

Cornell Cooperative Extension Finger Lakes Grape Program

June 14, 2023

Finger Lakes Vineyard Update

In the Vineyard

Most varieties in the Finger Lakes are now at some stage of bloom. At the same time, new shoots are emerging from both count (secondary and/or tertiary shoots) and non-count (basal buds, “water sprouts”, suckers) positions. Soon it will be hard to see exactly where the freeze damage occurred due to this regrowth.

For growers who are in the “mixed bag” of freeze damage this year, one of the things that I have mentioned at the last couple of Tailgate Meetings is the idea of selecting some vines (10-20) where most of the shoots were frozen, and tracking their development in comparison to vines where most of the shoots survived the freeze, at least during the ripening period. This will give each grower an idea of how closely or far apart the clusters on primary and secondary shoots are in ripening and can help inform harvest decisions between growers and their buyers. Growers who want to do this should select these vines soon for the reason mentioned above – it will be harder and harder to select vines with different amounts of damage as new shoot growth obscures the damaged primaries. We would appreciate hearing from any growers who would be willing to share their information with us, or just the fact that you are trying it this year.

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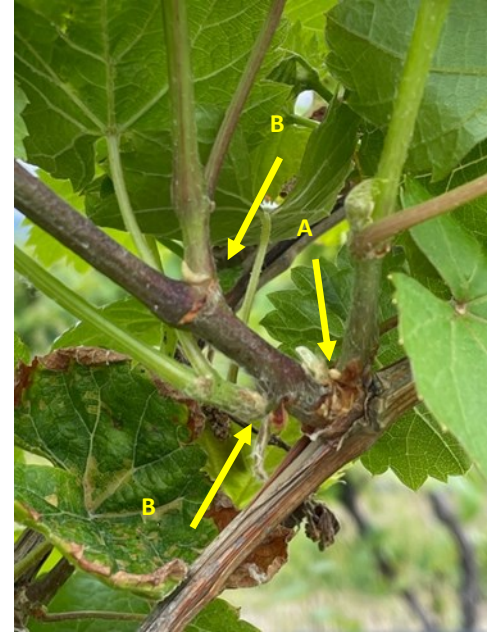
Trace bloom in Riesling (left), middle of bloom in Aravelle (middle), and end of bloom in Marquette (right) on June 13, 2023.

With the damage to the primary shoots, the nutrients that have been mobilized from the vines’ reserves, as well as what they are bringing up from the soil now, are being directed to any other growing points that they can find, which explains the flush of sucker growth at the base and on the trunks of the vines (Photo 2). Secondary and tertiary shoots are also starting to emerge from count buds on canes and spurs where primary shoots were damaged (Photo 3). One of the discussions we had at the Tailgate Meeting on Wednesday was how to manage the sucker growth at the base of the vines. In cases where growth in the canopy is still struggling to emerge, it will be beneficial to the vines to maintain as much leaf area as possible so that they can prepare themselves for the upcoming winter and following season. If there are a lot of suckers, it might be beneficial to remove a few of them to keep the base of the vine from becoming too much of a jungle where disease development, especially downy mildew, and get established. In general, however, where damage was significant and cropping potential is low this year, maintaining healthy, functional leaf area will be important for next year’s crop. With fewer clusters to act as sinks for water and nutrients, retaining more shoots on a vine will also help to reduce the vigor of individual shoots and the potential for “bull canes” to develop.



Left: Damage to primary shoots mean more energy gets devoted to growth form non-count shoots, including suckers at the base of the vine.

Right: New shoots growing around damaged primary. A—secondary shoot. B—lateral shoots from injury primary.



When there is little to no winter or spring injury, there is usually minimal growth of extra shoots from non-count positions. In a year like this, however, having more shoots emerging from unpredictable locations on the vine can quickly cause overcrowding certain areas within the canopy, which can cause headaches for disease development as leaves get more and more dense in those places (Photo 4). In these situations, it could help to do some shoot thinning of smaller, younger shoots which will still be easy to remove compared to older ones, which have already started to lignify at their base. This will allow for better air and sunlight penetration which will help with disease management as well as improving fruitfulness in the buds for next year.



Photo 4. Multiple shoots in one area can result in excess leaf area, which reduces airflow and sun exposure. Thinning a few small shoots from these areas will help to alleviate these problems.

