





CROP UPDATE May 6, 2021

Photo-Kim Knappenberger

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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<u>Click here to watch</u> <u>LERGP Podcasts</u>



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Business Management

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

Crop Insurance

Crop insurance proves its worth again in 2021. Freeze patterns related to elevation this year but were a bit different because of the higher winds. Since the freeze was not an inversion air drainage was not nearly as important. If damage is more uniform across a block, crop insurance will provide a better return than the spotty damage invective freezes sometimes cause.

Many sites were on the edge of damage. Despite the radiation freeze damage might be spotty because temperatures were so close to the edge of what was survivable. Unfortunately, this might undermine crop insurance claims if yields were not insured to higher levels. Lots of changes have been made to crop insurance policies since 2012. Risk management remains an essential tool for most growers, particularly those that carry debt, hire labor and have high risk sites.

A robust crop insurance policy typically insures 75% of an 8-ton average. Payments are made when yields fall below 5.5 tons. Cost of this type of policy will be in the range of \$100 per acre. The deadline for establishing or changing a crop insurance policy is November 20th. If changes in your risk management strategy are in order, make sure to contact your agent as soon as possible. Keep in mind that over the last 5 years, changes have been made to crop insurance. Supplemental coverage provides higher payouts when the county experiences a severe disaster. Average yield is calculated favorably to increase the amount eligible for insurance. Different blocks can be covered at different levels of price and yield. This is highly recommended for unnamed hybrids or highly controlled yields in fruitful varieties.

Fertilizer

Field crop prices keep climbing and the impact on the fertilizer market has been severe. Prices began to climb late last year and each time I write an update it continues. At current prices growers should continue to apply fertilizer to avoid deficiencies and slowly build soil health. The speed in which nutrients are built up in the soil, particularly on rented ground can be slowed until prices stabilize.

More expensive fertilizer increases the importance of accurate pH applications. Careful attention should be paid to nutrient availability as pH changes. It becomes even more important, for example, that soils with high aluminum have an elevated pH. It also may be cost prohibitive in soils with high magnesium to maintain a soil pH above 7.0. From an economic perspective, high fertilizer prices justify a more specific soil pH. Accomplishing this may require more frequent applications, more soil tests, and variable rate technology.

Split applications of urea are also justified at lower rates when urea supplements are called for. Split applications of nitrogen are recommended at any rates above 50 actual pounds of nitrogen. Split applications may be easier to justify as granular fertilizer prices have trended upward faster than liquid in some markets. Post-bloom applications of liquid N might be more cost effective than granular if rates are low enough.

Viticulture Jennifer Russo, Viticulture Extension Specialist, LERGP

Spring Freeze/Frost

I am sure that most of you are aware that in late April the region experienced an advection freeze event due to temperatures below 29°F and winds over five miles per hour. Some vineyard blocks and cultivars were further along in phenology and experienced primary bud damage, while others in higher elevations experienced lower temperatures and at longer durations and the primary damage was substantial. One Concord vineyard that I visited experienced 100% primary and secondary bud death. Thankfully, the freeze did not affect each block or cultivar with the same severity.



photo 1. Brown and Crispy Concord primary buds from the Freeze/ Frost events April 2021

What does that mean for damaged vineyard nutrition programs? This is a question that I have been asked more than a few times this week. At this point, I do not recommend that if you make changes in your nutrition unless you are one of the select few that lost both primary and secondary buds. Kevin Martin, Andy Muza, and I posted a video blog and podcast on this particular subject this week. The links to them are posted on our website. First, it is still too soon to know the extent of your damage. We need a few more warm days to push more bud progression. Our forecasted weather (we all know how accurate that can be) has cooler temperatures below 50°F and many chances for wet disease infection periods. The growth of the buds has slowed down with the change in the weather. There are some "off"-looking primaries that appear to be yellowing, but they are not crispy and brown. There are other primary buds that the first two leaves look like they may be cupped and not flattening out, but the cluster flowers appear to be unaffected.

