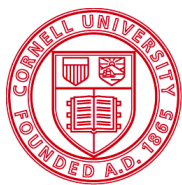




Lake Erie Regional Grape Program



Cornell University
Cooperative Extension



PennState Extension




*Last Coffee Pot meeting of 2019 season
held in Niagara County*

CROP UPDATE AUGUST 1, 2019

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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.

Business Management

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

Late Season Niagara and Grape Berry Moth

Over a period of three years a late season Niagara trial was conducted at the North East lab to evaluate the difference of insect and disease pressure on late harvest Niagara for National Grape Cooperative. While the trial is complete, in each of those three years there was an “extra” generation of grape berry moth. As a result, in those three years, grape berry moth was the primary source of economic damage. As Tim has said, this year there will be NO “extra” generation.

Secondary rots were more established at higher brix levels. In sites with moderate grape berry moth pressure, traditional materials were wholly inadequate for minimizing economic loss. More expensive spray programs that included materials similar to Belt and Leverage 360 were expenses easily justified by a decrease in damage and fruit loss. Even what was considered a “Cadillac” spray program may have been inadequate. It remains important to target the third generation at 1620 growing degree days, in many medium to high pressure sites. This is particularly important for Niagara when harvest brix is expected to exceed 14.

When comparing fruit loss to early harvest Niagara, there was the potential to save enough crop to apply a third berry moth spray. Especially when using inexpensive contact sprays, it is theorized that an attempt to target a generation with two spray applications may be the most effective way to combat damage. A tight spray program around the middle of July or August, with two sprays targeting the second or third generation do not mesh well with fungicide programs. I’ve included the cost of an additional spray application when considering this type of a program.

The cost of insecticides for grape berry moth ranged from \$3 - \$36 per acre. If scouting damage-exceeded thresholds, I would not hesitate to attempt to find the best material possible for any Niagara that might be harvested late season. Growers should primarily be rotating chemicals like intrepid and leverage. There are a number of materials that are appropriate, if they have not been used this year, that are less expensive. Reserve these materials for areas that have less intense pressure. For me, they make more sense when the primary activity is a fungicide and the insecticide might not be justified if it required a special trip through the vineyard.

The best option is to produce a balanced crop on Niagara by maintaining crop size and reaching at least 12 brix for early harvest wherever grape berry moth is an issue. In many sites it will still require an application of expensive materials at least once to keep the risk of load rejection or economic loss minimal. With just three generations of berry moth this year far less blocks will be able to justify a bracketed spray program with two insecticides per generation. Obviously, though, with all these decisions to make the most important and profitable activity is scouting. If you expect high brix Niagara consider this a reminder to react more aggressively to damage found in those blocks. From an economic perspective, we know that it would likely have been warranted at the North East Lab in 2011 and 2013.

IPM

Tim Weigle, NYSIPM, Cornell University, LERGP Team Leader

Grape Berry Moth

According to the GBM model on NEWA, the most effective time for treatment of second generation grape berry moth is over. Larvae are within the berry and out of reach of any of the materials we have labeled for application against this pest. With the exception of Burt, which is lagging behind all the other stations in DD accumulations, most stations are reporting DD accumulations that put us a week to 10 days away from the start of scouting for GBM damage in vineyards to determine the need for an insecticide application at 1620 DD. If using the model you should prepare to scout all vineyard blocks for grape berry moth damage when DD accumulation reaches 1470-1620 DD. During scouting, determine if the number of damaged clusters exceeds the treatment threshold of 15%. I would suggest using the scouting methods outlined in the Grape Berry Moth Risk Assessment protocol. Select 5 vines on the vineyard edge and examine 10 randomly selected vines for feeding damage from grape berry moth. Keep in mind that all it takes is a single damaged berry qualifies as a damaged cluster. Go to another area along the edge and repeat the process. This has you examining 100 clusters for the sample which makes the math easy. Each damaged cluster represents 1% damage, so if you have 8 damaged clusters it would be 8% damage. Repeat this process on the interior of the vineyard – this is critically important as we have seen GBM get out of hand over time and move further into the vineyard than just the outer edge. If above the threshold, control measures should be applied starting at 1620 DD.

