

Crop Update - June 18, 2020

Concord Florets before bloom-Jennifer Phillips Russo





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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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How to join a Zoom meeting video (1 minute):

https://www.youtube.com/embed/vFhAEoCF7jg?rel=0&autoplay=1&cc_load_policy=1

Joining and Configuring Audio & Video (1 minute):

https://www.youtube.com/embed/HqncX7RE0wM?rel=0&autoplay=1&cc_load_policy=1

We look forward to seeing you at Zoom Coffee Pot Meetings







The Only FRAC Group U6 Fungicide

Labeled for Grapes, Cucurbits, Cherries, and Pome Fruit Highly Effective on Powdery Mildew No Cross-Resistance Protectant / Preventative Action



FRAC Group 3

Labeled for Grapes and Cucurbits Controls Powdery Mildew, Black Rot, & Anthracnose Protectant + Curative Activity Highly Systemic





High Quality Copper
Excellent Mixing Characteristics
Highly Active at Lower Rates
Enhanced Crop Safety





Flexibility, versatility & a unique approach for your disease control program EPA registered with tolerance exemption Controls Botrytis & Powdery Mildew



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Labeled for Grapes, Melons, Winter Squash, Gourds, Pumpkin, and Stone Fruit Exceptional Preventative Control of Powdery Mildew No Cross-Resistance



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Business Management

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

Crop Insurance and Vineyard Care

Crop insurance adjusters are fielding requests from the hardest hit areas. There has been interest in essentially abandoning the vineyard for a year as remaining crop is currently estimated between 1 and 2 tons, depending on the vineyard. Growers need to make these decisions for themselves, but should be aware that it is very likely this is not an optimal solution and will result in lower profitability. This is the case both in the short-term and long-term.

Crop adjusters attempt to estimate crop before the crop even exists, the grower is not paid for the 1-2 tons that the adjuster estimates remain. The grower is also not paid for the first 25% of loss. With a 7-ton average, the grower is left with a claim between 3.25 and 4.25 tons. The potential crop insurance claim is reduced by \$250 to \$530 per acre. The cost of maintaining a vineyard is far less. A grower needs to implement a minimal weed control program. This will involve a round-up application or two and perhaps another post-emergent application in July. Total cost would be in the range of \$75 per acre.

A grower also needs to make between 2-3 pesticide applications. Cost of materials is between \$37 and \$58 per acre. Application costs do vary but should be less than \$60 per acre if the grower owns the equipment. Total cost is no more than \$120 per acre. Disease control might not be ideal, but certainly what remains of the crop is likely to be marketable.

This total vineyard care budget is by no means acceptable for a crop more than 2 tons per acre. Nor is it sustainable for multiple years. It is likely this plan would still result in an increase in disease inoculum that will need to be dealt with in 2021. However, it allows the grower to market the remaining crop, reduce disease pressure (relative to abandonment) and maintain vine size. A grower that owns his own harvester will then incur approximately \$130 per acre in expenses for harvesting.

Economic benefits of investing \$325

- Realize an additional \$250 \$500 per acre in gross revenue. Net loss on the year does increase by \$25 \$75. Much of that loss may not be against cash-flow. Loss for unpaid labor and equipment depreciation is easier to manage in the short term.
- If crop does not materialize it will not have to be harvested and vineyard care can be reduced further at a later date. Insurance will adjust claim if less than 1 ton is remaining. Net profitability could improve as crop estimation is difficult in June.
- Crop could be more than estimated by insurance adjusters. While the insurance claim will decrease, payments from processors will likely be higher than insurance payments in the long-term. Net profitability should increase by \$20 per ton.
- Reduced disease and weed pressure should decrease costs in 2021 by at least \$75 per acre. Alternatively, increased disease pressure will reduce 2021 crop.
- An increase in weed pressure will reduce vine size, 2021 crop potential and 2022 crop potential. The impact on weed pressure on vine size will vary from site to site and also weather conditions. In a drought situation we have seen an impact on potential crop in excess of \$750 per acre.

It is always recommended to practice minimal care even in Concord vineyards. It is almost always recommended to harvest and deliver crop, if the harvest and trucking equipment is owned by the farm. This recommendation applies basically no matter how small the crop is. Crops under .4 tons per acre should not be harvested.





Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

Bloom Officially Called June 14, 2020

The Cornell Lake Erie Research and Extension Laboratory (CLEREL) officially called bloom in Concord on June 14, 2020. Bloom is officially called when the florets on 50% of the clusters reach 50% cap fall. The photo below was taken on June 17, 2020 at the Fredonia Lab in Fredonia, NY. I had some growers call on Monday stating that they were only at trace bloom, but with the beautiful weather that we have had this week the florets most likely caught up.

