Cornell Cooperative Extension
Finger Lakes Grape Program

August 25, 2023

Finger Lakes Vineyard Update

In the Vineyard

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This is the final issue of the 'Vineyard Update' newsletter for 2023. Our annual Veraison to Harvest project will start next week, and the weekly 'Veraison to Harvest' newsletter, which contains weekly ripening data and short updates from grape growing regions around the state, will start showing up in your email box on Fridays, starting next week.

And away we go! Harvest 2023 got under way here in the Finger Lakes with E&J Gallo opening the gates for their first loads Thursday morning. Ripening progress will be interesting to watch this year given the wide range of yields that are hanging in different vineyards due to the variation in freeze damage this spring.

One of the impacts of all of the rain that we have been having since bloom is that berry size is higher than normal. We will get a sense of how much higher when we start collecting our Veraison to Harvest samples next week, but it's hard to miss when you look at clusters this year. Our friends out in western New York at the Lake Erie lab are seeing that Concord berries there are about 10-15% bigger than average at this point in the season.

Pinot gris (above) and other tight-clustered varieties are even tighter than usual this year due to bigger berry size thanks to plentiful rainfall since fruit set.

There are both pros and cons to this, of course. The positive thing about it is that this will help growers who were more seriously impacted by the spring freeze by increasing their yields a bit. The downside is that bigger berries take up more space, which can be a limited commodity on clusters in some varieties (see photo). The result, then, is that some berries split when the pressure gets to be too much, which then leads to bunch rot infections like Botrytis and sour rot.

Watch the updates in the *Veraison to Harvest* newsletter in the coming weeks to see what berry weights are looking like as we move through harvest.

Botrytis

As I mentioned above, the combination of larger berries, tight clusters and wet weather is a pretty good recipe for botrytis development, which we're starting to see in some blocks. If conditions continue to be wet and humid, then botrytis and sour rot pressure will certainly ramp up and make the harvest more challenging.

Many growers that I've spoken with lately had already put out a botrytis spray, or were planning to in short order. Refer back to the Vineyard Update from July 27 to the article written by Alice Wise about Botrytis management and a summary of materials that are labeled for it.

In the Vineyard (continued from pg. 1)

2023 Price List

We're still trying to round out our annual grape price list with a few more contributions before we send it out to everyone. We will send out a "first version" of the list by Tuesday morning next week containing the information that we have received up to that point, and then will update it if we get anymore after that.

Thank you tailgate hosts

A quick "Thank you" to the growers who hosted our meetings this season. We are really grateful for your willingness to let us use your facilities for these important gatherings with our colleagues and peers. If you would like to host a meeting next year, please let me or Brittany Griffin (bg393@cornell.edu) know and we'll put you on the list of possible locations next year.

Spring IPM Meeting	May 2	Don Tones/Clearview Farms
Tailgate #1	May 16	Dave Stamp/Lakewood Vineyards
Tailgate #2	May 30	Cameron Hosmer/Hosmer Winery
Tailgate #3	June 13	Jeff Morris/Glenora Farms
Tailgate #4	June 27	Mel Goldman/Keuka Lake Vineyards
Tailgate #5	July 11	Herm Young/Young Sommer
Tailgate #6	July 25	Jon Gage/Gage Vineyards
Tailgate #7	August 8	Fred Wickham/Tango Oaks Vineyard
Tailgate #8	August 22	Scott Osborn/Fox Run Vineyards

THANK YOU ALL!!

Persistence of elemental sulfur spray residue on grapes during ripening and vinification

Article by Tim Martinson and Alex Koeberle

Background

Elemental sulfur is an effective, durable, and economical spray material for managing powdery mildew, but growers and winemakers are leery of applying it too late in the growing season because of concerns about the impact of sulfur residues on fermentation and sulfur-associated off aromas. Sulfur residues exceeding 10 µg/g in musts are associated with increased hydrogen sulfide (H_2S "rotten egg aroma") formation during fermentation. A key question for growers and wineries is 'How long before harvest should a grower stop applying sulfur to avoid problems with residues in the wines?' Little research has been done to determine the fate of field-applied sulfur or quantify where the sulfur ends up during the winemaking process. One obstacle has been the lack of a simple analytical method for quantifying elemental sulfur residues. Using a novel test developed at Cornell, we conducted field trials over three growing seasons to quantify how the timing, formulation, and application rate of sulfur affected elemental sulfur residues on grapes and in musts. We also conducted separate trials to test the effect of different amounts of skin contact time during vinification and juice clarification on the fate of elemental sulfur residues.