The good news appears to be that current degree day accumulations do not support a fourth generation this year. If you have any question on how to implement the results of the GBM model in your vineyard IPM strategy please get in touch with Tim Weigle or Andy Muza and we would be happy to assist you.

eNEWA

It has come to our attention that the delivery of the daily eNEWA email stopped for a large number of growers during the first week in July. The folks at NEWA and the NE Regional Climate Center have been looking into the problem and I hope there will be a fix in the near future. Until then, please access the NEWA website at: <http://newa.cornell.edu> for the latest information.

NEWA Location	Wild grape bloom date*	DD Total on August 1, 2019	Forecasted DD for August 6, 2019
Versailles	June 7	1238	1353
Hanover	June 8	1251	1367
Sheridan	June 6	1318	1436
Silver Creek	June 8	1264	1386
Dunkirk Airport	June 9	1269	1386
Forestville	June 8	1257	1372
East Fredonia	June 9	1223	1340
Fredonia	June 9	1193	1312
Brocton Escarp.	June 9	1217	1335
Portland Escarp.	June 7	1275	1392
Portland	June 8	1260	1377
East Westfield	June 9	1220	1339
Westfield	June 9	1229	1348
Ripley	June 8	1283	1405
Ripley Escarp	June 8	1245	1367
Ripley State Line	June 8	1277	1399
North East State Line	June 9	1219	1331
North East Escarp	June 7	1278	1397
North East Sidehill	June 8	1252	1371
North East Lab	June 8	1301	1427
Harborcreek	June 8	1269	1395
Harborcreek Escarp	June 9	1196	1320
Lake City	June 7	1313	1440
Ransomville	June 11	1237	1360
Burt	June 19	1049	1172
Corwin	June 13	1185	1307
* Estimated date provided by NEWA website			

Table 1. Phenology-based Degree Day model results for Grape Berry Moth by NEWA station location in the Lake Erie Region on August 1, 2019.

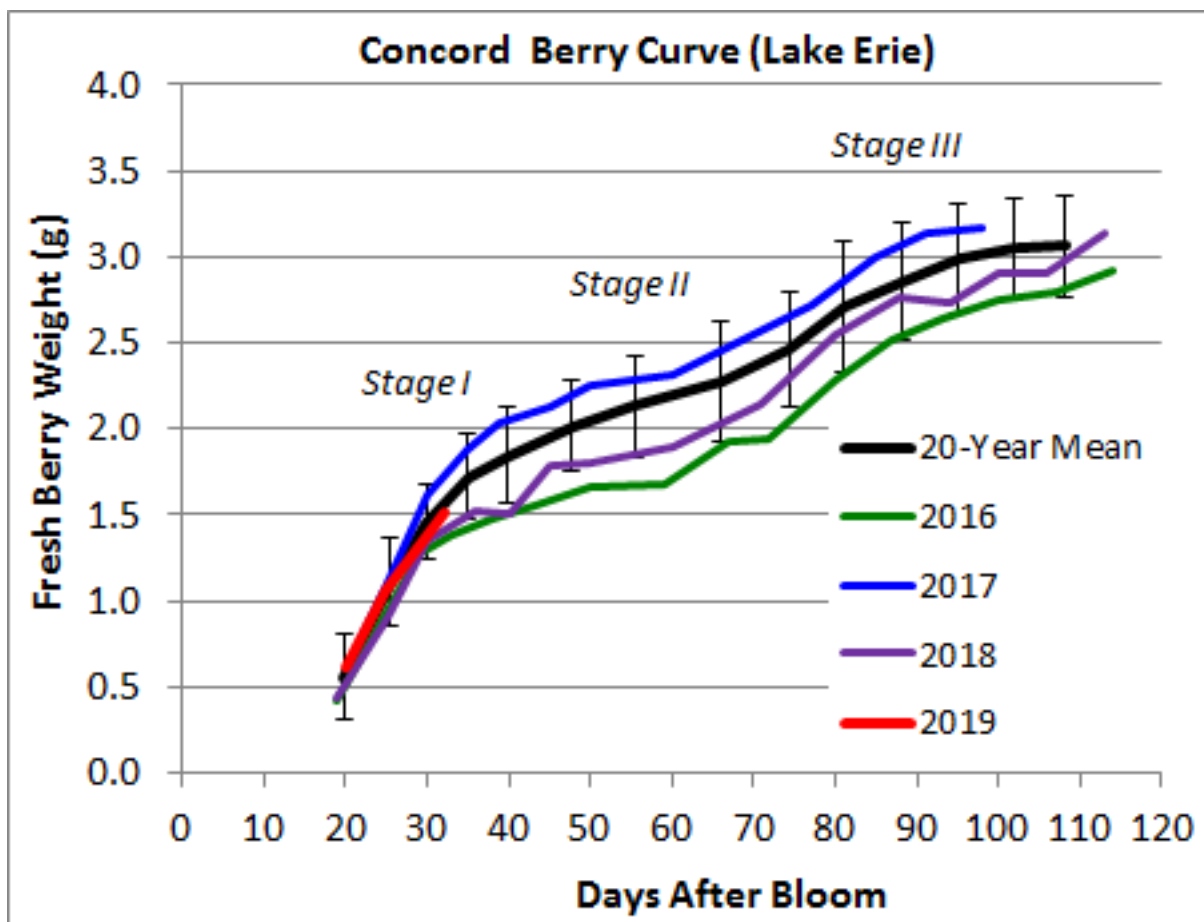
Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

