



Concord Berries at CLEREL on
July 11, 2023- Kate Robinson

CROP UPDATE
July 13, 2023

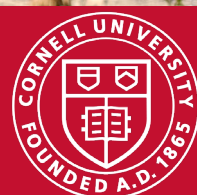


Cornell Cooperative Extension
Lake Erie Regional Grape Program



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2023 LERGP Coffee Pot Meeting Schedule

May 3, 2023	10:00am	Double A Vineyards 10317 Christy Rd. Fredonia NY 14063
May 10, 2023	10:00am	Niagara Landing Wine Cellars 4434 Van Dusen Rd. Lockport NY 14094
May 17, 2023	10:00am	John Schultz & Sons 9510 Sidehill Rd. North East PA 16428
May 24, 2023	10:00am	Brian Chess Farm 10289 West Main Rd. Ripley NY 14775
May 31, 2023	10:00am	Sprague Farms 12435 Versailles Rd. Irving NY 14081
June 7, 2023	10:00am	NO COFFEE POT MEETING
June 14, 2023	10:00am	Betts' Farm 7365 East Route 20 Westfield, NY 14787
June 21, 2023	10:00am	Paul Bencal Farm 2645 Albright Rd. Ransomville NY 14131
June 28, 2023	10:00am	Gary Young Farm 8401 Gulf Rd. North East PA 16428
July 5, 2023	10:00am	NO COFFEE POT MEETING
July 12, 2023	10:00am	Zach & Alicia Schneider Farm 771 Bradley Rd. Silver Creek NY 14136
July 19, 2023	10:00am	NO COFFEE POT MEETING
July 26, 2023	10:00am	Westfield Ag & Turf 7521 Prospect Rd. Westfield NY 14787

In this copy:

Crop Estimation- Jennifer Phillips Russo- [page 7](#)

PA Update - Bryan Hed- [page 17](#)

Grape Berry Moth, Grape Leaf Hopper- Megan Luke- [page 19](#)

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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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Viticulture

Jennifer Russo, Viticulture Extension Specialist, LERGP

In the Vineyard

This season was off to a rough start with cold temperature damage after bud break, drought-like conditions, rain, and looming haze-smokey-fog. Our bloom date at Cornell Lake Erie Research and Extension Laboratory in Portland, NY, was officially on June 12, 2023, which is two days earlier than the historical average of June 14th. Bloom was prolonged for many, and some of our blocks dealt with primary and secondary bloom times in the same block. Strange season, indeed, however if you have strong healthy vines, they will fare much better than vines that are stressed.

I have been in many vineyards across the region and have noticed many of our season pests and nutrient deficiencies. I have emphasized the importance of soil and tissue samples to help diagnose nutrient deficiencies but scouting and a good spray program are just as important. If you have questions on how to manage pests in your vineyard, please reach out via email of cell and use your NY and PA Grape Guidelines. [Click Here](#) Brian Hed's Crop Update is always extremely helpful for addressing timely disease issues and Dr. Katie Gold's Newsletter is a great resource that is available in English and Spanish [Click here](#). Dr. Greg Loeb's Newsletter provides research-based information on insects and management. Below are some of the recent pests.



Photo 1. Black rot infected Concord berries



Photo 2. Japanese beetles on Concord leaf

Indeed, understanding the variability of vineyard conditions is crucial for the long-term sustainability of grape cultivation for juice and wine production. In the eastern viticultural regions of North America, inconsistent weather patterns pose significant challenges to vineyard management. Climate change is predicted to exacerbate these challenges by introducing additional variability in weather events.

Late spring and early fall frost events are a concern for grape growers as they can damage vines and impact fruit production. We have had milder winters and warmer springs that trigger early bud break exposing tender shoots to spring frost events. With predicted climate change, the chances of such frost events may increase, making it essential for vineyard managers to be prepared with

mitigation strategies.

Another aspect affected by climate change is the accumulation of growing degree days (GDD), which is a measure of heat accumulation over time. Variability in summer heat accumulation can impact grape development and ripening. We have all experienced this with trying to time the Grape Berry Moth spray at 810 GDDs, which historically occurs around the Fourth of July weekend and some stations have not met 810 GDD yet. With climate change, the accumulation of GDD may become more variable, posing challenges in determining optimal harvest times and grape maturity.