Please remember that if you were one of the blocks that took heavy frost damage, it is very important to make sure that you are getting your important bloom sprays on for primaries and secondaries. I know that it may not be ideal, but with an already reduced crop on the secondaries you will want to ensure that they stay clean from disease. In those frost damaged areas, there are differences. In photo number two below, you can see the difference in phenology on the primary and secondary buds. The primaries in the upper right of the photo are clearly in full bloom and the secondary florets (left and bottom of photo) are not in trace bloom yet.

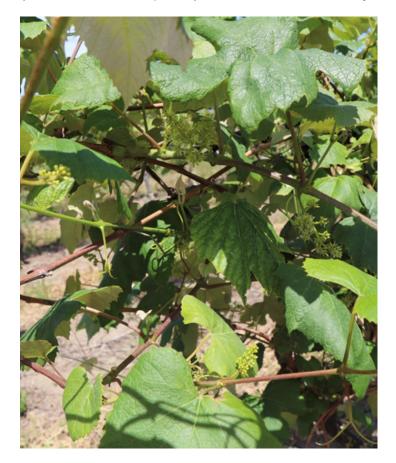




photo 1. Concord grape bloom photo of flowers by Jennifer Phillips Russo

Also, if you have cover crops in your vineyards, now is the time to terminate so that the vine does not have to compete for water. There is rain in the forecast, so if you were waiting to apply your fertilizer you may want to entertain this week for timing.

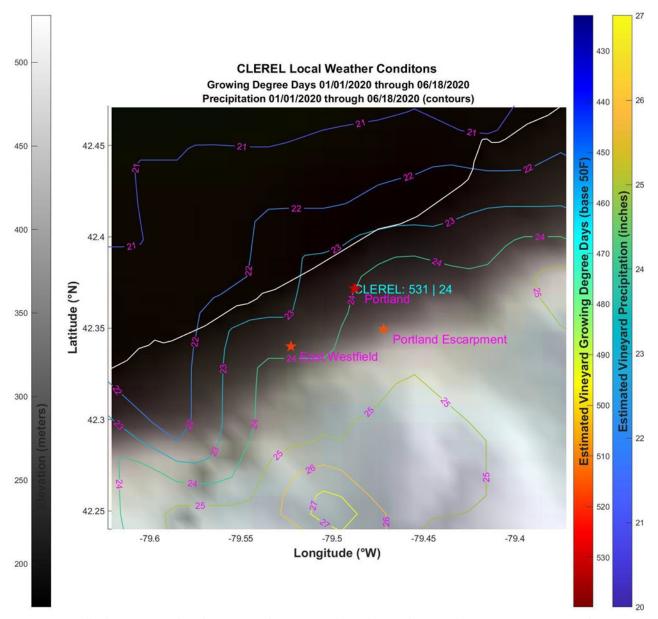


Figure 1. Cornell Lake Erie Research and Extension Laboratory Local Weather Conditions with Growing Degree Days and Precipitation from January 1, 2020 through June 18, 2020

Notes: Year-to-date Growing Degree Days (GDDs) are reported as color-coded symbols your vineyard (star), nearby vineyards(circles), and CCE offices (squares). Year-to- date precipitation is reported as color-coded contours. Site symbols are annotated with GDD and precipitation (e.g. 110 | 12 indicates 110 GDDs and 12 inches of rain). Yellow circles are NEWA stations closest to your site. GDDs and precipitation are sourced from Cornell's Northeast Regional Climate Center (NRCC) high resolution gridded data service which calculates **GDD using daily high/low temperatures, not hourly**. Elevation data is sourced from United States Geographical Survey (USGS) digital elevation model.

NOAA's National Weather Service Forecast by 12 Hour Period

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

National Weather Service Forecast (click to link)

NOAA's Disclaimer (click to link)

UTC Forecast Time: 2020-06-18T07:37:13-04:00

Today: A slight chance of showers between 1pm and 4pm, then a chance of showers and thunderstorms after 4pm. Mostly sunny, with a high near 83. Light and variable wind becoming northeast 5 to 8 mph in the morning. Chance of precipitation is 30%. New rainfall amounts of less than a tenth of an inch, except higher amounts possible in thunderstorms.

Tonight: A chance of showers and thunderstorms before 7pm, then a slight chance of showers between 7pm and 8pm. Partly cloudy, with a low around 65. Southeast wind 3 to 7 mph. Chance of precipitation is 30%. New precipitation amounts of less than a tenth of an inch, except higher amounts possible in thunderstorms.