To summarize, it is too early to tell. We need to see what happens over the next couple of weeks before making any drastic changes to your nutrition or spray programs. In a year where Concord prices are higher than usual and there is a potential for a good crop due to last year's Stages 1-7, be cautious about dialing back until you are certain about where you stand with losses. Protect that important 1-5 inch growth stage so you minimize potential losses to disease and you should know more about your loss before the time to apply nutrient amendments (two weeks before bloom and up to four weeks after).

NOAA's National Weather Service Forecast by 12 Hour Period for CLEREL

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)

UTC Forecast Time: 2021-05-06T05:37:56+00:00

Overnight: Mostly clear, with a low around 38. West wind around 7 mph.

Thursday: Mostly sunny, with a high near 51. West wind 5 to 10 mph.

Thursday Night: Rain showers likely after 1am. Mostly cloudy, with a low around 40. South wind 1 to 9 mph. Chance of precipitation is 70%. New rainfall amounts less than a tenth of an inch possible. Friday: Rain showers. Mostly cloudy, with a high near 45. North wind 8 to 13 mph. Chance of precipitation is 90%. New rainfall amounts between a tenth and quarter of an inch possible. Friday Night: A chance of rain showers after 4am. Partly cloudy, with a low around 36. Southwest wind 3 to 7 mph. Chance of precipitation is 30%. New rainfall amounts less than a tenth of an inch possible.

Saturday: A chance of rain showers before 8am. Mostly sunny, with a high near 51. Chance of precipitation is 30%. New rainfall amounts less than a tenth of an inch possible. Saturday Night: Partly cloudy, with a low around 40.

Sunday: A slight chance of rain showers after 2pm. Mostly sunny, with a high near 53. Sunday Night: A slight chance of rain showers. Mostly cloudy, with a low around 40. Monday: A slight chance of rain showers before 8am. Mostly sunny, with a high near 53.

Historical Growing Degree Days (base 50)

Notes: Current season accumulation is reported as the thick blue line from January 1 through May 6, 2021. Historical season data is reported between January 1 and December 31 of each year. The legend indicates how many GDDs 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.

Looking at the graph below (Figure 1.) this year's Growing Degree Days (GDD) are tracking higher than the five-year average to date, which is 91 GDDs out of 2809.2 for the year. For 2021, we currently have accumulated 149.0 GDDs and as of today, we are just below 2017's YTD of 168.0 GDDs out of 2817.0 for that year.

Phenological Resources:

- Grape Disease Control, Spring 2021 | Katie Gold, Cornell University
- Enterprise Tool for Eastern US Small Vineyard Management | Cornell University
- <u>Spotted lanternfly experts debunk myths about the prodigious, pestilent pest</u> | *Amy Duke, Pennsylvania State University*

Regional Resources & Activities:

 (Your input requested) <u>Student Project: Survey for Insect Pest Management course (closes</u> <u>May 14th)</u>



Figure 1. Historical Growing Degree Days (base 50) for the Cornell Lake Erie Reseaqrch and Extension Laboratory as of May 6, 2021

Historical Precipitation (inches)

Notes: Current season accumulation is reported as the thick blue line from January 1 through May 6, 2021. 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 far as 2021 precipitation goes, the graph on the following page (Figure 2.) depicts our accumulative precipitation as 10.2 inches (the thick blue line). This is 7.0 inches below the five year average to date and 12.1 inches below 2017 where our GDDs are most similar to. The closest year for precipitation that 2021 compares to, is 2018 where we had 15.0 inches at this time of year.





Figure 2. Historical Precipitation in inches for the Cornell Lake Erie Research and Extension Laboratory in Portland, NY



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

In the Vineyard (5-6-21)

Freeze/Frost Events

Three freeze/frost events occurred from April 21 – April 26, 2021 across the Lake Erie Region. I checked 15 NEWA station sites from Lake City, PA to Ransomville, NY to determine low temperatures during this period.

April 21 (8 - 9 AM) - low temperatures ranged from 27.8 F at the Harborcreek (Escarpment) site to 31.2 F at the Silver Creek site.

April 22 (5 - 6 AM) - low temperatures ranged from 25.7 F at the Versailles site to 31.8 F at the Harborcreek site.