Experimental Design

Sulfur persistence following field applications.

Field trials in 2009-2011 included combinations of three variables:

- Sulfur formulation: Micronized sulfur (small particle size and containing 20% other components to enhance adhesion) and wettable sulfur (large particle size) formations were compared.
- Application rate: A low rate (3 lb/acre) and a higher rate (5 lb/acre or 6 lb/acre) were compared
- Timing: The preharvest interval – that is, the time between the final sulfur application and harvest – was varied from as little as 8 days to nearly 10 weeks.

Sampling and Analyses

- Measurement of residues in grapes before harvest: Clusters were sampled in the field at 2-5 day intervals (9x from 32 to 0 days preharvest in 2010; 9x from 62 days preharvest to harvest in 2011).
- Measurements of H_2S and S in wines: H2S production was measured daily during fermentation, and elemental sulfur was measured in juice before fermentation and during pre-fermentation settling.

Conclusions:

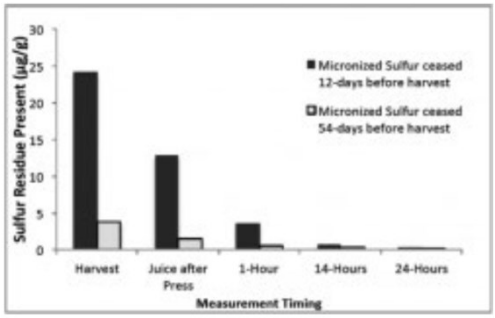

Figure 1. Sulfur residue concentrations found at different times during post-harvest processing of Riesling in 2011, in the Finger Lakes Region of New York. The fruit had received applications of micronized sulfur in the vineyard until either 12 or 54 days before harvest.

- While past studies have shown high levels of elemental sulfur in must correlates with increased H_2S production during fermentation, less work has focused on elemental sulfur persistence in the vineyard.
- Limiting application rate and using a wettable powder rather than micronized spray may decrease the pre harvest interval necessary to meet desired residue levels.
- Sulfur residue should never be considered a problem when juice is clarified no matter how late it is applied. Even without clarification the amount of residue on grapes making into a white fermentation is roughly half.
- Nearly all residue on grapes destined for fermentation on the skins will make it into the fermentation. Vineyard management of sulfur residue is therefore necessary for red wines.

Persistence of elemental sulfur spray residue on grapes during ripening and vinification

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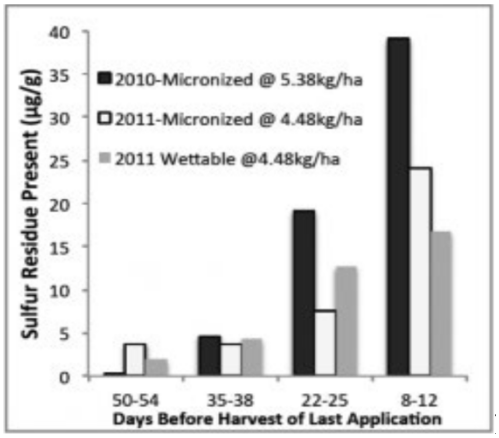

Figure 2. Sulfur residue concentrations found on Chardonnay (2010), and Riesling (2011) that had received micronized or wettable sulfur applications up until a given point where treatment was ceased before harvest. For all treatments, 35 days or longer was sufficient to achieve levels below 10 µg/ L, but concentrations above 1 µg/ L persisted in some treatments even when application ceased 50 days before harvest.