Berry size

I have been working on a crop estimation project for the Lake Erie Regional Grape Belt encompassing five counties along Lake Ontario and Lake Erie. After analyzing 131 fifty-cluster samples collected, on average, at 31 Days After Bloom (DAB), the Concord berry size varies from 1.1 grams to 2.0 grams across our region with an average berry size of 1.5 grams.

At our phenology block here at CLEREL berry samples are taken every five to ten days. Current Concord fresh berry weight curve at CLEREL in Portland, NY for the 2019 growing season is tracking close to the long-term average at 1.52 grams at 32 days after bloom. However, our phenology block is on gravelly ground and the vines have fared well through June and July. Vines located on heavy soils or in wet spots are lagging behind and are much smaller. The warm dry conditions have helped many sites get back on track by drying out the ground and greening-up the leaves.



We are getting reports of higher than average crop estimates this week. Get out there and check your vineyards.

Concord Crop Estimation Guide

Collecting a little bit of information from the vineyard during the growing season can greatly improve your prediction of final yields with better accuracy than the eyeball method. Know your Bloom Date, Space between Vines, & Space between Rows. Calculate how many vines equate to 1/100th of an acre, and know how many Days After Bloom (DAB) samples were collected.

Example:

- **Row & Vine Spacing.** If 9' between rows the table provides the 1/100th acre calculation for you which equals **48.4 feet**.
- How many vines are in **48.4 feet** if vines are spaced **8** feet apart? **$48.4/8 = 6.05$ vines (round down to 6)**
- **Use Spatial Map to direct Sample locations to capture vineyard variation.**
- **Clean Pick Fruit from Calculated 1/100th Acre (In this example it equals 6 vines from 48.4/8).**
Clean pick fruit from 2 vines from high vigor zone, 2 vines from medium vigor, and 2 vines from low vigor.
- **Total Weight of lbs of Fruit Collected.** Weigh each sample taken above, be sure to subtract the weight of the bucket or bin used from total weight sum weights from all 6 samples to get total weight.
- **Consult Table on Back to Find Corresponding Crop Estimation.**

Mechanical Crop Estimation

Cut a length of rope to guide your sampling lengths, lay it down along the row, clean pick with the harvester the length of the rope, weigh lbs of fruit collected. Walk behind afterwards to assess how many grapes are still on the vine/or that are on the ground.

Using the Chart:

Once you have the sample, the chart does the rest of the work for you. Follow the corresponding DAB down and the respective weight over and you have the estimated tons/acre at harvest. For example, let's say it's July 25th or 40 DAB (bloom on June 15th) and the fruit weighs 100 pounds. Crop estimated 8.3 ton/acre potential crop.

PA Update

Andy Muza, LERGP Extension Educator, Penn State University

In the Vineyard (8 - 1 -19)

Powdery Mildew – Overall, leaf infections in canopies of Concord and Niagara vineyards that I have checked are still at low levels. However, cupping and yellowing of younger leaves close to shoot tips, caused by powdery mildew infections, are increasing (Figure 1).

Unfortunately, there is no established leaf infection threshold that determines if additional PM fungicide applications are advised. Again, the need for additional fungicide applications in Concord vineyards is your decision and will depend on crop load and the amount of PM leaf infections in **your** vineyard(s) as the season progresses. Conduct crop estimations to determine potential crop size and continue scouting vineyards to monitor leaf infection levels.