April 26 (4 - 6 AM) - Low temperatures at the PA NEWA sites ranged from 26.0 F at the North East – (Sidehill & Escarpment) sites to 32.5 F at the North East Lab site. Low temperatures at the NY NEWA sites ranged from 28.6 F at the Ripley (Escarpment) site to 33.4 F at the Silver Creek (Double A Vineyards) site.

Bud Injury Assessments

Twenty vineyard blocks (from north of Rt. 5 to south of I-90) in both the west and east portions of Erie County, PA were assessed for primary bud injury on April 3 & 4.

Vineyard blocks assessed – 10 sites from (north of Rt. 5 to Rt. 20) – primary bud injury ranged from minimal injury (at most sites) to 19% dead primaries at one site. In addition, one block in this area that has received lower inputs over the last few seasons, suffered as much as 50% dead primaries.

Vineyard blocks assessed – 4 sites from (south of Rt. 20 to north of Slade Rd.) – dead primary buds ranged from 5% - 18%. However, shoot growth appeared stalled/stunted between 1.5"– 3.5" in these blocks with a light green - yellowish coloration. Some leaves exhibited scorched (brown) tissue along the margins with superficial browning on a variable number of clusters. It is too early to determine the extent of injury to shoots/clusters at this point.

Vineyard blocks assessed - 6 sites from (south of Sidehill/Belle Rds. to south of I-90) - dead primary buds ranged from 51% - 92%. The blocks with the highest injury levels were along the escarpment (south of Sidehill Rd.). Secondary buds were starting to push in these areas with no indication of injury.

PA Update

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

Weather: We finished up April with just 2.71" rainfall (below our long-term average of about 3.4") and 97.3 growing degree days (gdds) (above our long-term average of about 74 gdds). We have recorded just a trace of rainfall (0.17") and about 31 gdds so far for the first few days in May. The short-term forecast looks to be a continuation of cool temperatures with chances for showers over the next several days, suspending early shoot growth.

Phenology: There has been very little progress in grape development over the past two weeks. At our location, Concords in our Cemetery road block (where we typically track Concord development) reached about 50% bud break on April 24th, whereas Concords in a nearby block, a few hundred additional feet from the lake, reached that stage on or around April 20th. In years with similar bud break dates for us, Concord bloom occurred during the second week in June.

Concord shoot growth at our location currently ranges between 1-3" in length, with most looking to be 1.5-2" in length. Our Niagaras, closer to the lake, are currently showing just 1-2" of shoot growth. At 3", inflorescences are exposed and vulnerable to infections from Phomopsis.

Diseases: Early spring rains cause spores of Phomopsis to ooze out from cane lesions (from shoot infections that occurred last year) and from older and dead wood in the trellis (from infections that occurred two or more seasons ago). New shoots are vulnerable to infection just after shoot growth begins. Inflorescences are generally first vulnerable a little later at about 3" of shoot growth, when they first become exposed (see photo). Rainfall during the April 28-30 wetting period may have caused infections along the first-second internode region but shoots in most vineyards were generally not out far enough to worry about infections of the inflorescence. Primary shoots that would have progressed to that point by end of April, are now likely to have been damaged by cold temperatures we experienced a week earlier anyway.

The first spray of mancozeb or captan for Phomopsis is generally timed to intercept that 3-5" shoot stage. But that's



a ballpark figure. So, keep an eye on the forecast. Temperatures over the next week or so may suspend some shoot growth right within that 3-5" length. Prolonged wetting periods (which maximize the severity of infection periods), are what generally leave us with the worst outcome from this disease.

Bottom Line: Timing that first mancozeb or captan spray is often a 'crap shoot'. You don't have to use maximum rates, but it's an important part of a 'standard' spray program.

I won't add any additional comments regarding the recent spring frost damage, as I'm sure others have covered that subject thoroughly in this update. However, I do want to add that growers that

end up with a mix of primary and secondary shoots heading into the season may also end up with an extended bloom period that may require extra fungicide applications for fruit protection. More on that later as the next week or two gives us a better picture of what's left in damaged vineyards.





