



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

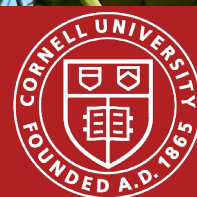


**PennState Extension**

**Crop Update - August 6, 2020**

Beneath the Canopy  
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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# Business Management

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

## Crop Estimation, Disease Control and Harvest Schedule

Insect and disease pressure have been fairly moderate this year. Many growers also expect moderate yields. There has definitely been a trend toward saving money on spray applications and materials this year. Growers are now wondering if they roll the dice in August, will it pay? Put the sprayer away, let the berry moth and diseases do their worst. With everything clean in mid-July, it's tempting. A full-tilt spray application in August is typically \$45 per acre. The \$30 in materials is a direct hit to cash flow. So, does that spray pay?

With a large crop it absolutely makes no sense to skip that spray, unless both disease and insect pressure are very low. Robust scouting is essential; the manager should not just think that pressure is very low but know it. Growers that have done a lot of crop estimation have a leg up on this decision making process. Crop estimates have varied this year from 2 – 10 ton per acre. With many crop estimates in at less than 5.0 ton per acre, a little powdery mildew on leaves is not going to slow brix accumulation.

Downy mildew infections have rocked the region, 7 infection periods just recently at the Penn State lab in North East. With everything fairly clean going into late July, most Concords should only require scouting. Downy is definitely showing up in other varieties.

Around 50% of acreage, based on NEWA stations, should see a partial 4<sup>th</sup>(extra) generation of grape berry moth. Many NEWA stations will hit 1620 growing degree days well after August 5<sup>th</sup>. Particularly stations that see dates of August 10<sup>th</sup> or even the 14<sup>th</sup>.

For those growing susceptible varieties, downy mildew appears to be the current threat. A spray may be justified; otherwise diligent scouting is required. The two big variables for Concord are crop size and grape berry moth. If over cropping or GBM pressure are a concern, a spray is warranted. Particularly with GBM, keeping populations low does provide a long-term value. High risk areas that are subject to an extra generation always justified an additional spray in late season Niagara trials. Before you go fill the sprayer, there are plenty of acres that are not over-cropped. Some have moderate to no GBM pressure. These blocks are good candidates for saving cash flow and assuming a small amount of risk. The risk here, if crop estimation is good, is not to brix or yield. Worst case scenario, this will mean the money saved this year will be spent next year dealing with higher inoculum levels. Best case scenario, you'll save a few dollars as payments rise. One caveat here, there was enough pressure throughout this growing season to create problems. Growers that missed critical periods or used materials that no longer effectively work are seeing nearly every major disease on berries. It likely makes sense to try to eradicate disease to move toward sustainability next year. Acreage in this category is slim but out there.

Crop estimates are going in for scheduling already. As usual accurate schedules improve harvest efficiency; probably even more important when trying to mitigate the risk of Covid spread through a harvest crew. A year covering land can make for some long days but early harvest will help improve vine health and mitigate moderate late season disease pressure.

# Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

## Vines and Weeds

After chatting with growers and industry representatives, there is variation in crop estimates around the region. Most numbers coming in are average. Weed control can mean all the difference between a number that you are comfortable with and one that is less than you thought.

I know that some of you went into this season thinking that there was less of a crop than usual out there and you may have entertained limiting inputs in your management strategies. Providing that your crop estimate captured all of the variation in your blocks and your operation took a big hit from the frost and freeze event, you could have dialed back on nutrition and focused on keeping the leaves clean. However, most of you still have an average crop hanging out there. I have driven around the belt and noticed that the under-vine and middle row weeds in some areas have not been well tended to. Under-vine growth reached the canopy and some middle rows are extremely tall; growth that implies it was there during the drought-like conditions and competed with the vines for water and nutrients.

Processors mentioned that they can see the difference between blocks that had good weed control this season and those that may have slacked off. I just wanted to reiterate that that weeds and cover crops should be controlled by bloom to not compete with vine's production and ultimate berry size. This should be maintained through the end of July. Fall and winter ground covers should go in now.

I have also seen vineyards that look amazing. The current rain accumulation, nutrition and spray programs, and floor management are going a long way to giving your vines a restful average year to boost vine health next growing season.

Please continue to reach out with your questions via email and cell phone. We want to assure you all that we are available and willing to assist in anyway under COVID restrictions.