Additionally, climate change is expected to alter rainfall patterns, leading to increased frequency of rain events and potential periods of drought. These changes can influence vine growth, disease pressure, and overall vineyard health. Grape growers must adapt their management decisions to account for these changing patterns and ensure economic yields while striving to improve fruit quality.



Photo 3. Tumultuous sky with sunshine on Concord vines

The economic survival and success of the grape and wine industries depend on the ability of vineyard managers to comprehend and adapt to the variability of these conditions. By considering climate change projections and implementing appropriate strategies, growers can make informed decisions that mitigate risks, maintain sustainable yields, and continue to enhance fruit quality in the

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face of a changing climate. Assuring that your vines are healthy and balanced will go a long way to sustain the variable conditions.

To reduce variability in yield and quality among years and to make informed management decisions in vineyard operations, accurate crop estimation is important to sustainable vineyard management for juice and wine production. Accurate crop estimation is crucial for several reasons:

1. Achieving tonnage goals: Growers need to predict the quantity of grapes they will harvest to meet the tonnage goals set by industry producers.
2. Balancing vine health: Estimating crop load helps determine if vines are balanced, avoiding overcropping or undercropping. Overcropped vines can lead to delayed fruit and wood maturity, reduced vine size, and increased susceptibility to winter injury and diseases. Undercropped vines may have excess vegetative growth, causing canopy shading and reduced fruit quality.
3. Anticipating tank space: Processors of juice and wine need to anticipate the tank space required for processing the grapes.

I have heard from many growers that they do not crop estimate, or they eye-ball their vines and have a pretty good guess as to how much fruit is hanging which is a method that relies more on luck. The process of collecting information and doing the math can be daunting and there are so many other management decisions that must occur during the growing season, but crop estimation can improve your understanding of the vineyard blocks, vine health, and future fruit quality. There is simply too much at stake financially to rely on luck this season. I realize that it takes time to conduct crop estimation, but the assuring that your vines can handle the crop load and thrive is so important. Knowing your bloom date for each block and recording it in your Viticulture Planning Calendar will help guide you to when your blocks are 30 Days After Bloom (DAB), this is when the Concord berries are half of their final berry weight.

The research has shown that the first two weeks after veraison is when most of the ripening occurs in Concord fruit. The best case scenario to ripen grapes in those two weeks is to have great weather that is warm and sunny and low crop load. The worst case scenario is when there is cold and cloudy weather and high crop load. This is where knowing what size crop is hanging on your vines can benefit your management decisions; knowing that one block you can let the fruit hang longer and another block you may need to crop thin is valuable information.

With the research and technology that has progressed quickly in our industry, growers are able to take crop estimation samples from data-driven management zones increasing accuracy. Even without high-tech equipment and sensors, growers are knowledgeable with variability in a specific vineyard block and know that different portions could be categorized as “high,” “moderate” or “low” producing. Randomly sampling your blocks may not capture the variation that occurs in your vineyards, however, stratified samples from known areas of high, medium, and low-vigor vines will increase your accuracy. This can be done with or without technology, however, the MyEV Tool is a great low-tech resource for you to map the variation. For more information, please reach out via email or use the tutorials located on the Efficient Vineyard website [Click Here for MyEV Tool](#). Use the maps created to direct you to the areas of variation so that you can then employ the manual crop estimation technique provided in the included Concord Crop Estimation Guide (below) or pick a region that represents all variation patterns and use the mechanical crop estimation portion of the guide. Click here for the online version of the Crop Estimation and Thinning Table [Click Here](#).

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.



Photo 4. Concord grapevine many grape clusters.