- Ceasing application 35 days or more prior to harvest resulted in concentrations below what has been widely shown to have a deleterious impact on wine quality. However, residue levels above 1 ppm were found with sprays ceasing earlier, which in some cases may have a measurable increase on H_2S production, but not necessarily in wine quality.
- These results may help define application regimes and methodology for decreasing excess S-residues during fermentation without imposing unnecessary restrictions on grape growers.

The bottom line

Elemental sulfur persistence is affected by application rate, formulation, and vintage. This study provides valuable insight on how and when elemental sulfur should be applied. Future work needs to be performed measuring temperature, precipitation, and canopy management; as well as larger-scale studies across various sites.

This article originally appeared in the March 2015 issue of Appellation Cornell. It summarizes the research results presented in a paper of the same title, published in the American Journal of Enology and Viticulture in 2014 (AJEV 65: 453-462), written by Misha Kwasniewski, Gavin Sacks and Wayne Wilcox.

State Agriculture Commissioner Announces USDA Disaster Designation for New York to Assist Farms Impacted By May Freeze Event

Announces Additional Crop Loss Declaration, Lifting New York Ingredient Requirement and Allowing New York Farm Wineries to Temporarily Source Grapes or Juice from Outside of New York

Freeze/Frost Event in May 2023 Significantly Impacted New York Growers Across the State

State Agriculture Commissioner Richard A. Ball today announced that 31 counties across New York State have been designated as a primary natural disaster area by the United States Department of Agriculture (USDA) following the late May frost/freeze event. These designations mean that impacted farmers in those areas may be eligible for assistance, including emergency loans, from the USDA Farm Service Agency (FSA). The Department requested the Disaster Designation from the USDA through a joint letter with other states that are a part of the Northeastern Association of State Departments of Agriculture (NEASDA).

Commissioner Ball said, "In the days following the unseasonable frost, we visited and spoke with a number of our growers across the State to understand the extent of the damage facing the industry. Many of them hadn't seen frost conditions that late in the season in decades. We have been working with many partners since May to put together our request for a disaster declaration and to secure the assistance needed to help our growers overcome this challenging time. We encourage our farms to take advantage of the emergency loans and to continue to report losses to lessen the impacts of this damaging severe weather event."

Primary Counties		
Albany	Onondaga	Seneca
Broome	Ontario	Steuben
Cattaraugus	Orleans	Tioga
Cayuga	Oswego	Tompkins
Chautauqua	Otsego	Ulster
Chemung	Putnam	Washington
Columbia	Rensselaer	Wayne
Cortland	Saratoga	Westchester
Dutchess	Schenectady	Yates
Greene	Schoharie	
Jefferson	Schuyler	

Contiguous Counties		
Allegany	Livingston	Warren
Bronx	Madison	Wyoming
Chenango	Monroe	
Delaware	Montgomery	
Erie	Nassau	
Essex	Niagara	
Fulton	Oneida	
Genesee	Orange	
Hamilton	Rockland	
Herkimer	St. Lawrence	
Lewis	Sullivan	

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A disaster declaration is based on reporting of crop loss to the federal Farm Service Agency. The USDA declared 31 counties in New York as primary natural disaster areas and an additional 24 counties as contiguous disaster counties. Farmers in the following counties who were impacted by the severe weather event may be considered for FSA emergency loans, provided eligibility requirements are met.

This is in addition to the following counties that were named contiguous counties as part of the USDA's disaster designations in neighboring Vermont, Massachusetts, and Connecticut:

- Columbia County (contiguous to counties in Massachusetts)
- Dutchess County (contiguous to counties in Connecticut and Massachusetts)
- Suffolk County (contiguous to counties in Connecticut)
- Clinton (contiguous to counties in Vermont)
- Essex (contiguous to counties in Vermont)
- Rensselaer (contiguous to counties in Vermont and Massachusetts)
- Washington (contiguous to counties in Vermont)

Farmers will have eight months to apply for emergency loans and can do so with their local FSA office.

Crop Loss Declaration for Farm Wineries

In addition to the USDA Disaster Designation, the New York State Department of Agriculture and Markets has also issued a Crop Loss Declaration to help farm wineries impacted by the May freeze event sustain their business operations. The emergency declaration allows farm winery owners, licensed by the New York State Liquor Authority, to temporarily source grapes or juice from outside of New York through December 31, 2023, while still maintaining their New York farm winery status and enabling them to continue to manufacture or sell wine produced from out□of□state grapes or juice for the impacted varietals.

