critical habitat, you will be required to demonstrate compliance with “mitigation measures” as defined by the EPA
- Mitigation measures are defined on a point system, with individual measures being worth a given number of points
    - Measures will include practices such as cover cropping, conservation tillage, drift reduction practices, contour farming, etc.
    - Points vary for each qualifying practice
- Every new herbicide and every herbicide due for re-registration will have a mitigation point requirement added to the label
    - Herbicides with higher risk to non-target species will require a higher number of points
    - Farmers MUST be able to demonstrate commensurate mitigation practices to the number of points on the label IN ORDER TO USE THE HERBICIDE
- All current information on point values and mitigation practices will be hosted EXCLUSIVELY on a website

The only exemptions provided at this time are for farmers who have land that is NOT within 1000 feet of any protected habitat, OR for farmers currently working with an “expert” to utilize conservation practices on their land with actionable steps in place. The definition of what type of qualifications are required for an “expert” exemption are not yet defined.

Methods of enforcing these measures were not discussed in the webinar. Currently, these measures are open to public comment until September 22nd. We are strongly encouraging growers to voice their thoughts on these measures. It seemed that at this point the suggested “point system’ was going into place regardless, but the speakers for the EPA requested advisement on possible exemptions, methods for refining the maps of critical habitat, and mitigation practices that should be included in the menu of options.

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 (*August 28th-September 1st*)

M 8am-4:30pm 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 9am-5pm Summit Municipal Building, Erie, PA
F 9:30am-4:30pm Out of office (available by email or phone)

Contact information:

Mobile (*call or text*): (716) 397-9674 (*preferred*)

Office: (814) 825-0900

Email: MFL5873@psu.edu

Updates and Information

Kimberly Knappenberger, Viticulture Assistant, LERGP

NEWA

Our new stations at Lake City (Mason Farms) PA and Newfane are reporting and can now be found on NEWA. If you are near those ones you can add them to your favorites list so you can find them quickly. As a refresher on how to do that you can view this 3 minute video by Dan Olmstead at https://help.nysipm.org/hc/en-us/articles/4417360459799-Create-and-Configure-Your-User-Profile-3-minutes-

We were able to begin the installation of the new KestrelMet 6000 wifi stations in the Finger Lakes region. The first is at Williamson (Young Sommer) NY and the second is a replacement for the old station at Ovid (Hosmer) NY. Those will be added to NEWA in the near future but can be accessed on kestrelmet.net if you are interested in finding them. We left the last two stations in the capable hands of Hans Walter Peterson and Sean O'Neill – a technician at Cornell in the IPM department. The sites were not quite ready for us yesterday, but hopefully soon!

As always, if you notice something that doesn't seem right on your favorite stations, please let Kim know at ksk76@cornell.edu.

Figure 1. New station at Williamson (Young Sommers) NY

Figure 2. New station at Ovid (Hosmer) NY