The Crop Estimation and Thinning Table is a tool developed by Dr. Terry Bates to aid in crop estimation for Concord grapes. It helps vineyard managers estimate the potential crop yield based on various factors such as bloom date, days after bloom (DAB), row spacing, and vine spacing. Here is an example of how to use the table:

1. Determine the bloom date for your vineyard. In this example, the bloom date is June 15th, which corresponds to 40 DAB (days after bloom).
2. Determine the row spacing in your vineyard. For this example, let's assume the row spacing is 9 feet.
3. Use the chart to calculate the length of a row that equals 1/100th of an acre. According to the table, with a row spacing of 9 feet, the length is 48.4 feet.
4. Calculate how many vines are in the 1/100th acre. If the vines are spaced 8 feet apart, divide the length (48.4 feet) by the vine spacing (8 feet). In this case, it equals 6.05 vines, which can be rounded down to 6 vines.
5. Take samples from the vineyard, considering areas of known variation in vigor. Clean pick fruit from 2 vines in the high vigor zone, 2 vines in the medium vigor zone, and 2 vines in the low vigor zone.
6. Weigh the fruit collected from each sample and subtract the weight of the bucket or bin used. Sum up the weights from all 6 samples to get the total weight.
7. Consult the Crop Estimation and Thinning Table. Locate the corresponding DAB (40 in this example) and find the respective weight on the chart. The chart will provide the estimated tons/acre at harvest. For instance, if the fruit weighs 100 pounds, the estimated potential crop is 8.3 tons/acre.

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.

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[Click here](#) for a pdf of this information.



Photo 5 Betts Farm using the mechanical harvester to conduct crop estimation

The table is a useful tool to help vineyard managers make crop load management decisions, estimate harvest yield, and promote vineyard health. Accurate crop estimation can prevent issues such as delayed harvest or unnecessary thinning, and it allows for better planning and decision-making throughout the growing season.

Weeds and Wet Weather

Lynn M Sosnoskie, PhD is Cornell University's Assistant Professor of Weed Ecology and Management for Specialty Crops and she sent a brief email to any of our growers who may have experienced extreme wet weather:

Wet weather and flooding can also affect weeds and weed control.

1. Wet weather conditions can be stressful and may impact the growth and vigor of crops; this, in turn, can affect crop-weed competitive interactions.
2. Wet soils can result in delayed or missed weed control events, such as cultivation and spraying. This may allow weeds to escape optimum management windows. Driving on or physically working wet soils can lead to compaction. Compaction can affect soil aeration, crop root system development, and future drainage in the field.
3. Weeds that are stressed by wet weather conditions may not respond well to postemergence herbicides. Rain events may be associated with fluctuations in soil and air temperature, which can also affect weed vigor and, subsequently, herbicide performance.
4. If trying to make postemergence applications between rainfall events, check the product label for rainfast periods.
5. Too much rainfall could facilitate the leaching of residual herbicides that have high water solubility (measured in ppm) and low soil adsorption (measured in Koc). Herbicide loss may be more pronounced on sandy/coarse soils. For herbicides that do bind tightly to soil, microbial degradation may be altered under wet conditions.
6. Wet conditions could increase the injury to crops by residual herbicides if crop emergence is slowed.
7. Flooding may physically move herbicide treated soil via erosion. This may result in chemicals moving out of a field and onto non-target plants or becoming concentrated in low spots within a planting area. Both conditions can result in reduced weed control (or evenness of weed control) and increase injury potential to desirable species or crop plants.
8. Flooding may result in weed seed movement.
9. If weed control has failed, applicators may feel compelled to act rapidly to manage unwanted vegetation. Don't let haste lead to herbicide drift events.

GiESCO Conference Professional Day Program – Thursday July 20, 2023

The Professional Day can be attended in person on the Cornell Campus (U\$150) or virtually via Zoom (U\$75).

More information: <https://cals.cornell.edu/giesco>

Register: <https://app.certain.com/profile/form/index.cfm?PKformID=0x33447239940&&varPage=register>

Schedule:

8:30-8:35 Opening remarks

Session 1

- 8:35-9:00 The Vineyard of the Future
Nick DOKOOZLIAN
- 9:01-9:08 Monitoring of grapevine stem potentials with an embedded microtensiometer
Alan N. LAKSO*, Michael SANTIAGO, Maryrose LUND, Abraham D. STROOCK
- 9:09-9:15 Smartphone as a tool for deficit irrigation management in *Vitis vinifera*
Gustavo PEREYRA, Anne Pellegrino, Remi Gaudin, Milka Ferrer
- 9:16-9:30 Subsurface irrigation: A means to reduce chemical and water inputs in vineyards
Mark KRASNOW*, Danielle MCMILLAN, Allison HAYWOOD
- 9:31-9:45 Irrigation as a tool for heatwave mitigation: The effect of irrigation intensity and timing in Cabernet Sauvignon
Pietro PREVITALI, Luis SANCHEZ, Nick DOKOOZLIAN
- 9:46-9:52 Monitoring grapevine water status using Landsat 8 images: a two-year case study in a Merlot vineyard
Vincenzo CIANCIOLA, Eve LAROCHE-PINEL, Khushwinder SINGH, Luca BRILLANTE*
- 9:53-10:00 Effect of scion-rootstock combinations on the performance of a near-infrared (NIR) spectroscopy method for determining vine water status
Carlos POBLETE-ECHEVERRIA*, Thomas CHALMERS, Melane VIVIER, Juan FERNANDEZNOVALES, Ignacio BARRIO, Mary Paz DIAGO,
- 10:01-10:16 The informative potential of remote and proximal sensing application on vertical- and overhead-trained vineyards in Northeast Italy
Ron SHMULEVIZ*, Marianna FASOLI, Giovanni Battista TORNIELLI
- 10:17-10:45 Break

Session 2

- 10:46-11:11 Scalable asymptomatic Grapevine Leafroll Virus Complex- detection through integrated airborne imaging spectroscopy, autonomous robotics, and cloud computing
Kaitlin M. GOLD*, Fernando E. ROMERO GALVAN, Gloire RUBAMBIZA, Ertai LIU, Stephanie BOLTON, Charles STARR, Mimar ALSINA, Nick DOKOOZLIAN, Alyssa WHITCRAFT, Hakim WEATHERSPOON, Ryan P. PAVLICK, and Yu JIANG
- 11:12-11:19 Toward an automatic way to identify red blotch infected vines from hyperspectral images acquired in the field
Eve LAROCHE-PINEL, Benjamin CORALES, Erica SAWYER, Khushwinder SINGH, Kaylah VASQUEZ, Monica COOPER , Marc FUCHS , Luca BRILLANTE*
- 11:20-11:35 Use of UV light for suppression of grapevine diseases

David M. GADOURY, Lance CADLE-DAVIDSON, Kaitlin GOLD

- 11:36-11:51 Managing Grapevine Powdery Mildew with Ultraviolet-C Radiation in Washington State
Alexa MCDANIEL, Maria MIRELES, David GADOURY, Michelle MOYER*
- 11:52-12:07 Chitosan treatment to manage grapevine downy mildew
Gianfranco ROMANAZZI*, Simone PIANCATELLI, Roberto POTENTINI, Giuliano D'IGNAZI, Marwa MOUMNI
- 12:08-12:23 Preplant Fumigation only temporarily reduces northern root-knot nematode
Michelle M. MOYER*, Maria MIRELES, Bernadete GAGNIER, Katherine E. EAST, and Inga A. ZASADA
- 12:24-1:25 Lunch
- Session 3*
- 1:30-1:55 Spotted lanternfly, a new invasive insect in vineyards: Is it a threat to grapevines?
Michela CENTINARI*, Andrew HARNER, Taran ROWELS, Claudia SCHIMDT, Flor ACEVEDO, Cristina ROSA
- 1:56-2:03 Does spotted lanternfly phloem-feeding have downstream effects on wine volatiles?
Andrew HARNER*, Suraj KAR, Zeke WARREN, Misha KWASNIEWSKI, Michela CENTINARI
- 2:04-2:19 Litchi Tomato as a Fumigation Alternative in Washington State Wine Grape Vineyards
Bernadete GAGNIER*, Inga ZASADA, Maria MIRELES, Michelle M. MOYER
- 2:20-2:26 Under vine cover crops induces grapevine tolerance to bunch root
Andrés CONIBERTI, Florencia BONJOUR, Facundo IBÁÑEZ, Marcelo FALERO, Martin GERVASINI Gerardo ECHEVERRIA
- 2:27-2:34 Reducing chemical use in vineyards. Evidence from the analysis of a national demonstration network
Ester Fouillet, Bruno Rapidel, Anne MEROT
- 2:35-2:41 Fleurtai, Soreli and Tocai Friulano: perspectives for quality integration of wine together with protection of the docg lison classico appellation
Emilio CELOTTI *, Rebecca VALENT, Giovanni MIAN, Andrea NATOLINO
- 2:42-2:57 Vineyard nutrient budget and sampling protocols
Nataliya SHCHERBATYUK*, Pierre DAVADANT, Markus KELLER
- 2:58-3:11 Rootstock regulation of scion phenotypes: The relationship between rootstock parentage and petiole mineral concentration
Marine MOREL *, Sarah Jane COOKSON, Nathalie OLLAT, Elisa MARGUERIT
- 3:12-3:19 Implications of herbicide, cultivation or cover crop under-vine soil management on the belowground microbiota