IPM

Available Now: 2023 Grape Disease Control written by Katie Gold

English Version: <https://cornell.box.com/v/cornellGDC2023>

Spanish Version: <https://cornell.box.com/v/cornellGDC2023spanish>

Clusters in most places where primary shoots survived the freeze are in some stage of bloom this week, so spray programs should be undergoing some adjustments at this point. Simple tank mixes of mancozeb and sulfur should be replaced (or supplemented) with better materials to cover all four major diseases at this point in the season.



Concord vines near Seneca Lake were well past 50% bloom this week.

With that in mind, based on the increasing number of confirmed cases of resistance, we recommend that growers should not rely on FRAC 11 materials (strobilurins like Sovran, Flint, Abound, and others that contain FRAC 11 in a blended product) for control of powdery or downy mildew by themselves during this critical period. These materials are still effective against black rot, however, so they still may be worth using for that.

In addition, we recommend that growers not rely ONLY on FRAC 40 materials (i.e., Revus, Revus Top) for downy mildew control. There are many vineyards now in the Finger Lakes with DM populations that are resistant to FRAC 40 materials, so having something else in the tank to back those materials up, if they are used, would be a good idea. Some options to include or alternate with would include:

- Lifeguard
- Captan
- Copper
- Ranman
- Mancozeb (keep in mind 66-day PHI)
- Ridomil Gold and MZ
- Phosphorous acid (ProPhyt, Phostrol, etc.)

Katie Gold attended our Tailgate Meeting on Tuesday afternoon to discuss bloom time disease management and fungicide resistance. The two-page handout that summarizes what she spoke about is included in this week's newsletter for everyone's information.

Phomopsis control in freeze damaged vineyards

One of the challenges that growers will be facing this year due to the freeze is having vines with shoots at much different stages of phenology at this point in the season. While primary shoots are going through bloom, secondary and non-count shoots carrying clusters are still fairly early in their development. This could make management of phomopsis a bit more challenging given the fact that the primary material to manage the disease, mancozeb, has a 66-day PHI. This means that there may be a small window (or none at all) to use mancozeb for phomopsis control on secondary clusters before it can't be used due to harvest dates for the primary clusters. For varieties that will be picked later in the fall this may be less of an issue, but for those harvested early it will mean possibly needing to switch to another option for phomopsis management on secondary clusters.

The two other good options for phomopsis control are captan and ziram, which have 0 day and 21 day PHI intervals, respectively (Gallo growers can't use captan, so ziram is the only option of these two for them). Both materials have weaknesses compared to mancozeb – ziram is less effective on downy mildew, while captan is less effective against black rot. If you choose to use these for phomopsis management this year, it might be wise to include something that can make up for either material's weakness. Remember also that captan and oils, like stilet oil, don't play nicely together and using them too close together (less than 10 days) could cause injury to the vines.

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Grape Pathology Approaching Pre-Bloom, 2023

Six to Ten-Inch Shoot Growth

- Vinifera cultivars and high-susceptibility hybrids require powdery mildew and downy mildew control starting at this stage.
- Ideal time to use JMS and other oils or eradicant material against emerging powdery mildew infections.
- If rainfall has been over 0.1in and temperatures above 52°F have occurred or are anticipated, consider starting downy mildew control, especially in susceptible varieties and if downy mildew was prevalent last season.
- Phomopsis and Anthracnose control should be initiated at this stage, particularly in wet years or in blocks with a history of these diseases.
- Black rot control can usually wait until the next growth stage unless it was a significant problem in the previous season and conditions are wet.

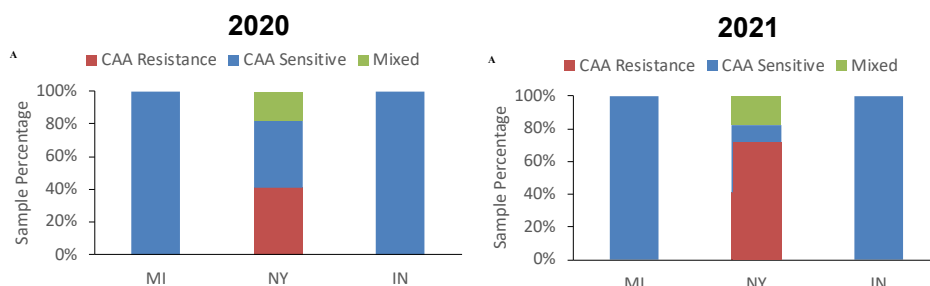
Immediate Pre-Bloom to Early Bloom

- Critical period for control of powdery mildew, downy mildew, and black rot; use best materials and ensure optimal spray rates, coverage, and intervals.
- Include both a contact protectant and systemic/curative in this spray.
- This spray should also cover Phomopsis and anthracnose.
- Missing this spray can lead to a difficult year for disease management. **Use the best fungicides, highest rates, and strictest intervals during this period!**