Friday: A slight chance of showers between 11am and noon, then a chance of showers and thunderstorms after noon. Mostly sunny, with a high near 78. South wind 5 to 7 mph becoming calm in the afternoon. Chance of precipitation is 30%. New rainfall amounts of less than a tenth of an inch, except higher amounts possible in thunderstorms.

Friday Night: Partly cloudy, with a low around 65. Southeast wind around 6 mph becoming calm in the evening.

Saturday: A slight chance of showers after 2pm. Mostly sunny, with a high near 79. Calm wind becoming northwest around 6 mph in the afternoon. Chance of precipitation is 20%. Saturday Night: Partly cloudy, with a low around 68.

Sunday: A chance of showers and thunderstorms after 1pm. Mostly sunny, with a high near 82. Chance of precipitation is 30%.

Sunday Night: A chance of showers and thunderstorms. Mostly cloudy, with a low around 69. Chance of precipitation is 50%.

<u>Historical Growing Degree Days (base 50)</u>

To date, we are below the 5-year average of 620.8 GDDs coming in at 536.0 GDDs. I suspect the upcoming weather will boost this year up a bit.

Notes: Current season accumulation is reported as the thick blue line from January 1 through date of this report. Historical season data is reported between January 1 and December 31 of each year. The legend indicates how many 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.

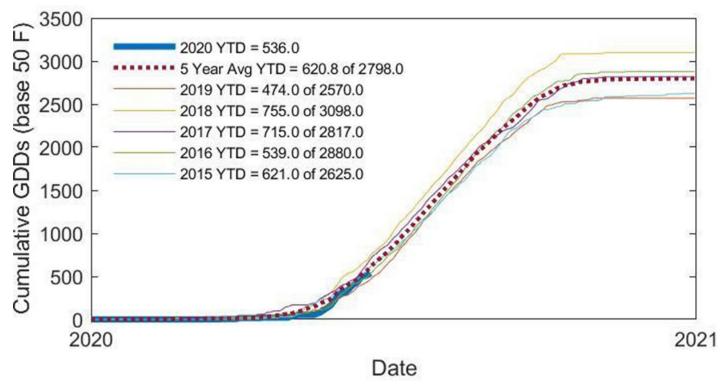


Figure 2. CLEREL Historical Cumulative Growing Degree Day Average from 2015 through 2020

7-Day GDD Forecast & Grape Berry Moth Model GDD Forecast

Use this table as a tool to inform you when to start scouting for Grape Berry Moth and also check the NEWA station closest to your location.

Future GDD total accumulations are estimated using temperature forecasts sourced from National Oceanic and Atmospheric Administration's (NOAA) National Weather Service. If you report a date (send me an email) for wild grape bloom near you the GBM model will use it, otherwise wild bloom date will be estimated.

Date	Phenology (GDD base 50F)	Grape Berry Moth Model (GDD base 47F, after wild bloom) New Generations (start scouting at 750 and 1470)
6/18/2020	558	251
6/19/2020	579	274
6/20/2020	600	298
6/21/2020	625	326
6/22/2020	650	354
6/23/2020	672	379
6/24/2020	692	402

Historical Precipitation (inches)

To date, we are still above the 5-year average historical precipitation of 22.3 inches by June 18th, totaling 23.7 inches for 2020.

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

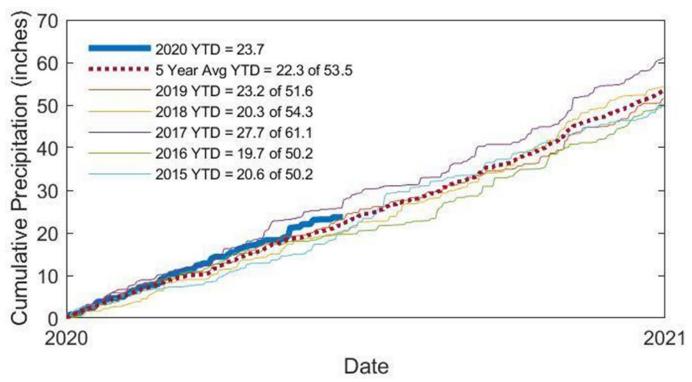


Figure 3. CLEREL Historical Annual Cumulative Precipitation for 2015 through 2020

Q & A Session, Wed June 24th - Managing Fruit and Vegetable Farms During COVID-19: What Actions Should Farms Take?

As New York "Reopens" business during the COVID-19 crisis, business owners are evaluating what actions they need to take to protect themselves, their employees, and their customers, and to help public officials contain the spread of COVID-19.