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# PA Update

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

## In the Vineyard-

### Grape Berry Moth – THIRD GENERATION

This week I scouted vineyard blocks in the Lake City and North East areas in Pennsylvania. At 7 High/ Severe Risk sites I randomly examined 25 clusters in border areas for the presence of GBM eggs (Figure 1). GBM eggs were found at all sites. The percentage of clusters with eggs (at least 1 egg/ cluster) at these sites were: 8%, 12%, 16%, 24%, 48%, 64% and 68% (17/25).



Figure 1. Concord berry with 3 grape berry moth eggs. Photo – Andy Muza, Penn State.

Today (8/6), I checked the GBM Degree Day Model for most of the NEWA sites in the Lake Erie Regional Grape Program to approximate when 1620 DD will be reached across the region. The NEWA site with the most GBM DD (Silver Creek – Double A Vineyards) has already reached 1620 DD as of today, Thursday (8/6). However, the site with the fewest GBM DD (Harborcreek - Escarpment) may not reach 1620 DD until the following Thursday (8/13). Most of the sites are projected to reach 1620 DD between August 8 – 11. It is important to check the GBM Degree Day Model in [NEWA](#), choosing the closest station near your vineyard, for more accurate timings.

### **All High and Severe Risk sites should receive an insecticide application for the third generation.**

Ingested and Contact Insecticides – See Table 4.2.2 on pages 62-63 in the [2020 New York and Pennsylvania Pest Management Guidelines for Grapes](#) to determine which insecticides are designated as ingestion required (I), contact activity (C) or both (I,C).

Ingested Insecticides: If you are using insecticides that must be ingested, [e.g. Intrepid (IRAC 18); Altacor (IRAC 28); Verdepryn (IRAC 28), Delegate (IRAC 5)] then applications should be timed to coincide with 1620 DD. Since I am already seeing egg laying at high risk sites that have not yet reached 1620 DD, then application of insecticides that need to be ingested should be applied as early as 3-4 days before 1620 DD is reached at your site. **For most sites that means NOW.** A second insecticide application (10-14 days later), using a material in a different chemical class (i.e., different IRAC #), is highly recommended at high risk sites.

Contact Insecticides: If you are using contact insecticides, [e.g. Imidan (IRAC 1B), pyrethroids (IRAC 3A) such as Baythroid, Brigade, Sniper, Danitol, etc.] then these insecticides can be applied at about 1720 DD. This is about 4 days after 1620 DD. A second insecticide application (7-10 days later), using a material in a different chemical class (i.e., different IRAC #), is highly recommended at high risk sites.

All other vineyard blocks not in the High and Severe Risk category should be scouted. If more than

15% damaged clusters are found in these blocks, then also apply an insecticide in these areas.

**Downy Mildew** – In blocks scouted this week, canopies look healthy with low levels of PM evident. However, PM lesions are starting to appear on younger leaves (Figure 2). Downward curling and yellowing of younger leaves closer to shoot tips, caused by PM infections, will become more evident as the season progresses.

<b>NEWA Location</b>	<b>Wild grape bloom date*</b>	<b>DD total on July Aug 6</b>	<b>Forecasted DD for Aug 11</b>
Versailles	June 5	1509	1636
Hanover	June 6	1515	1646
Sheridan	June 4	1603	1734
Silver Creek	June 6	1522	1654
Silver Creek (Double A)	June 4	1630	1760
Dunkirk Airport	June 4	1638	1769
Forestville	June 5	1552	1682
East Fredonia	June 5	1532	1663
Fredonia	June 6	1486	1616
Brocton Escarpment	June 6	1488	1619
Portland Escarpment	June 5	1531	1661
Portland	June 5	1530	1659
East Westfield	(offline)		
Westfield	June 7	1478	1607
Ripley	June 5	1555	1687
Ripley Escarpment	June 6	1485	1617
Ripley State Line	June 5	1543	1674
North East State Line	June 7	1451	1569
North East Escarpment	June 5	1541	1666
North East Sidehill	June 6	1488	1613
North East Lab	June 5	1569	1709
Harborcreek	June 5	1582	1721
Harborcreek Escarpment	June 7	1415	1551
Lake City	June 6	1357	1482
Ransomville	June 6	1567	1700
Burt	June 10	1463	1600
Corwin	June 7	1538	1673
*Estimated date provided by NEWA website			

Table provided by Kim Knappenberger

Table 1. Phenology-based Degree Day model results for Grape Berry Moth by NEWA station location in the Lake Erie Region on August 6, 2020.

# PA Update

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

Weather: July 2020 was the hottest July on record since....a very long time ago. Here at the North East lab, we racked up 772 growing degree days and 4.25" rainfall (also above average) in July. Our August rainfall total is now 1.3". We have accumulated about 105 gdds so far during August, and 1715 gdds since April 1.

