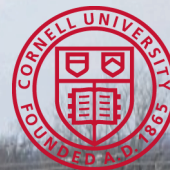


Cornell Cooperative Extension

Finger Lakes Grape Program



May 26th, 2022

Finger Lakes Vineyard Update

In the Vineyard

I will be away on vacation for two weeks beginning Monday, May 30, so there will be no Vineyard Update newsletters during that time. The next one will come out the week of June 13. If you need anything from the FLGP during that time, please contact Donald Caldwell (315-759-1069 / dc886@cornell.edu) or Brittany Griffin (315-536-5134 / bq393@cornell.edu). - Hans

In the Vineyard

Shoot growth has slowed a bit after the initial rapid growth we had right after budbreak, which is helping growers to get caught up on sprays and other early season vineyard work. We are now also able to get a better idea of just how much damage our vineyards took from this past winter's cold blasts. I've had several growers tell me that the amount of damage in most blocks doesn't appear to be quite as bad as their estimates after cutting buds this winter, but there are some places where the opposite seems to be true. Again, it's all coming down to location and variety when it comes to how much damage actually occurred.

Shoot Thinning

As I mentioned previously, a number of vineyards adapted their pruning practices this year in order to make up for a certain amount of bud damage, whether that was leaving extra canes or longer spurs, and which seemed to be paying off for them. In cases where bud survival is higher than expected, it might be necessary to do some shoot thinning in order to ensure the canopy doesn't get too dense later in the season. This is especially true in the areas around the trunk and out at the ends of canes or cordons, particularly if they overlap. We are entering the window when shoot thinning is optimally done, as the shoots are still relatively small and easy to distinguish from one another, and also break off the vine easily and with minimal damage to the vascular system.

Thinning can have several benefits, including:

- Improving bud fruitfulness by reducing shading in the interior of the canopy;
- Reducing disease pressure;
- Improving fruit exposure to sunlight, which can impact color and flavor development (possibly); and
- It is a relatively fast and inexpensive way (whether by hand or machine) to make adjustments to the canopy structure to bring it closer to "balance."

Gillian Trimber created an [excellent short video](#) on the reasons for shoot thinning and how to do it that is posted on our [YouTube page](#). It's worth a few minutes of your time, even if you have been shoot thinning in your own vineyard for a while.

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Five-bud spur with three emerging shoots.



Click on the picture above to watch the video.

In the Vineyard (continued from page 1)

Digital Viticulture in the Finger Lakes

This week, we conducted our first set of NDVI and soil scans in Finger Lakes vineyards as part of a USDA-funded project that is focused on getting digital agriculture tools into the hands of New York grape growers. The project is led by Terry Bates, director of the CLEREL facility in western NY, and includes five commercial vineyards here in the Finger Lakes. We scanned three of these vineyards on Tuesday and will scan the remaining ones next month. The NDVI sensors we used essentially are looking for anything green. The more green tissue that they detect, the higher the value they record. At this time of year, that signal is closely tied to the number of shoots per vine that are emerging. In two of the vineyards we scanned, there were sizeable pockets where winter injury was obvious and I'm sure will show up on the maps that we develop from them. The great part about these tools is that we can then overlay a map of soil properties, or elevation, or anything else, to see how well different factors might correlate with that injury. That information can then guide management decisions about those areas if the manager wants to change anything in order to address that.

This is the first year of the three-year project funded by USDA, so you will be hearing much more from me about digital viticulture and its potential uses in the Finger Lakes. If you want to learn more about the use of these kinds of tools and technologies in vineyards, I highly recommend checking out the Efficient Vineyard website at <http://www.efficientvineyard.com/>, where Terry and his team have posted lots of information about these tools and how they can be used to improve vineyard management.



Hans and Terry Bates scanning a vineyard on Seneca Lake. The small boxes on the front are NDVI sensors that quantify the presence of green tissue. The sled being pulled behind is measuring the electrical conductivity of the soil at two different depths, which gives an estimation of several soils properties such as clay content.

IPM

Spotted Lanternfly Egg Hatch is Starting in NY

[Brian Eshenaur](#), NYS IPM Program

Our partners at NYS Department of Ag & Markets are telling us that spotted lanternfly (SLF) eggs have started to hatch for the season. The first SLF egg mass hatch was noted in Bohemia, Long Island, on the south-facing side of an Ailanthus tree. Hatching has also been confirmed in Brooklyn, Manhattan, Staten Island and Port Jervis (Orange County) New York.



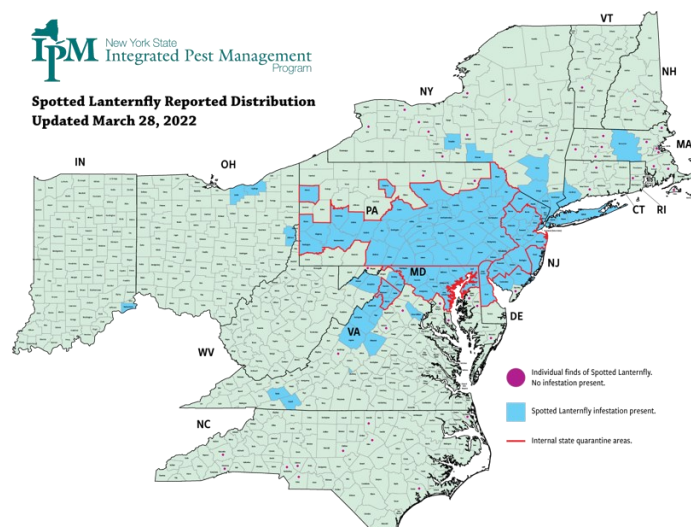
Newly emerged SLF at first instar stage of development are black with white dots.