Maider VELAZ, Gonzaga SANTESTEBAN, Paula RESANO-GOIZUETA, Maite LOIDI, Nazareth TORRES

3:20-3:27 Effects of the biodynamic preparations 500 and 501 on vine and berry physiology, pedology and the soil microbiome
Markus RIENTH*, Frederic Lamy, Clément Chessex, Thierry Heger

3:30-3:54 Break

Session 4

3:55-4:08 Carry over effect of shoot trimming and deficit irrigation on fruit yield and berry total soluble solids
Alessandro MATAFFO, Pasquale SCOGNAMIGLIO, Maurizio TEOBALDELLI, Carlo MOLINARO, Antonio. DENTE, Boris BASILE

4:09-4:25 Mechanization of pre-flowering leaf removal under the temperate climate conditions of Switzerland
Thibaut VERDENAL*, Vivian Zufferey, Ágnes Dienes-Nagy, Gilles Bourdin, Jean-Laurent Spring

4:26-4:32 Mechanical fruit zone leaf removal and deficit irrigation practices interact to affect yield and fruit quality of cabernet sauvignon grown in a hot climate
Shijian ZHUANG, Qun SUN, Paolo SABBATINI, Karl LUND, Kaan KURTURAL, Mathew FIDELIBUS

4:33-4:40 Ultra-low doses of ethylene and ethephon increase fruit set in Vitis vinifera L. Malbec
Christian CHERVIN, Olivier GEFFROY

4:41-4:48 The use of elicitors in viticulture: a tool to obtain highly colored wines with a reduced alcohol content?
M.Pilar MARTINEZ-PEREZ, Ana B. BAUTISTA-ORTÍN, Alejandro MARTINEZ-MORENO, Encarna GÓMEZ-PLAZA*

4:49-5:05 Dynamic agrivoltaics, climate protection for grapevine driven by artificial intelligence
Damien FUMEY*, Jérôme CHOPARD, Gerardo LOPEZ, Severine PERSELLO, Perrine JUILLION, Vincent HITTE, Yassin ELAMRI, Joris DUBOSC, Benjamin TIFFON-TERRADE, Jean GARCIN, Alexandre MALON, Benoît VALLE, Angélique CHRISTOPHE, Thierry SIMONNEAU, Nicolas SAURIN, Arnaud CHAMPETIER, François BERUD, Silvére DEVEZE, Julien THIERY, Valérie DIDIER, Jean-Christophe PAYAN, Francis SOURD

Effects of Viticultural Mechanization on Working Time Requirements and Production Costs

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Speakers:

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Simone Loose, Hochschule Geisenheim University, Germany
Andreas Kurth, Hochschule Geisenheim University, Germany

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Spotted Lanternfly Tracking Survey

The Penn State Extension Grape and Wine Team is calling on those who own, operate, or manage a farm, vineyard, or winery in the Mid-Atlantic region to participate in a survey that aims to track the spread and severity of nymph and adult spotted lanternfly populations during the 2023 season.

You can learn more about this spotted lanternfly tracking survey and take the survey [here](#).

Results will be automatically displayed on the [SLF Map 2023](#) of the Eastern U.S. You can read more details on the updates [here](#).

Our sincere thanks for your help with tracking the spotted lanternfly!



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PA Update

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

Weather: We have accumulated about 263 growing degree days and 0.75 inches of rain so far in July. We have accumulated about 1004.6 growing degree days as of April 1. The short-term forecast for North East PA has slight chance of precipitation tomorrow (July 14), 60-70% chance of precipitation on Saturday, and a 40% chance of precipitation on Sunday. High temperatures over the next few days will hover in the low 80s.