Join a panel of Cornell ag specialists for a Question and Answer session on June 24th, 2020, at 7pm, that will address common questions that fruit and vegetable growers have about managing their farms during COVID-19.

Panelists will address questions farm owners and managers may have about managing workers in the field, and about managing a retail enterprise, such as a farm market, farm stand, pick-your-own, or CSA operation. When should my employees wear face coverings? Should I screen my visitors and customers? How do I make a NY Forward Business Safety Plan?

Participants are encouraged to register early and enter a question at the time of registration. Questions asked during the session will be addressed as time allows. Registration is free but pre-registration is required.

This Q & A session will be held via Zoom on Wednesday, June 24th, from 7:00pm to 8:15pm. Register here: https://cornell.zoom.us/webinar/register/WN 3eEVRispRLaL4wn 0xaIHA

Registration and information is also available at the CCE Lake Ontario Fruit Program website: https://lof.cce.cornell.edu/event.php?id=1439

For questions about the Q & A session, contact Mark Wiltberger, mw883@cornell.edu.

Updates and Information

Kimberly Knappenberger, Viticulture Assistant, LERGP

Update to Distribution of Hand Sanitizer and Masks:

On Monday, June 22nd we will be having another distribution day at CLEREL in Portland from 10:00 AM to 12:00 noon. We have received more masks and small spray bottles, in addition to the gallon jugs of hand sanitizer. If you are interested in picking up some supplies please **sign up for your free product at** chautauqua.cce.cornell.edu/resources/hand-sanitizer-and-face-maks-request.

Cornell Cooperative Extension Chautauqua County is distributing free hand sanitizer and face masks to producers in Chautauqua County. Sanitizer and face coverings from the NYS Department of Agriculture have been brought to Chautauqua County through a partnership with CCE Chautauqua and Chautauqua County department of Building and grounds.

Production farms of **any type** are welcome to come pick up hand sanitizer. These farms can include **dairy, livestock, grapes, vegetables, farm stands, U-Pick, nursery, equine, and craft beverage**. If you know of anyone that still needs some please send them the link to register.



Once registered you will be contacted at the number left on the online request form to confirm pick up time.

***For those of you who have already picked up gallon jugs of hand sanitizer with the hand pump, I'm sure you have noticed how fast and how much comes out. A simple trick that some have tried is to put a piece of a pool noodle or pipe insulator on the pump to keep it from pressing all the way. This will reduce the amount of sanitizer dispensed.

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PA Update

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

In the Vineyard (6-18-20) –

This past Friday (6/12) I scouted Concord vineyards in the North East, PA area (south of Rt. 5 to about midway to Rt. 20) and was finding trace bloom in some blocks. On Monday (6/15) in the Lake City, PA area (north of Rt. 5) all Concord blocks and a Niagara block scouted had at least some trace bloom evident but the majority of clusters were still not in bloom. A Delaware block had no bloom evident.

Flor Acevedo and I scouted Concord blocks in the North East, PA area (6/12) for grape berry moth in flower clusters and were unable to find any. However, we did find larvae in wild grape clusters. A few leaves with black rot lesions were found and powdery mildew was observed on only 1 flower cluster (Figure 1).

<u>First POSTBLOOM Fungicide Spray</u> - With Concords in bloom, the next critical fungicide application will be the first Postbloom spray which should be applied within 10 – 14 days of the Immediate Prebloom spray. This is a critical spray needed to protect rachises, pedicels (berry stems) and berries from our four major diseases (Phomopsis, Black Rot, Downy Mildew and Powdery Mildew). Fungicide products which are <u>highly effective</u> against these diseases should be used. Keep in mind that powdery mildew resistance to the strobilurin (e.g., Sovran, Abound) and sterol inhibitor/DMI fungicides (e.g., Rally, tebuconazole products, etc.) has occurred in vineyards in Pennsylvania and New York. So, these fungicides should not be relied upon during this critical period for powdery mildew (PM) management. Endura, Quintec, or Vivando (which are highly effective against PM) are fungicide choices for PM for the first Postbloom spray. See the **2020 New York and Pennsylvania**

Pest Management Guidelines for Grapes to compare efficacies of fungicides (Table 3.2.2, pages 47 - 49).

DO NOT stretch spray intervals beyond 14 days during this critical period for protection of the clusters. (Check the NEWA station http://newa.cornell.edu closest to your vineyard blocks for 5-day weather forecasts and for disease models).