Figure 1. Cupping and yellowing of Concord leaf due to powdery mildew infection. Photo – Andy Muza, Penn State



Figure 2. Downy mildew lesions sporulating on underside of Niagara leaf. Photo – Andy Muza, Penn State

due to grape leafhopper feeding occurs during hot, dry years in vineyards with heavy crop loads and high leafhopper populations.

Japanese Beetle – the number of Japanese beetles observed in Concord and Niagara blocks noticeably dropped this week compared with the last few weeks. The number of beetles in your blocks may differ so get out and check.

Many wine varieties, young vineyard blocks and vines in grow tubes are especially vulnerable to serious leaf loss by Japanese beetle feeding so keep checking these sites.

Downy Mildew – This week downy mildew lesions were observed on leaves of wild grapes and in a Niagara block (Figure 2). Periodic thunderstorms this past week were enough to keep alive the threat of downy mildew in blocks where even low levels of inoculum exist. So, keep an eye on blocks of Niagara, Catawba and other highly susceptible wine varieties.

Grape Berry Moth – See Tim Weigle's Crop Update article.

Grape Leafhopper – population levels and feeding injury at most sites continues to be low. However, I advised an insecticide application at 2 sites where GLH populations and crop levels were high. The greatest risk for economic losses

PA Update

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

Weather: We recorded 734 growing degree days in July at our location. This is quite a rebound from the cool months of May and June, and well above our July average of 658 gdds. So, we've gained on our heat accumulation and we are just about a day or two behind average now for the season, counting from April 1. Rainfall accumulation in July measured 2.9 inches, which is a bit below our average of about 3.8. Weather for the next 3 days looks to be dry with high temperatures right around long-term average.

Diseases: About a half inch of rain on the 28th and again on the 30th, generated new infection periods for black rot and downy mildew at many locations. Keep scouting your vineyards regularly for these diseases if you're growing susceptible varieties. Our main focus at this time is keeping the leaves clean and healthy enough to ripen the crop and the wood. Downy mildew can spin out of control very quickly under the right conditions (warm and wet). Be particularly vigilant if you're growing *vinifera* wine grapes as this disease can defoliate vines before harvest, effectively ending the season. As for black rot, Concord and Niagara fruit are about resistant now, but for those of you growing the premium wine grapes, fruit of *vinifera* may retain black rot susceptibility for another couple of weeks.

Powdery mildew appears to be developing at a very moderate pace from what I see at our location. Our latest assessment of powdery mildew on unsprayed Concord clusters, reveals about 2-4% severity of the disease on fruit. Concord leaves still appear relatively free of mildew. 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. Foliar nutrient sprays like Nutrol (with a surfactant) or even Harvestmore will provide some deterrent to buildup of mildew on leaves. Trials we've run in the past using these materials for late season powdery mildew control shows that they will provide about 30% control (suppression?) of mildew on Concord leaves. The more frequently they are applied, the better the suppression. If you're applying a resistance prone material (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 over the past several years, 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.

Finally, for those of you growing bunch rot susceptible wine grapes, here is a repeat of some information I submitted in a crop update last year regarding Botrytis bunch rot and sour rot pesticide applications. For Botrytis, we have lots of chemical control options that are quite effective against this fungus. However, these products have active ingredients that are prone to the development of resistance by the Botrytis fungus. Therefore, I have listed them below according to the FRAC (Fungicide Resistance Action Committee) group that each product belongs to, so you know what rotations work for managing resistance. FRAC groups are fungicide chemistries with the same or similar mode of action, so that pathogen resistance to one fungicide is going to confer cross resistance to another, within that same FRAC group. For example, notice that Vanguard and Scala are

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

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

***For sour rot control, I also include here some very important work by Dr. Megan Hall, who worked with Wayne Wilcox at Cornell University. Her research has shown that additional pesticide applications during the latter stages of ripening can significantly reduce the development of sour rot. In a nutshell, her work has shown a close connection between fruit flies and sour rot development and spread. 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. Just be careful to rotate insecticides; fruit flies can develop resistance to insecticides very quickly. So far, the best results appear to occur when weekly sprays are initiated before sour rot symptoms are observed (preventive sprays before about 15 brix).



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A big thank you goes out to all of the growers who hosted a coffee pot meeting this season! It has been another successful season of meetings resulting in great discussion, DEC credits obtained, and vineyard visits from the LERGP team.

