Finger Lakes Vineyard Update

In the Vineyard

Hans Walter Peterson

The weather station at the Experiment Station in Geneva has recorded a total of 3.5" of rain since April 1, which is about 33% of the total we receive on average by this time. This is the driest April-June period in the Finger Lakes since 1995, when we also recorded 3.5" of rain in the first three months of the season. Farms in Wayne County are faring better than their southern neighbors with regard to rain so far, with most stations recording 2" of rain or more in June thanks to a couple of storms that stayed north of I-90.

Symptoms of water stress are continuing to show up in some vineyards in the Finger Lakes due to the continued lack of rainfall this season, although there are still many that are showing no visible signs of stress - yet. Symptoms are becoming more common in young vines and those on shallow soils, as mentioned last week, but now are starting to show up in some vineyards with native varieties as well, which often have a relatively shallow root system. In a couple of blocks that I looked at this week, mature Concord vines are starting to change the angle of their leaves in order to reduce the amount of direct sunlight that they receive, older tendrils are drying up, and shoot tips are starting to turn brown (see photo).

Drying shoot tip on Concord vine.

Necrotic portion of a cluster and poor berry set due to water stress.

While the sunny and dry weather during the bloom and post-bloom period provided good conditions for fruit set, vines that were experiencing water stress during that phase will not set as many berries on clusters, and a part or all of the rachis may turn necrotic and die. I have noticed this on Riesling more than other cultivars, but not in enough cases to say that Riesling had poor set in general compared to others.

Moderate water stress in vines during the post-bloom to veraison period can have some beneficial effects. Some water stress will slow vine growth and development, which means less shoot growth,

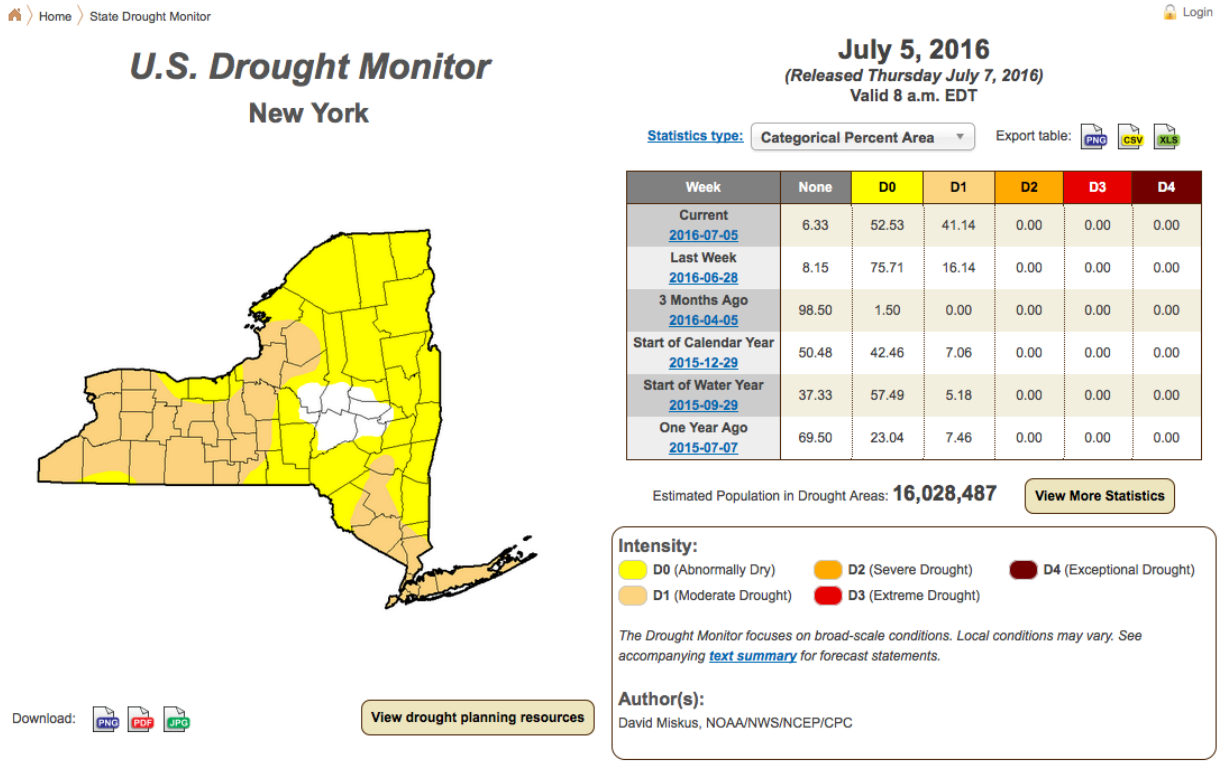
In the Vineyard (continued from page 1)