Commissioner Ball said, "This latest freeze event left our grape growers and farm wineries struggling with the potential of not having enough New York-grown grapes to maintain their farm winery license and thereby maintain their markets. By issuing this declaration, we can provide our farm wineries with a respite, allowing them to focus on making and selling their product this year, and preparing for next year's growing season."

State Liquor Authority Chair Lily M. Fan said, "A big thanks to Governor Hochul and Commissioner Ball for taking immediate action to ensure our farm wineries can continue producing wine as they recover from freezing temperatures experienced in May. By their nature, farming and wine production are subject to the vagaries of the weather and New York is committed to taking any actions available so that they don't have to carry the burden of natural crop disasters on their shoulders."

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Farm wineries can apply for the exemption here, and instructions for the application, including the mailing address, can be found here. The deadline to apply for the exemption is October 31, 2023, and the deadline to purchase out-of-state grapes or juice is December 31, 2023. The Department will be hosting an industry-wide webinar on **Wednesday, September 13, 2023**, to provide information on the application process and to answer any questions farm wineries may have. The webinar can be accessed via the following:

Join link:

https://meetny.webex.com/meetny/j.php?MTID=ma2c2b276ffce1beb9d277c95ef7505bb

Webinar number:161 819 5403 Webinar password: 2023WINE (20239463 from phones and video systems)

Join by phone +1-518-549-0500 US (English Menu) Access code: 161 819 5403

Sam Filler, Executive Director, New York Wine & Grape Foundation, said, "We appreciate Commissioner Ball's commitment to our grape growers and farm wineries. The State Department of Agriculture and Markets responded quickly to this devastating weather event, visiting our vineyards this spring, advocating for disaster declaration funding, and issuing this exemption to the farm winery law."

The Department joined representatives from the New York Wine & Grape Foundation, New York Farm Bureau, the USDA FSA, Empire State Development, and Cornell Cooperative Extension to tour several vineyards in the Southern Tier and Finger Lakes regions impacted by the freeze event in May. The group visited with grape growers in Steuben, Schuyler, and Seneca Counties to assess the damage in the region and better understand the outlook and plan for recovery.

According to the Department's Division of Emergency Management and Cornell Cooperative Extension Disaster Education Network (EDEN), during the reporting period of May 15 to 25, 2023, New York State experienced extremely low temperatures, which resulted in frost damage to a number of crops throughout many regions of New York State. Reports of damage included vineyards in the Southern Tier, Finger Lakes and Hudson Valley, and other commodities, such as apples, peaches, and other stone fruit, and berries in several other regions, including the North Country, Central New York, Capital Region, and Hudson Valley areas.

A Crop Loss Designation for farm cideries will be announced soon.

The USDA FSA recommends that farmers affected by the freeze should document their conditions (pictures and video) and any losses. Farmers can file a CCC- 576 (Notice of Loss) with their local USDA FSA. Contact information for the offices can be found here.

New York is the third largest grape producer and the third largest wine producer in the country. According to the New York Wine & Grape Foundation, these growers generate a $6.65 billion economic impact for New York State. There are 471 wineries in New York, growing a variety of grapes on 35,000 acres.

Northeast SARE 2024 Farmer Grant Proposals: Grants Up To $30,000 Available for Farmers

The Call for 2024 Northeast SARE Farmer Grants is now available. Approximately $800,000 has been allocated to fund projects for this grant cycle. Awards of up to $30,000 are available, depending on the complexity of a project. The online system for submitting proposals will open on September 15,2023. Proposals are due no later than 5:00 p.m. EST on November 14, 2023.

Northeast SARE Farmer Grants provide the resources farmers need to explore new concepts in sustainable agriculture conducted through experiments, surveys, prototypes, on-farm demonstrations, or other research and education techniques. Projects address issues that affect farming with long-term sustainability in mind.