With the recent warm weather, egg hatch at other locations in NYS is anticipated soon. Hatch has already been confirmed in the states to our south and in Ohio, reported here: <https://bygl.osu.edu/index.php/node/1971>

Also of note last month, before egg hatch began, a wholesale shipment of nursery stock arrived in NYS with SLF egg masses. The trees were from a nursery located in a state known to be infested. NYS Ag Mkts followed up and all egg masses were destroyed. This is another reminder of the importance of very close inspection of any outdoor item leaving an infested zone.

If you think you see SLF, please follow these steps:

- Take pictures of the insect, egg masses, or infestations
- If possible, collect the insect. Place in a bag and freeze, or in a jar with rubbing alcohol or hand sanitizer
- Note the location (street address and zip code, intersecting roads, landmarks, or GPS coordinates)
- Send the information to NYS. Dept. Agriculture and Markets in one of these ways:
 - ◇ [Spotted Lanternfly Sighting Report Form](#)
 - ◇ Email pictures and location to spottedlanternfly@agriculture.ny.gov



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SLF infestation map as of March 28, 2022 (click map for a larger version)

Vine removal technique foils devastating grape disease

By Jim Catalano

This article [originally appeared in the Cornell Chronicle](#) earlier this month.

Removing not only a diseased grapevine but the two vines on either side of it can reduce the incidence of leafroll disease, a long-standing bane of vineyards around the world, Cornell researchers have found.

Leafroll disease, a virus spread by mealybugs, damages grapevines, reduces yield and alters grape quality – all of which can detrimentally affect wine quality and cost growers tens of thousands of dollars per hectare. There's no cure for leafroll disease, so growers have traditionally attacked it by tearing out infected vines – that is, roguing, or removing “rogue” plants – and replacing them with healthy ones.



In the first study of its kind, scientists at Cornell AgriTech have documented that the new technique, called spatial roguing, can reduce the incidence of leafroll disease in commercial vineyards. Removing the extra vines eliminates the mealybugs' means of transporting the leafroll virus, creating a moat-like space. The [study was published](#) in the April issue of the American Journal of Enology and Viticulture.

For the study, [Marc Fuchs](#), professor in the Plant Pathology and Plant-Microbe Biology Section in the School of Integrative Plant Science at Cornell AgriTech, and his team set up a cabernet franc plot at Sheldrake Point Winery in Ovid, New York, where they documented the presence of leafroll disease and mealybugs, and then tested the effectiveness of spatial roguing and mealybug insecticide management, both alone and in combination.

Over a five-year period, they found that spatial roguing was effective in quickly reducing the incidence of leafroll virus – from 4% in 2016 to almost zero in 2020-21 – while the unrogued vines' viral incidence increased from 5% to 16%. Insecticides reduced mealybug population to almost zero over the same period; in untreated vines, it grew 57 to 257 times greater. But insecticides were not shown to limit the number of newly infected vines.

“Managing leafroll used to seem a bit like a ‘whack-a-mole’ game because it would keep popping up,” said Dave Wiemann, vineyard manager at Sheldrake Point Vineyard. “By acting quickly and utilizing Fuchs’ strategy, we now know that we will avoid having to remove large sections of vineyards in the future. That will translate into more consistent yields and quality, which are both critical to our winery’s success.”

Fuchs has been researching grape viruses for decades and had been intrigued by the possibilities of spatial roguing. But it wasn't until 2015, when he collaborated with [Miguel I. Gómez](#), the Robert G. Tobin Food Marketing Professor in the Charles H. Dyson School of Applied Economics and Management, and Shadi Atallah, Ph.D. '14, his graduate student at the time, that he was able to gather some numbers to bolster his case.

“They modeled what they are referring to as the bio-economic spread of the disease, where one takes into account how the disease is spreading in the vineyard and what the economics have been for the grower,” Fuchs said. “Meaning, do you remove just one vine or also the two adjacent vines, and how much money do you make or lose? When is it economical to do one thing versus the other?”

There is a cost to spatial roguing, Fuchs said, in terms of the labor needed to removing disease vines and replanting with healthy vines, in addition to the loss of full production for the five years it takes a new vine to begin producing.

Vine removal technique foils devastating grape disease

By Jim Catalano

“Growers are used to making business decisions on how to best manage their vineyards based on immediate profits,” he said. “But we are convinced that it’s worth losing a little bit of money upfront, or investing money upfront, because dividends would be incurred much faster down the road.”