Hans Walter Peterson

smaller leaves, smaller diameter shoots and smaller berries. Having smaller berries can help to keep clusters a bit looser, but it also has obvious implication for final yields, which translates to revenue for the grower in most cases. The impact of water stress on growth also means root growth is negatively affected, which can have implications with regard to nutrient uptake. As with many other factors in growing perennial crops, the lack of sufficient water for proper vine growth and development, maturation of the fruit and development of carbohydrate reserves can have implications in subsequent years, even if there is adequate rain in those following seasons.

As I mentioned, most mature vineyard blocks still seem to be showing minimal signs of stress, so I don't want to sound like there is a major crisis at the moment, but will be seeing more signs of stress develop over the next few weeks if we don't see some rain in the near future. For now, growers should be keeping an eye on symptom development and the sky. Steps that help to conserve what water does remain in the soil and whatever does fall in the days ahead, such as removing cover crop competition from under the trellis, burning down or cultivating row middles and/or applying mulch to row middles, should be considered soon, if they haven't already been implemented.

If you want to read an excellent "long form" article on the impacts of water stress on grapevines, Bob Pool and Alan Lakso wrote one that appeared in the Proceedings of the 29th Annual NY Wine Industry Workshop in 2000 titled "Recognizing and Responding to Drought Stress in Maturing Grapevines". You can download a copy of the article at http://ecommons.cornell.edu/handle/1813/39799, or if you do not access the Internet, call our office to have a hard copy sent to you.



The U.S. Drought Monitor site (http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?NY), maintained by NOAA and USDA, currently estimates about 41% of New York to be in a 'moderate drought' as of July 5, including most of western NY, up from 16% just one week earlier.

IPM

Hans Walter-Peterson

Disease management continues to be a *relatively* easy task this year – one benefit of the lack of rain. However, powdery mildew can still be an issue even under dry conditions like these so be sure to keep on top of scouting for it for a while longer. Fruit on most cultivars will remain at least somewhat susceptible to new PM infections for a little while longer – Concord berries become resistant when they reach approximately ¼" in size (which many vineyards may have reached by now), while *vinifera* and some hybrids can still be infected until bunch closure or a little bit afterwards. I imagine that most growers are done spraying their blocks with native varieties for diseases, and should primarily be focused on grape berry moth and other insects at this point (see below).

Japanese Beetles

Just in the past week, Japanese beetles (JB) have started to make their presence known in Finger Lakes vineyards. How much of a problem they will be this year is anybody's guess, but in a few places we saw this week, their presence was already pretty noticeable. Mature grapevines can tolerate a fair bit of feeding by JB (15-20% of leaf area) before impacts are noticed, but in other situations, such as on young vines (especially in grow tubes) and vines with a fairly heavy crop which requires more functional leaf area in order to ripen, treatment may be necessary earlier than otherwise might be considered. In vineyards where shoot growth and leaf development are reduced by water stress, it may also be necessary to spray before injury levels reach 15-20% of the leaf area.

There are a variety of insecticide options for JB control listed in the Pest Management Guidelines, including Sevin (carbamate), Danitol, Baythroid and Mustang Max (pyrethroids), Imidan (organophosphate), and neonicitinoids including Provado and Assail. Rufus Isaacs and John Wise from Michigan State provide some further information on chemical control options for Japanese beetles in fruit crops at http://msue.anr.msu.edu/news/managing_japanese_beetles_in_fruit_crops. One note from the NY/PA Guidelines that is worth considering with the dry conditions that we are having this year is that multiple applications of Sevin (not just for JB control) may contribute to problems with spider mites later in the season, which tend to flourish under dry vineyard conditions anyway.