Farmer Grants are designed to be a strong starting point for farmers interested in pursuing grant funding for projects. Before starting their proposals, potential candidates identify a Technical Advisor who can provide non-farming expertise in areas such as research design, troubleshooting, and promotion.

The Technical Advisor acts as a go-to support person throughout the grant project, making it easier on first time grantees and forging new relationships in agricultural communities across the Northeast.

Northeast SARE funds projects in a wide variety of topics, including marketing and business, crop production, raising livestock, aquaculture, social sustainability, climate-smart agriculture practices, urban and Indigenous agriculture and more.

Northeast SARE covers the Northeast and Mid-Atlantic states of Connecticut, Delaware, Maine, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, West Virginia, Vermont, and Washington, D.C.

The Farmer Grant program is driven by the Northeast SARE Outcome Statement:

“Northeast agricultural communities honor the holistic connection among land, water, air, and all living beings. Agriculture in the Northeast is accessible, sustainable, and just, addressing historic and current inequities so all farmers and farm employees can steward resources to ensure sustainability, resilience, economic viability, and a high quality of life.”

Click here to view the call for proposals from Northeast SARE.

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.

Gold Vineyard Pathology Field Day
Wednesday, September 6 9:00 AM
Jordan Hall @ Cornell AgriTech
630 W North Street, Geneva NY

Registration by email to Dave Combs at dbc10@cornell.edu by September 1.

The Gold pathology lab is hosting a field day on Wednesday September 6th at Cornell AgriTech in Geneva. Registration will start at 8:30AM at Jordan Hall and the program at 9:00AM. This will be open to industry representatives as well as New York grape growers who want to see not only the technology that the lab is working with for early grape disease detection, but also have a rare opportunity to peruse the vineyards where the fungicide efficacy trials take place at Cornell AgriTech. Some of the technology that will be demonstrated will be the phytopatholobot- capable of detecting disease with HD cameras; Mjǫllnir and M-600 drones – equipped with lidar, multispectral and hyperspectral cameras, as well as the handheld hyperspectral camera – recently proven to detect the longevity of active fungicides on the leaf surface. Lab members will also be discussing the extensive fungicide testing programs against powdery mildew, downy mildew, black rot, botrytis, sour rot and phomopsis. Carpooling is encouraged as travel to the field sites will be in personal vehicles.

B.E.V. NY 2024 – Save the Date!

Tuesday, March 5 – Wednesday, March 6, 2024

Hotel Canandaigua

Canandaigua, NY

I know we're just at the very beginning of harvest, but we've already started working on this winter's B.E.V. NY conference. This year's conference will be held at the new Hotel Canandaigua, and will be a two-day conference instead of three. But never fear, we will still have sessions and speakers addressing business, enology, and viticulture topics during the conference.

More information will be sent out over the next few months, but be sure to mark your calendar now for B.E.V. NY 2024!

2023 GDD & Precipitation

FLX Teaching & Demonstration Vineyard – Dresden, NY					
Date	**Hi Temp (F)**	**Lo Temp (F)**	**Rain (inches)**	**Daily GDDs**	**Total GDDs**
8/17/23	79.5	64.0	0.00	21.8	1961.1
8/18/23	69.6	60.4	0.16	15.0	1976.1
8/19/23	76.6	56.1	0.00	16.4	1992.5
8/20/23	86.7	57.7	0.00	22.2	2014.7
8/21/23	75.2	62.6	0.00	18.9	2033.6
8/22/23	73.9	58.5	0.00	16.2	2049.8
8/23/23	78.8	58.5	0.00	18.7	2068.4
Weekly Total			**0.16”**	**129.1**	
Season Total			**18.76”**	**2068.4**	

GDDs as of August 23, 2022: 2249.0

Rainfall as of August 23, 2022: 13.58”

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	470.9	484.6	+3
July	702.1	646.1	+4
August	436.2	597.4	+4
September		360.2	
October		112.5	
TOTAL	1961.9	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.

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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	4.61”	3.56”	+1.05”
July	5.64”	3.43”	+2.21”
August	1.35”	3.21”	
September		3.47”	
October		3.41”	
TOTAL	19.23”	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)

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!