Sometimes, leafroll infestation can be so high – a virus incidence of 25% or more – that it’s not economical to employ spatial roguing. In those cases, some growers will choose to do nothing and live with the reduced quality of their grapes, while others will determine that total vineyard replanting is the better strategy.

The concept of spatial roguing may puzzle some growers and winemakers, Fuchs said.

“Growers like to grow things, not tear them out,” he said. But as more of them adopt the tactic, he believes the results will speak for themselves. “My strategy is to identify some early adopters and let them spread the word and convince their peers of the efficacy of the new methodology.”

This research was funded by the USDA NIFA Specialty Crop Block Grant Program and the National Institute of Food and Agriculture through the Federal Capacity Funds program. Co-authors of the paper include Greg Loeb, professor of entomology, Rekha Bandhari, graduate student, Stephen Hesler, research support specialist, Rosemary Cox, research support specialist and Tim Martinson, senior extension associate.

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.



FLGP Virtual Tailgate Meeting

Tuesday, June 14 *4:30 – 6:00 PM*
Via Zoom

Our next virtual Tailgate Meeting of 2022 will be held on Tuesday, June 14. As always, the agenda for these meetings is very loose, so please come with your questions, observations, opinions about what's going on in the vineyard.

Participants will need to register before attending their first virtual meeting in order to receive the Zoom link. Registration for the online Tailgate Meetings is only required once – the link you receive when you register will work for all four online meetings this year.

Online Tailgate Meeting Registration: <https://bit.ly/3M2peJp>

The virtual and in-person Tailgate Meetings have been approved for 0.75 pesticide recertification credits. We will also need to receive an image or photocopy of your pesticide license before the first meeting that you attend. These images/copies can be sent to Brittany Griffin at bg393@cornell.edu. More information will be included in your confirmation email.

Vineyard Mulching: Benefits Beyond Winter Protection

Webinar presented by Ohio State University
Thursday, June 2 *1:30 – 4:00 PM*

See flyer in this Vineyard Update for more information.

To register, visit go.osu.edu/mulch2022.

2022 GDD & Precipitation

FLX Teaching & Demonstration Vineyard – Dresden, NY					
Date	Hi Temp (F)	Lo Temp (F)	Rain (inches)	Daily GDDs	Total GDDs
5/18/22	62.4	45.9	0.12	4.2	226.6
5/19/22	67.1	49.8	0.07	8.5	235.1
5/20/22	81.5	51.1	0.03	16.3	251.4
5/21/22	91.9	66.0	0.06	29.0	280.3
5/22/22	82.6	52.0	0.06	17.3	297.6
5/23/22	62.6	48.0	0.00	5.3	302.9
5/24/22	72.9	42.1	0.00	7.5	310.4
Weekly Total			0.34"	88.0	
Season Total			3.12"	310.4	

GDDs as of May 24, 2021: 292.5

Rainfall as of May 24, 2021: 4.01"



Seasonal Comparisons (at Geneva)

	2022 GDD ¹	Long-term Avg GDD ²	Cumulative days ahead (+)/behind (-) ³
April	58.3	62.9	-2
May	216.3	254.6	+4
June		484.1	
July		645.5	
August		595.7	
September		359.9	
October		112.8	
TOTAL	274.6	2515.5	

¹ Accumulated GDDs for each month.

² The long-term average (1973-2021) 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.

2022 GDD & Precipitation

Precipitation

	2022 Rain ⁴	Long-term Avg Rain ⁵	Monthly deviation from avg ⁶
April	2.00"	2.83"	-0.82"
May	0.70"	3.09"	
June		3.52"	
July		3.46"	
August		3.22"	
September		3.46"	
October		3.47"	
TOTAL	2.70"	23.05"	

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)

Vineyard Mulching: Benefits beyond Winter Protection



Mulching has been practiced in vineyards around the globe for a long time. Yet, it is not common in eastern US vineyards. In recent years, there has been an increased interest in vineyard mulching for improved vine and soil health, thus more sustainable vineyards in a changing climate. Join us remotely by Zoom as we provide an overview of vineyard mulching and share new research findings about its impact on vine health and benefits beyond winter protection.

DATE: Thursday, June 2, 2022

TIME: 1:30-4:00 p.m.

LOCATION: Zoom Webinar

HOSTS: Imed Dami and Maria Smith

To register, visit go.osu.edu/mulch2022



THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES



WOOSTER

CFAES

TOPICS INCLUDE:

- Mulching as alternative to soil hilling for winter protection
- What grape growers in eastern US think about mulching
- Impact of mulching on weeds in the vineyard
- Impact of mulching on soil moisture, compaction, and permeability
- Impact of mulching on grapevine growth, yield, and fruit quality
- Nutrient management and mulching: fertilize less or more
- Is mulching cost effective?
- Equipment for mechanized mulching

SPEAKERS:

Imed Dami

Cathy Herms

Ashish Manandhar

Mary Rodriguez

Ajay Shah

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Finger Lakes Vineyard Update

Finger Lakes Grape Program

May 26th, 2022

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

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Bill Dalrymple- Dalrymple Farm

Matt Doyle- Doyle Vineyard Management

Eileen Farnan- Barrington Cellars

Chris Gerling- Cornell University Extension

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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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