Bloom

- Critical period for Botrytis management in susceptible varieties; consider products such as Vangard (or Inspire Super), Switch, Scala, Elevate, Pristine, Rovral/Meteor/iprodione generic, and Luna Experience around the bloom period, especially in wet years.
- If sulfur was the only powdery mildew control in the pre-bloom spray, consider reapplying around bloom time on highly susceptible viniferas.
- Maintain a short spray interval, especially in rainy conditions.
- For Botrytis control, consider direct application to clusters rather than a tank mix for optimal efficiency.

FRAC40 resistance in NY & Great Lakes



FRAC 40 (Revus) resistance

- ~70% of FLX vineyards have Frac40 resistance, up from 40% in 2020
- Resistance has thus far only been detected in wine grape populations

FRAC-40 (e.g. Revus) resistance is COMMON in NY downy mildew populations and is growing in prevalence. DO NOT RELY ON FRAC-40's *alone* for DM control during the critical control window.

Disclaimer No endorsement is intended for products mentioned, nor is lack of endorsement meant for products not mentioned. Application of a pesticide to a crop or site that is not on the label is a violation of pesticide law and may subject the applicator to civil penalties up to \$7,500. In addition, such an application may also result in illegal residues that could subject the crop to seizure or embargo action by appropriate state authorities and/or the U.S. Food and Drug Administration. It is your responsibility to check the label before using the product to ensure lawful use and obtain all necessary permits in advance of application.

FRAC-40 (e.g. Revus) resistance is common and growing in prevalence in NY downy mildew populations; it should not be solely relied on for downy mildew control.

- Samples collected from 2020 to 2022 across several locations revealed an increase in FRAC-40 resistance: 40% of vineyards tested positive in 2020, 70% in 2021, and preliminary results for 2022 show 76% of vineyards testing positive.
- The resistance detected in 2022 was from earlier in the season than previous samples, suggesting resistance is not ephemeral and is well established.
- Thus far, resistance has only been detected in wine grape varieties.

Caveats to these findings:

1. The resistance assay requires actively sporulating downy mildew to be effective, meaning there must have been a disease breakthrough/control failure for a sample to be collected.
2. Many growers moved away from using FRAC-40 to manage downy mildew after resistance was reported at the end of 2020, but not all, which might have inflated resistance rates in the 2021 and 2022 seasons.
3. A more accurate estimate of the prevalence of resistance is likely somewhere between 2020 (~40%) and 2021 (~70%) results.

Considerations for managing FRAC-40 resistant downy mildew

- 1) Start your season with at least two rounds of broad-spectrum fungicide (such as mancozeb) before moving to site specific fungicides.
- 2) Do not rely on FRAC-40 chemistries *alone* for DM control during the critical immediate pre-bloom to immediate post-bloom control period.
- 3) When possible, double up your actives by tank mixing. For example, half of Zampro is still effective against FRAC-40 resistant downy mildew. Tank mixing with another DM product will help protect the still-effective active ingredient remaining in Zampro as well as help prevent against “escapes.”
- 4) Be aggressive in your early season control program when pressure is lowest to prevent infections from establishing. Many aspects of resistance management can distil down into simple numbers games: if there is abundant disease, then there are more spores. If there are more spores, it is more likely that a resistant individual is present.
- 5) Remember cultural control! Training and pruning improve both spray penetration & air flow.
- 6)

Considerations for using biopesticides for grape disease control

1. Biopesticides are practical and useful tools in vineyard disease management. Their efficacy has improved greatly in recent years because of innovations in discovery pipelines.
2. We find that biopesticides add the most value when used as tank mixes or rotational materials in a program that includes conventional products.
3. Biopesticides have fundamentally different modes of action than conventional chemistries. Resistance to biopesticides is very unlikely because of these fundamental differences.
4. Biopesticides are almost universally protectants, not rescue materials. The only exception to this is stylet oil, which is an effective powdery mildew eradicator.
5. Under low to moderate disease pressure, many biopesticides work as well as conventional materials. However, they struggle under high pressure.



