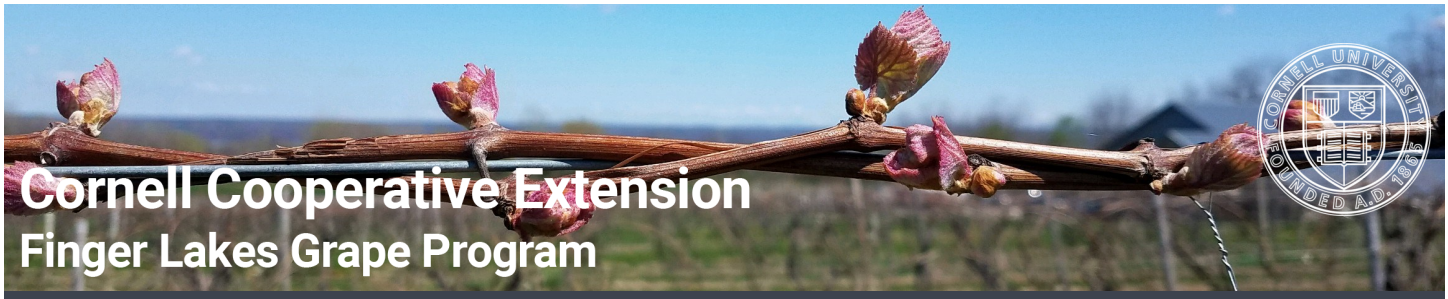


May 30, 2019

Finger Lakes Vineyard Update

In the Vineyard

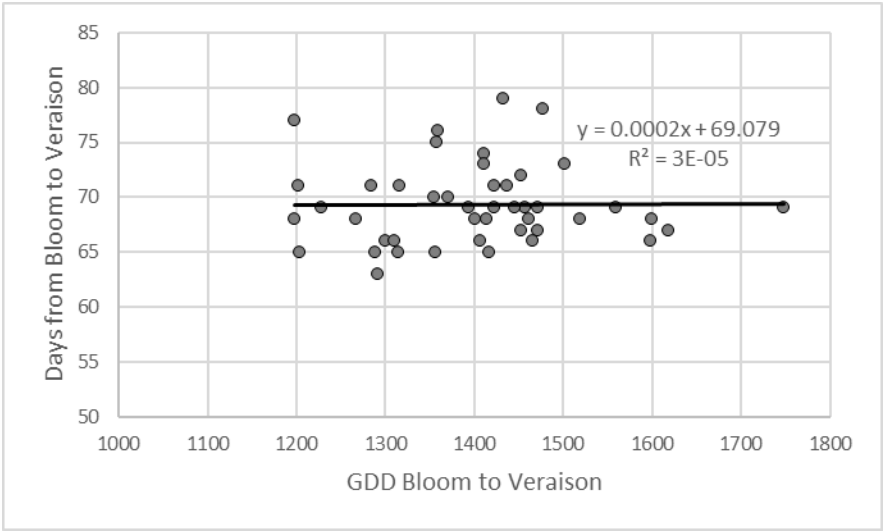
Hans Walter-Peterson

In This Issue:

"So when is bloom going to be?"

Great question, as it is every year. The first place I usually look to see how the season is progressing with regard to bloom is when the wild grapes in hedge rows start to bloom, and as of Wednesday, that hadn't happened yet in the places I've been looking. In some cases, flowers are starting to separate from each other, but we're probably still a few days away from the first signs of bloom in these vines.