Phenology: Here by the lake, Concord berries are currently about 10-15 mm in diameter.

Diseases: Periods of rain over the past week have generated infection periods for all the major diseases. However, fruit of native varieties, like Concord and Niagara are now resistant to diseases like powdery and downy mildew. On the other hand, fruit of some wine grapes, especially *Vitis vinifera* varieties, may still retain some susceptibility to these diseases. Growers concerned about black rot, need to keep in mind that fruit of native varieties remain susceptible until about 5-6 weeks after capfall, whereas fruit of *Vitis vinifera* varieties can remain susceptible until about 7-8 weeks after capfall.

Scouting here at our farm has revealed black rot on fruit of a number of varieties that were left unprotected, including Concord. This black rot was a result of the infection period on the 26/27 of June. A subsequent infection period on July 2 will manifest itself on fruit early next week. The threat of *Phomopsis* is gradually passing as rainfall continues to “milk out” overwintering spore sources of the pathogen from young, old, and dead wood. If you’re still concerned about *Phomopsis*, Ziram (for juice grapes), captan (wine grapes only) or mancozeb (wine grapes only), are good choices for this at this time. This is especially important if conditions become increasingly wet. Some of the sterol inhibitors claim *Phomopsis* control on their labels, but I have seen little data to show that these are effective *Phomopsis* fungicides, and our limited testing of this fungicide class against *Phomopsis* has not looked promising.

Powdery mildew continues to build and can now be seen in small amounts on leaves of Concord. So, about this time, we shift our efforts to protecting leaves for as long as we feel necessary to ripen the crops we have developing, and that will depend on the size of the crop. For juice grapes, larger than average crops will require continued emphasis on controlling leaf mildew. Average to small crops may require little or no additional mildew control. I’m not seeing powdery mildew any earlier than I usually do, so I don’t have reason to believe that mildew pressure is particularly high at this point, but cloudy, humid weather will help it along, rain or not.

For premium wine varieties, protection against powdery mildew will continue to be necessary. Materials like Luna Experience, Aprovia, Aprovia Top, Gatten, Endura, Quintec, and Vivando would be good choices. **DO NOT** rely on strobilurins (Sovran, Abound) or tebuconazole products (Tebustar, Tebuzol, etc) for effective powdery mildew control on these varieties. Tank mixing with sulfur, on wine varieties that are tolerant of sulfur (*Vitis vinifera* and most white hybrids) will add extra powdery mildew control and help to manage powdery mildew resistance to the chemistries in these products.

Downy mildew continues to build, little by little. For juice growers, Ziram (which is not as effective as mancozeb products or captan) may need to be tank mixed with another material for downy mildew control, especially on susceptible varieties like Niagara. For wine grapes, mancozeb can continue

to be used up to 66 days before harvest, and it is pretty effective on downy. If conditions stay wet, you will need to apply these 'old standards' with a newer synthetic downy mildew material like Revus, Revus Top, Ranman, Ridomil, or a phosphorous acid product. Just be sure to pay attention to pre harvest intervals.

Its not too late to conduct leaf removal in the fruit zone for premium wine varieties. Leaf removal can be done by machine or by hand and generally provides sizable reductions in bunch rot on rot susceptible wine varieties (Riesling, Vignoles, Pinot noir and gris, Chardonnay, etc). It can even help improve control of other disease as well, like powdery mildew. Leaf removal reduces fruit disease by improving exposure of fruit to light, air, and pesticide penetration. It can also improve fruit quality and may even reduce manual harvest costs by making the clusters easier to see and access by hand harvesters.

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PA Update

Megan Luke, Penn State Extension Viticulture and Tree Fruit Educator

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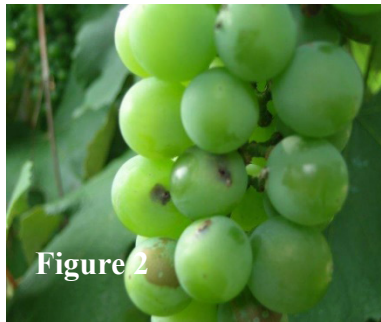
Several growers in the past week have expressed concern over powdery mildew within clusters, this was confirmed in several vineyards in Erie, PA and Chautauqua Counties. Refer to Bryan Hed's update this week if you are choosing materials to combat a PM infection. Black rot and grape berry moth have been observed in the region, if these pests have been a problem in past years, it's a good idea to start treatment. It is important to be scouting several times per week for pest and pathogen pressure. Scouting *after* pesticide applications for material efficacy is extremely important. If materials are *not* giving you the control that you were expecting, please reach out so that we can troubleshoot issues in application strategies or document early resistance in local pest populations.