Updates and Information

Kimberly Knappenberger, Viticulture Assistant, LERGP

Vineyard Improvement Program

- Reimbursement for removal of underproducing/abandoned Concord vineyards
 - Up to \$1,500 per acre
 - Removal must be at least 1 acre
 - Can be done yourself or hired out
- Reimbursement for replant of approved crops*
 - Up to \$1,500 per acre
 - Does not need to be replanted in the same location
 - You're cutting it close on time if you still want to take advantage of this! Applications will be accepted until 10/2022 but all work will need to be completed by 10/2023.

Contact Kim at <u>ksk76@cornell.edu</u> if you have questions or visit <u>lergp.com/about-vip</u>.



NEWA

Don't forget to check out the new NEWA website at <u>dev.newa.cornell.edu</u>. The grape disease tools are working now so you can view the current infection events for Phomopsis, Powdery Mildew and Black Rot as well as the forecasted infection events. To check this out go to <u>dev.newa.cornell.</u> <u>edu</u> and find the station you are interested in with the dropdown menu or create a profile with your favorite stations. Then click on Grape Diseases which is highlighted in the image below.

Click or tap on a station marker to load its overview	Portland Overview		
Q Search by Zip Code, City o 🚺 NEWA Station 🛨 Airport Station	Courtesy of Lake Erie Regional Grape Program		
Unskitk Dunkitk Burkitk Greencrest Fredoria Conser Fredoria Conser Conser Kestfield Store Haven Conser Kestfield Store Haven	At 2:00 PM today Base 50°F Degree Days since January 1 183 Image: Comparison of the second s		
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You will be taken to a page like this one. If you want to change stations, you can do that on the left side under the NEWA logo. You can still access this information on the regular NEWA site as well for the remainder of this growing season. We do encourage you to try it out!



PPE

Just a quick reminder that if you have a farm stand and need some hand sanitizer or masks for your crew, we have them! Contact Kim at <u>ksk76@cornell.edu</u> to set up a time to pick some up at CLEREL. Even if you don't have a farm stand and would like some, drop Kim a note.

Information for you Kate Robinson, Administrative Assistant, LERGP

2021 Coffee Pot Meeting Schedule

Date	Time	Name	Address
May 5, 2021	10:00am	2021 LERGP Coffee Pot Meeting #1	Virtual Platform - Zoom
May 12, 2021	10:00am	2021 LERGP Coffee Pot Meeting #2	Virtual Platform - Zoom
May 19, 2021	7:00pm	2021 LERGP Coffee Pot Meeting #3	Virtual Platform - Zoom
May 26, 2021	10:00am	2021 LERGP Coffee Pot Meeting #4	Virtual Platform - Zoom
June 2, 2021	10:00am	2021 LERGP Coffee Pot Meeting #5	Virtual Platform - Zoom
June 9, 2021	10:00am	2021 LERGP Coffee Pot Meeting #6	Virtual Platform - Zoom
June 16, 2021	7:00pm	2021 LERGP Coffee Pot Meeting #7	Virtual Platform - Zoom
June 23, 2021	10:00am	2021 LERGP Coffee Pot Meeting #8	Virtual Platform - Zoom
June 30, 2021	10:00am	2021 LERGP Coffee Pot Meeting #9	Virtual Platform - Zoom
July 7, 2021	10:00am	2021 LERGP Coffee Pot Meeting #10	Virtual Platform - Zoom
July 14, 2021	10:00am	2021 LERGP Coffee Pot Meeting #11	Virtual Platform - Zoom
July 21, 2021	7:00pm	2021 LERGP Coffee Pot Meeting #12	Virtual Platform - Zoom
July 28, 2021	10:00am	2021 LERGP Coffee Pot Meeting #13	Virtual Platform - Zoom

Other links of interest:

LERGP Web-site:

Cornell Cooperative Extension website:

Cornell CALS Veraison to Harvest Newsletter:

Efficient Vineyard:



Appellation Cornell Newsletter:

COVID-19 resources:

Need information? View the following Cornell CALS and CCE Resource Pages Updated Regularly

General Questions & Links:

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

Food Production, Processing & Safety Questions:

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

Employment & Agricultural Workforce Questions:

http://agworkforce.cals.cornell.edu/

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)