Grape Disease Control 2023 ENGLISH



Grape Disease Control 2023 SPANISH

Dustin Stalnaker — FLGP Summer Field Tech



I'm pleased to introduce Dustin Stalnaker, who will be working with the FLGP on several projects this summer. Dustin will be starting in FLCC's Viticulture and Wine Technology program this fall, so we're happy to be giving him his first taste of working in Finger Lakes vineyards this summer. You will likely see Dustin helping with our invasive pest trapping program, tracking development of secondary crop in a few vineyards, helping out in the Teaching & Demonstration Vineyard, and whatever else we can put on his plate.

Dustin joins the FLGP team from a background in the field of history. As he developed a taste for wine, his reflections on how time and conditions shape society sparked an interest in understanding how environmental conditions impact grapes and also how time changes the product we receive in the bottle.

Farmers: What's in your weed seedbank?

Bryan Brown, NYS IPM Weed Scientist

We have funding to analyze weed seedbanks of 50 farms in this region. As a participant, you would get:

- a weed seedbank density and composition analysis of one field at your farm
- photos of identifying characteristics of each species
- a tailored weed management plan that addresses your seedbank based on your current equipment and crop selection
- a bar graph depicting the seedbank density of your farm compared to the other anonymous participating farms
- soil nutrient test results from the sample we collect, and
- -a one-time participation payment of \$550

All we need from you is:

- One half-gallon of your soil in 2023
- some information about your crop/weed management,
- an hour of your time in 2025 to discuss the results, and
- 5 minutes for a phone evaluation.



Indicate your interest in participating as soon as possible by emailing Bryan Brown at bjb342@cornell.edu or leaving a message at 315-787-2432. We're hoping to select a wide range of farms and locations, so **please tell us a bit about your farm**. We'll select participants by July 1. There will be a couple forms to fill out, but we'll try to make it as easy as possible for you.

SARE Project: *Elevating weed seedbank management with tailored recommendations and new tactics*

Project leaders: Bryan Brown (NYSIPM), Sam Anderson (Harvest NY), Toni DiTommaso (Cornell), Lori Koenick (Cornell Vegetable Program), and Lynn Sosnoskie (Cornell).

Penn State Looking for Grower Feedback on Leafroll Virus

The PSU Wine and Grape Team is asking for grower participation in their *Grape Leafroll Virus Survey*, an important initiative aimed at understanding and combating the Grape Leafroll Virus (GLRV).

Grapevine leafroll-associated viruses (GLRV or Grape Leafroll Virus Disease) are widespread in many grape growing areas in the mid-Atlantic region. As the mid-Atlantic region becomes more heavily invested in cultivars of *Vitis vinifera*, which are most susceptible to the effects of these viruses, the disease caused by these viruses will inevitably become a more severe problem for our grape and wine industry. With this survey, we would like to investigate strategies that growers like you would use to control these viruses.

Please use the following link to access the survey: https://pennstate.qualtrics.com/jfe/form/SV_8kT0ehBTZGuQEJ0

Your input and participation in this survey are crucial to the success of our collective efforts in combating GLRV. If you have questions about this survey, don't hesitate to get in touch with Claudia Schmidt, Assistant Professor of Agricultural Economics, Penn State (czs786@psu.edu).

Upcoming Events

Don't forget to check out the calendar on our website (<http://flgp.cce.cornell.edu/events.php>) for more information about these and other events relevant to the Finger Lakes grape industry.



Tailgate Meeting

June 27, 2023 4:30 – 6:00 PM

Keuka Lake Vineyards

8882 County Rd 76, Hammondsport, NY

Our next Tailgate Meeting will be on Tuesday, June 27 at Keuka Lake Vineyards in Hammondsport. These meetings are a time for growers and the FLGP staff to discuss what's going on in the vineyards, ask questions, and learn from each other. There is no set agenda for the most part, so bring questions, observations, thoughts, etc. and let's talk about them. Each meeting has been approved for 1.25 pesticide recertification credits by DEC.

Here is the schedule for Tailgate Meetings for the rest of 2023:

- July 11, 2023: Young Sommer Winery
 4287 Jersey Rd, Williamson, NY
- July 25, 2023: Gage Vineyards
 6104 Hicks Road, Naples NY
- August 8, 2023: Tango Oaks Vineyard
 5557 NY Route 414, Hector, NY
- August 22, 2023: Fox Run Vineyards
 670 Route 14, Penn Yan, NY

Upcoming Events

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GiESCO Conference Professional Day

Thursday, July 20

Cornell University

The [GiESCO](#) conference is one of the most important viticulture meetings in the world. Scientists from all over the globe attend this meeting. In July, many of the world's experts in viticulture and related fields will be coming to Cornell for this important gathering.