In many places along the belt, we've had several inches of rain over the past 3 weeks, generating several downy mildew infection periods (7 here at our location). Scout your vineyards for downy mildew on leaves. Scouting at our site has turned up downy mildew on some of our table grapes, that are very susceptible to it (namely Marquis). However, I've not found any on our unsprayed Concord, and don't anticipate problems with downy mildew on Concord. Nevertheless, our wetter conditions will contribute to the development and maintenance of this disease in area vineyards, among susceptible varieties. To avoid reinventing the wheel, I've borrowed some information from a previous update: The presence of active white sporulation on the undersides of leaves means the downy mildew pathogen is capable of spreading quickly under wet conditions and can spiral out of control, strip vines of their leaves and effectively end the season (and the ripening of canes for next year's crop). If you find yourself trying to control this disease well into the ripening period (especially on wine grapes) be aware that your list of chemical control options will become shorter as we get within 30 (Ranman, Reason), then 21 (Ziram), then 14 (Revus, Revus Top, Zampro) days of harvest, until in the end you'll be left with some formulations of Captan, copper, and phosphorous acid products (0 day pre-harvest interval). It's also important to remember that materials like Ranman, Reason, Revus/Revus Top, and Zampro contain chemistries that are prone to the development of resistance. These materials should not be used to put down an epidemic - which will speed up the resistance development process - but rather to maintain a clean vineyard. And, although phosphorous acid products are less prone to resistance development, you will enhance the chances of losing this technology to resistance as well, by using these materials on a heavily diseased vineyard; limit your use of phosphorous acid products to three applications per season. Copper formulations would be least risky in terms of the development of resistance and can be an effective means of controlling downy and powdery mildew on juice grapes late into the growing season. Just be mindful of varieties that may be injured by copper applications, and that copper injury 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). For wine grapes, be aware that excessive copper residues on fruit at harvest can cause problems with fermentation (copper kills yeast). If you are protecting a non-bearing, young vineyard from downy mildew (you're not selling/harvesting a crop), you probably can continue to use mancozeb products, which are very effective against downy mildew, carry a low (no?) risk of resistance development, and will not burn the leaves.

Powdery mildew is developing slowly at our location; I'm just starting to see sporulating colonies on leaves on the north side of the trellis. Late season sprays for powdery mildew on juice grapes should be based on crop size (the more above average the crop, the more necessary it will be to keep canopies clean, longer) and anticipated weather conditions. At this point in time, the weather has pushed us a bit ahead of average in terms of growing degree days and rainfall. In our experience over the years, we have always managed to harvest an average Concord crop in an average year, with spray programs that were terminated after the 2nd post bloom spray for powdery mildew. That spray program included a couple of tebuconazole materials at the outer ends of the program (10-12" pre-



bloom, 2nd post bloom) with the best materials (like Quintec, Vivando, or Endura) at the core of the program (immediately before bloom and 10-14 days later (1st post bloom)).

Foliar nutrient sprays like Nutrol (with a surfactant) or Harvestmore will provide some added deterrent to buildup of powdery mildew on leaves. Trials we've run with Harvestmore show that this product, applied as a foliar nutrient at 5 lbs/A, will provide about 30% suppression of mildew on Concord leaves. If you have an enormous crop and you're still applying a resistance prone material to a 'clean' canopy (one of the sterol inhibitor fungicides or something like Quintec, Vivando, or Torino), you should tank mix these materials with a Nutrol or Harvestmore-like material or sulfur (for varieties that are not damaged by it) for resistance management. And make sure to limit your applications of resistance prone materials to two per season. Another option for mid/late summer powdery mildew on leaves is copper/lime. In our trials here at the North East lab we have had very good control of leaf infections with copper/lime applications to Concord. And with copper, there are no resistance issues. Just be careful to apply copper/lime only when you have good drying conditions to limit the odds that leaf injury may occur; ideal conditions are clear, sunny, low humidity with some air movement. Avoid applying copper to dew-covered leaves in the morning.

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[Cornell Cooperative Extension website:](#)

[Cornell CALS Veraison to Harvest Newsletter:](#)

[Efficient Vineyard:](#)

[Appellation Cornell Newsletter:](#)

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General Questions & Links:

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

Food Production, Processing & Safety Questions:

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

Employment & Agricultural Workforce Questions:

<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](http://www.farmworkers.cornell.edu)

[www.trabajadores.cornell.edu](http://www.trabajadores.cornell.edu) (en espanol)