I will be looking for host sites for 2020. If you are willing to host, please give me a call at 716-792-2800 (ext 201) or e-mail me at kjr45@cornell.edu.



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2019 New York Vineyard Acreage Survey

The New York Wine & Grape Foundation (NYWGF), Cornell Cooperative Extension (CCE), members of the New York grape industry, and Cornell University's Survey Research Institute (SRI) are cooperating to conduct a new vineyard acreage survey for New York State.

Until 2012, the New York office of the National Agricultural Statistics Service (NASS) conducted a vineyard acreage survey approximately every five years. Unfortunately, NASS has indicated that they will no longer be conducting these surveys due to a lack of funding. The information being requested in this survey is very similar to that collected by NASS in previous surveys, in hopes that growers will find it to be a familiar exercise and therefore increase participation.

The results of this survey will help us to better understand the current state of the grape industry in New York. This information will be important in the development of new programs and initiatives, research projects, outreach to media and consumers, and much more over the next several years. The hope is that this survey can be conducted every 3-4 years in order to document how the industry is changing over time.

Please know that all data received through this survey will be kept confidential by the SRI. Data will only be published after it is aggregated, and no personally identifiable information will be made public.

How to submit your information

Did you receive an email from Cornell's Survey Research Institute to fill out the survey (be sure to check your spam or junk email folders)?:

The SRI sent out email invitations to New York growers last week, along with a reminder email this week. This invitation was sent to all growers (about 550) for whom we had an email address on the master list we are using for the survey. If you received this invitation from the Survey Research Institute, please take a few minutes to fill out and submit your information. By using the email link you are sent, you help to reduce the need to print and mailing paper versions of the survey, saving us some funds. **If you receive an email about the survey from somebody other than the SRI, DO NOT USE THE LINK IN THAT EMAIL.** Each grower receives a unique link for the survey, and should only use that link.

If you did not receive an email from the Survey Research Institute:

Don't fret, hard copies will be mailed shortly to those for whom we did not have email addresses, as well as those who did not respond to the initial email invitation to complete the survey.

When you receive your paper copy, there will still be an opportunity to enter your information online rather than using the form. Instructions will be included on the survey. If you prefer to submit your information with the paper survey, instructions will also be included, along with a postage-paid envelope to return it to the Survey Research Institute.

Responding to this survey is completely voluntary. However, this is intended to be a complete census so we need a response from every grower, and therefore your cooperation is very important to the accuracy of the report. The amount of time to complete the survey will depend on the size of your vineyard operation, but should not take a significant amount of time for most growers. **The survey will remain open until August 15, 2019.**

If you are unable to complete the questionnaire either online or by mailing in your response, or have any questions about the survey, a staff person from Cornell's Survey Research Institute can assist you. You can call the Survey Research Institute at (607) 255-3786 or (888) 367-8404.



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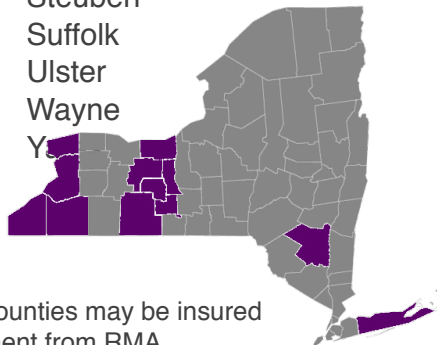
Important Insurance Deadlines

- **Aug. 15, 2018:** Premium Billing Date
- **Nov. 20, 2018:** Sales Closing, Policy Change, Cancellation, Termination Date
- **Nov. 20, 2019:** End of Insurance Period
- **Jan. 15, 2019:** Acreage / Production Report Date



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NYS Grape Crop Insurance



for every \$1 grape producers spent on crop insurance premiums from 2012 to 2016, **they received \$2.07** in losses

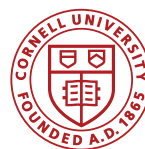
Learn more & sign up:

Learn more about crop insurance options available to New York producers at agriskmanagement.cornell.edu

To sign up, contact a crop insurance agent. Find an agent using the Agent Locator tool at rma.usda.gov/en/Information-Tools/Agent-Locator-Page



Cornell University delivers crop insurance education in New York State in partnership with the USDA Risk Management Agency. Diversity and Inclusion are a part of Cornell University's heritage. We are an employer and educator recognized for valuing AA/EEO, Protected Veterans, and Individuals with Disabilities.



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