While much of the week is devoted to scientific talks and tours, the final day of the conference is devoted to information that is geared towards more practical use by the industry, especially the local growers and winemakers, and this year THAT IS YOU!!

On Thursday, July 20, the *Professional Day* will feature industry relevant, applied viticulture topics presented by international speakers.

Keynote speakers (and topics) are:

- Dr. Nick Dokoozlian, E&J Gallo (The vineyard of the future)
- Dr. Kaitlin Gold, Cornell University (Remote sensing for disease detection)
- Dr. Michela Centinari, The Pennsylvania State University (The threat of the invasive insect spotted lanternfly).

Other topics will include:

- Managing grapevine diseases with UV radiation
- New fumigation alternatives
- Vineyard nutrient budget and sampling protocols
- Response of vineyard soils to biochar
- and other timely topics that address grower challenges.

I encourage all of you to consider attending this one-day workshop that is devoted to the local industry. The Professional Day can be attended in person on the Cornell Campus (\$150) or virtually via Zoom (\$75).

Here is the link to register:

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

Finger Lakes Vineyard Update

Finger Lakes Grape Program

June 14, 2023

2023 GDD & Precipitation

FLX Teaching & Demonstration Vineyard – Dresden, NY					
Date	Hi Temp (F)	Lo Temp (F)	Rain (inches)	Daily GDDs	Total GDDs
6/7/23	65.7	53.2	0.00	9.5	491.7
6/8/23	62.1	52.9	0.00	7.5	499.2
6/9/23	64.8	50.2	0.05	7.5	506.7
6/10/23	76.5	51.8	0.00	14.2	520.9
6/11/23	81.7	57.2	0.00	19.5	540.3
6/12/23	73.0	57.9	1.69	15.5	555.8
6/13/23	71.6	56.8	0.00	14.2	570.0
Weekly Total			1.74"	87.7	
Season Total			8.74"	570.0	

GDDs as of June 13, 2022: 649.2

Rainfall as of June 13, 2022: 7.15"



Seasonal Comparisons (at Geneva)

Growing Degree Days

	2022 GDD ¹	Long-term Avg GDD ²	Cumulative days ahead (+)/behind (-) ³
April	135.9	62.8	+13
May	216.8	256.3	+3
June	168.5	484.6	+2
July		646.1	
August		597.4	
September		360.2	
October		112.5	
TOTAL	521.2	2519.8	

¹ Accumulated GDDs for each month.

² The long-term average (1973-2022) GDD accumulation for that month.

³ Numbers at the end of each month represent where this year's GDD accumulation stands relative to the long-term average. The most recent number represents the current status.

2023 GDD & Precipitation

Precipitation

	2023 Rain ⁴	Long-term Avg Rain ⁵	Monthly deviation from avg ⁶
April	5.73"	2.80"	+2.97"
May	1.90"	3.07"	-1.17"
June	1.97"	3.56"	
July		3.43"	
August		3.21"	
September		3.47"	
October		3.41"	
TOTAL	9.60"	23.02"	

⁴ Monthly rainfall totals up to current date

⁵ Long-term average rainfall for the month (total)

⁶ Monthly deviation from average (calculated at the end of the month)

Finger Lakes Vineyard Update

Finger Lakes Grape Program

June 14, 2023

Additional Information

Become a fan of the [Finger Lakes Grape Program on Facebook](#), or follow us on [Twitter \(@cceflgp\)](#) as well as YouTube. Also check out our website at <http://flgp.cce.cornell.edu>.

Got some grapes to sell? Looking to buy some equipment or bulk wine? List your ad on the [NY Grape & Wine Classifieds website](#) today!

Finger Lakes Grape Program Advisory Committee

Eric Amberg- Grafted Grapevine Nursery
Gregg McConnell- Farm Credit East
Matt Doyle- Doyle Vineyard Management
Eileen Farnan- Barrington Cellars
Chris Gerling- Cornell University Extension
Mike Colizzi- E & J Gallo
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Cameron Hosmer- Hosmer Winery
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Cornell Cooperative Extension Finger Lakes Grape Program

Hans Walter-Peterson—Team Leader
Donald Caldwell—Viticulture Technician

The Finger Lakes Grape Program is a partnership between Cornell University and the Cornell Cooperative Extension Associations in Ontario, Seneca, Schuyler, Steuben, Wayne and Yates Counties.

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