As mentioned in last week's Crop Update, primary and secondary shoots in frost injured blocks will be at different phenological stages. Therefore, clusters on secondary shoots will also have to be protected during critical periods for disease management (e.g., Immediate Prebloom, first Postbloom).

Figure 1. Powdery mildew on Concord flower cluster. Photo – Andy Muza, Penn State.



PA Update

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

<u>Weather:</u> All of our June precipitation has come within two wetting periods: June 2-3 and June 10-11, leaving us with a total of 1.55". We have accumulated about 267 growing degree days so far in June and we now have 551 gdds as of April 1. The 3-day forecast looks to be mostly dry and sunny, but with a chance for thunderstorms on Friday (June 19) and Saturday afternoon. High temperatures will be very close to average throughout the weekend.

<u>Phenology:</u> Here by the lake we have recorded trace bloom (first flowers opening) for Concord and Niagara on June 16. For us, this means that Concord bloom began 534 gdds from April 1(very close to long term (21 year) average of 527) and within 32 days of 50% bud break (way ahead of long term average of about 41 days!). This would seem to indicate that conditions over the past month or so have been very favorable for grapevine development, despite the late start. Other varieties in bloom here are Geisenheim (a hybrid of Riesling x Chancellor), Elvira, Somerset, NY81, and Chancellor.

<u>Diseases:</u> With June rainfall confined to two distinct wetting periods during the past two and half weeks, prebloom sprays have been relatively easy to time to intercept black rot, Phomopsis, and downy/powdery mildew infection periods. Scouting has revealed Phomopsis lesions on the first 2-3 nodes/internodes and black rot lesions on leaves in the fruit zone (on unsprayed vines) that likely occurred as a result of wetting periods way back on 22-23 and 28-29 of May, just a few days after bud break. These lesions are in prime position to release spores onto developing fruit during rain periods after capfall. If you see black rot leaf lesions in the fruit zone, <u>be warned</u> that first and second post bloom sprays of ziram, and/or sterol inhibitors, will need to be applied in a timely fashion to avoid crop loss from black rot, especially if conditions turn wet.

As we approach the timing for the first post bloom spray, remember that this is the most important spray of the season!! Fruit of all grape varieties are most susceptible to all the major diseases from the time that flower caps come off, to about 3 weeks later. For this reason, do not stretch the interval between the immediate pre-bloom and first post bloom spray beyond 14 days (less is better). If this means spraying again during late bloom, then so be it...spray during late bloom (rather than wait until after bloom) to keep that interval to 14 days or less. *This is a no brainer*; use best materials you can afford, spray every row, maximize coverage with adequate gallonage per acre, etc. Best materials for powdery mildew on juice grapes for the first post bloom spray could include Quintec, Vivando/Prolivo, or Endura. Do not rely soley on stylet oil, strobilurins (Sovran or Abound) or sterol inhibitors (tebuconazole or tetraconazole products) for powdery mildew control at this time. Remember: Teb and tetraconazoles and strobies are great for black rot, but resistance has rendered them too weak on powdery for reliable control of that disease at this critical point in the spray season. After the first post bloom spray, reassess your situation by scouting and closely watching the weather forecast. Black rot infections that slipped through your spray program can be observed about 10-14 days after the infection period. Knowing the first appearance of symptoms will give you some idea as to when infection occurred and where holes in your spray program were exploited by the pathogen. As for downy mildew, we have had very few opportunities along the lake belt for downy to become a problem. After scouting. I have not seen any powdery or downy mildew on unsprayed vines here at our location by the lake.

And finally, for premium wine varieties, now is the time to plan leaf removal in the fruit zone. Extensive research by many people, over many years, in many parts of the world, has shown the benefits of

fruit zone leaf removal for control of fruit disease, including powdery mildew and late season bunch/ sour rots. Currently, the optimum timing is right around fruit set. This is an expensive treatment, but it can be mechanized for better cost effectiveness. Not only does this reduce fruit disease (by improving exposure of fruit to light, air, and pesticide penetration), but it improves fruit quality, and may even reduce manual harvest costs (the clusters are easier to see and remove).

Virtual CORE Pesticide Training & DEC Recertification Credits Approved!

Looking for DEC credits? Join Field Crops Specialist, Josh Putman, on July 14th from 9am – 10:50am, or July 21st from 6pm – 7:50pm VIRTUALLY to learn about current regulations, pesticide use, labels, and pesticide formulations. Cost of the training is \$20 per person and 1.75 DEC credits were approved in the CORE category. Please have your applicator license present to receive recertification credits and if you are planning to obtain your applicator license, this training will be a great introductory course for the exam. Follow us on our Facebook page and register at our SWNY website for these events.





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)