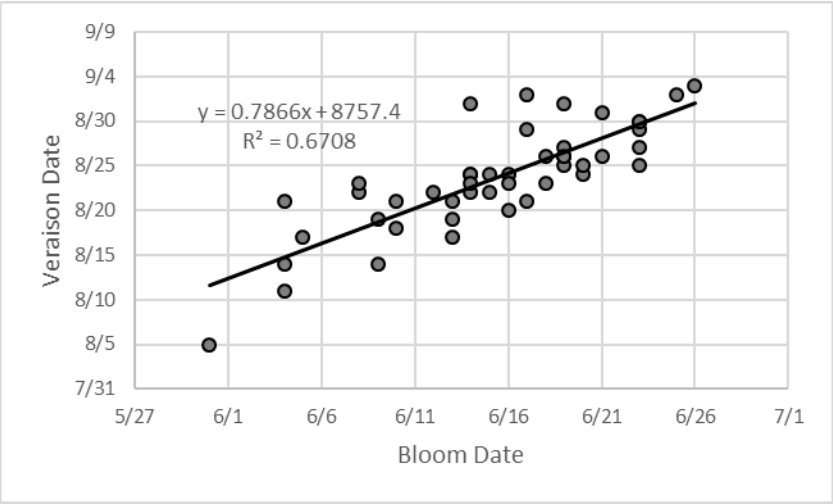
The timing of bloom can be a pretty good indicator about the timing of other important stages, like the onset of veraison, and can even be an indicator about the timing of harvest. A lot of our local knowledge, from a data standpoint, about the timing of bloom, veraison and harvest comes from the long-term monitoring of growth stages in Concord from the Lake Erie region. One of the things that we have learned from this data is that there is a pretty standard number of days between bloom and veraison, regardless of the amount of heat that we get during that period of time. In the case of Concord in the Lake Erie region, veraison arrives about 69 days after bloom, give or take a couple of days. We can see this when we plot those two sets of data against each other:



If there was a relationship between these two sets of data, the trendline (black) would be something other than flat. If anything, we would probably expect there would be fewer days when the heat accumulation during that time was higher, and in that case the line would run from the upper left down to the lower right. The other indicator is the R^2 value, which is measure of how much of the variation in the data is explained by that linear relationship. The lower the R^2, the less of a relationship there is between the two data sets, and in this case, the value is very close to zero.

In the Vineyard (continued from page 1)

On the other hand, if we plot the *dates* of bloom and veraison against each other, we get a much more reliable relationship between the two:



What this all gets down to is that as bloom goes, so goes the beginning of ripening at veraison. If bloom is early, then chances are that veraison will be also. If bloom is late, as it seems to be threatening to be this year, then we can probably expect that veraison will start a bit later as well. Based on when bloom and veraison kick in, we can start to gain some understanding about how to approach vineyard practices such as cropload management in order to adapt to the season that Mother Nature is giving us.

Stay tuned.

IPM

As we approach bloom over the next couple of weeks, we add downy mildew (DM) to the list of diseases that become active during this period. The dormant overwintering spores are found on leaf litter and in the soil within the vineyard, and become active somewhere around 2-3 weeks before bloom. The DMcast model (found on the NEWA network at http://newa.cornell.edu/index.php?page=grape-diseases) uses the growth stage when 5-6 leaves are open on young shoots as the time when primary infections (the first infections to come from the overwintering spores on the ground) can begin. As of May 29, the model had not indicated that Concord in the area near the Teaching Vineyard in Dresden had reached that stage, but it's definitely very close.
Downy mildew requires about 0.1" of rain and temperatures in the 50s to get kicked off, which we have had plenty of. Much like phomopsis, wet and humid conditions promote DM infections, so the current weather pattern we have been experiencing so far this season would promote the disease once it gets established. After the initial infection, secondary spores can be spread by air and will establish new infections on tissues if there is water present for a few hours to allow the spore to germinate and grow.

Fortunately, several of the materials that many growers are using right now for phomopsis control, including mancozeb and captan, are also effective against DM as well. Once these materials fall out of the rotation a little later in the season, there are a number of options available to growers for DM control, but care must be taken to be sure that good resistance management practices are used (i.e., rotating between materials with different FRAC codes). Products that contain strobilurins (FRAC code 11), such as Pristine, Sovran, Topguard, Luna Sensation and others, should not be relied on by themselves for DM control due to the development of resistance to these products (the same is true for powdery mildew, by the way). Be sure to include other materials on a rotation schedule that minimizes the use of any single material as much as possible during the season. It should also be mentioned that resistance to materials in FRAC code 40 has been documented recently in Virginia and North Carolina, and previous in Europe, Japan, India and China. This group includes Revus/Revus Top and Zampro. There is no documentation of this in New York vineyards to my knowledge, but it is another cautionary tale about the importance of rotation.