One of the most common issues in pesticide application at this time of year is getting spray coverage within the canopy. Large leaves and tangle vines can make it difficult to get spray droplets into the depths of the canopy where disease can thrive in warm, dark, damp conditions. Leaf removal practices can help improve spray access and airflow and are recommended.

[Grapevine leaf removal video](#)

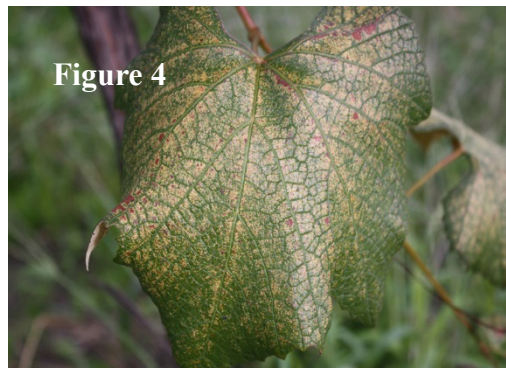
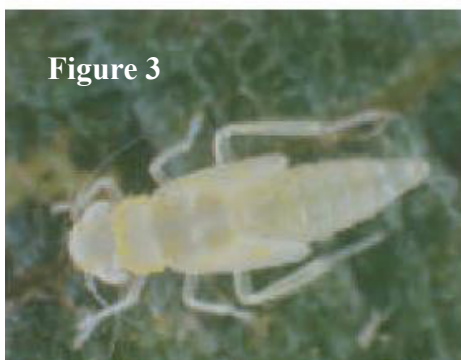
Another option for improving pesticide coverage is changing the nozzle style and output distribution in your spray equipment. Generally, at this time of year, you want the highest output nozzles blowing directly into the canopy, or just below it with an upward angle. While it seems counter-intuitive, increasing droplet size from very fine or fine to medium or coarse can also improve coverage while simultaneously reducing drift. This can be accomplished by switching out nozzles, or in some cases by simply reducing the pressure at which you are spraying. Refer to the manufacturer manual to determine optimum ranges of pressure for your equipment and spray goals. Chapter 7 sections 7.4-7.6 of the 2023 New York and Pennsylvania Pest Management Guidelines for Grapes has valuable information on selecting spray nozzles for your equipment.

Grape berry moth (GBM): The primary insect pest of concern at this time of year is of course grape berry moth (GBM) (Figure 1). For those treating based on the degree day model, we should be hitting our 810-day mark by the weekend, so plan your sprays accordingly. Insecticides mostly target the egg and young larva before it penetrates the berry. Damage is visible as small holes in berries with a purplish discoloration (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

Grape leaf hopper: Another pest which may become problematic in mid-July is the grape leaf hopper (Figure 3). If you see stippling (white dots on leaves caused by leafhopper feeding) throughout the vineyard block scouting should be conducted to determine if an insecticide treatment is recommended (Figure 4). Sampling period for leafhoppers is focused on the abundance or quantity of first-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 a threshold of five 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

The Erie County Horticulture Society Annual Chicken BBQ will be held at Gravel Pit Park in North East, PA on Wednesday, August 2nd. This is a free event with an equipment show and community vendors. PDA and DEC credits have been applied for, including one unit of core credit in PA. Presentations will include grape disease updates, pesticide application best practices, and a NY and PA spotted lanternfly update.

Office schedule (July 17th-23rd)

M 8am-4:30pm Out of office (available by email or phone)
 T 9am-5pm Out of office (available by email or phone)
 W 8am-4:30pm Out of office (available by email or phone)
 Th 8am-4:30pm Out of office (available by email or phone)
 F 9am-5pm Out of office (available by email or phone)