I will also throw in my annual reminder about the phosphorous acid products such as ProPhyt, Phostrol, Rampart, etc. – these materials can play a very important role in managing DM by their activity post-infection. But they are also prone to resistance development like almost all of our other DM products, so avoid making multiple applications in consecutive passes, and try to avoid applying them when there is already a major infection in a block, as this will encourage the selection of more resistant individuals within the population.

Foliar symptoms of downy mildew infections on the top (left) and bottom (right) of a leaf. The spores only emerge from the underside of the leaf, while yellow or brown spots will be visible on the upper side.

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 #3
Tuesday, June 11 *4:30 – 6:00 PM*
Sawmill Creek Vineyards
5587 Route 414, Hector NY

Our third Tailgate Meeting of the season will be held at Sawmill Creek Vineyards on the east side of Seneca Lake. Pesticide credits are available for each Tailgate Meeting this season. No registration required – just bring a chair and your questions and observations about what's going on in the vineyard.

Tailgate Meeting #4
Tuesday, June 25 *4:30 – 6:00 PM*
Morse Vineyards
4170 Vine Road, Penn Yan NY

ASEV-Eastern Section Annual Meeting and Shaulis Symposium on Digital Viticulture
July 16-18, 2019
Hobart & William Smith Colleges, Geneva NY

A special vineyard tour and symposium entitled "Digital Viticulture: New Tools for Precision Management" will be featured as part of the annual American Society for Viticulture and Enology- Eastern Section (ASEV-ES) conference at Hobart and William Smith Colleges in Geneva, NY on July 16 through July 18.

The two-day program and vineyard tour will bring together suppliers, researchers, and growers to explore the tools and concepts of precision viticulture. New technologies, such as inexpensive sensors, digital imaging, geographical information systems, and precision machinery are converging to make precision viticulture possible. This field tour and symposium will focus on tools, concepts, and platforms for putting it all together to manage vineyards.

More information about the conference, field tour and symposium can be found at http://www.asev-es.org.

2019 GDD & Precipitation

FLX Teaching & Demonstration Vineyard – Dresden, NY					
Date	**Hi Temp (F)**	**Lo Temp (F)**	**Rain (inches)**	**Daily GDDs**	**Total GDDs**
5/22/2019	68.1	42.1	0.05	5.1	172.2
5/23/2019	78.9	53.3	0.01	16.1	188.3
5/24/2019	66.1	54.3	0.00	10.2	198.5
5/25/2019	77.0	49.2	0.98	13.1	211.6
5/26/2019	79.2	57.2	0.01	18.2	229.8
5/27/2019	73.0	51.2	0.00	12.1	241.9
5/28/2019	74.1	52.1	0.24	13.1	255.0
Weekly Total			**1.29”**	**87.9**	
Season Total			**6.39”**	**255.0**	

GDDs as of May 28, 2018: 379.1

Rainfall as of May 28, 2018: 3.59”

Seasonal Comparisons (at Geneva) as of May 28

Growing Degree Day

	2019 GDD [1]	Long-term Avg GDD [2]	Cumulative days ahead (+)/behind (-) [3]
April	48.1	64.1	-5
May	176.7	255.5	-4
June		480.9	
July		642.1	
August		592.7	
September		357.6	
October		110.1	
TOTAL	224.8	2503.0	

[1] Accumulated GDDs for each month.

[2] The long-term average (1973-2017) GDD accumulation as of that date in the 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.

2019 GDD & Precipitation (continued from page 5)

Precipitation

	2019 Rain [4]	Long-term Avg Rain [5]	Monthly deviation from avg [6]
April	2.22”	2.85”	-0.63
May	3.97”	3.13”	
June		3.60”	
July		3.44”	
August		3.21”	
September		3.57”	
October		3.39”	
TOTAL	6.19”	23.16”	

[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!

Cornell Cooperative Extension
Finger Lakes Grape Program

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

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

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