Potato Leafhopper

Signs of potato leafhopper feeding (and actual leafhoppers) have started to appear in a few blocks over the past week or two. The leafhopper injects its saliva into the phloem vessels of leaves as it feeds, which causes leaf margins to turn yellow (or reddish color) and cup downwards, unlike the stippling effect caused by feeding of the grape leafhopper. Potato leafhoppers are usually found on the underside of the leaves, are bright yellow-green in color and often

IPM (continued from page 3)

Hans Walter-Peterson

move sideways when they are disturbed (watch our short video of a potato leafhopper moving on a leaf).

There really is no economic threshold set for potato leafhoppers, but action is likely warranted sooner on vines with a high crop load relative to leaf area, on vines experiencing water stress with reduced growth, and on young vines, compared to other situations.

Grape Berry Moth

Warmer areas of the Finger Lakes, such as our Teaching Vineyard location in Dresden, have passed the window for control of the second generation of GBM. Cooler locations like Branchport (currently at 859 GDDs in the GBM model) and up in Wayne County (762 GDDs in the model at Williamson) are still in, or still approaching, the window to apply an insecticide if scouting indicated the need for it. The application threshold for this generation of GBM is damage to 6% of clusters or more.

NEWA Grape Forecast Models

Select a disease or insect: Grape Berry Moth

State: New York

Weather station: Branchport

Date of Interest: 7/13/2016

Calculate

Map | Results | More info

Grape Berry Moth Results for Branchport

Wild Grape Bloom: 6/3/2016

Wild Grape Bloom date above is estimated based on degree day accumulations or user input. Enter the actual date for blocks of interest and the model will calculate the results more accurately.

Accumulated degree days (base 47.14°F) wild grape bloom through 7/13/2016: 844 (0 days missing)

Daily Degree Days for Branchport

Base Temp	Past	Past	Current	5-Day Forecast			Forecast Details	
	Jul 11	Jul 12	Jul 13	Jul 14	Jul 15	Jul 16	Jul 17	Jul 18
47.14F - GBM	20	25	34	32	28	23	25	26
Accumulation	800	825	859	891	919	943	968	994

NA - not available

Download Time: 7/13/2016 14:00

Pest Status	Pest Management
Egg-laying continues.	For materials that are contact insecticides, e.g. pyrethroids and carbamates, apply between 811 and 900 DD.

Disclaimer: ***These are theoretical predictions and forecasts.*** *The theoretical models predicting pest development or disease risk use the weather data collected (or forecasted) from the weather station location. These results should not be substituted for actual observations of plant growth stage, pest presence, and disease occurrence determined through scouting or insect pheromone traps.*

Go to Top

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 #7

Tuesday, July 19 4:30 – 6:00 PM
Keuka Spring Vineyards
243 Route 54
Penn Yan, NY 14527

Hard to believe we're already halfway through our Tailgate Meeting schedule! Our SeventhTailgate Meeting of the year will be held at Keuka Spring Winery, in Penn Yan on Tuesday, July 19.

These meetings are held every other week at various grape farms around the Finger Lakes, and are intended to be informal, small-group meetings where FLGP staff and growers can ask questions and discuss issues about vineyard management, IPM strategies or other topics appropriate for that point in the growing season.

Dates and locations for the rest of this year's Tailgate Meetings can be found under the 'Events' section of our website.

Tailgate Meeting #8
Tuesday, August 8th 4:30-6:00PM
Doyle Vineyard Management
10223 Middle Road
Hammondsport, NY 14840

Cornell Fruit Field Day 2016

July 20, 2016
NYS Agricultural Experiment Station
Fruit and Vegetable Research Farm South
1097 County Road 4 (1 mile west of Pre-emption Rd) (click here for a map)
Geneva, NY

Pre-registration deadline is Friday, June 15 at Noon! Walk-in registrations will not be accepted.

We invite all interested persons to attend Cornell's Fruit Field Day to learn about the fruit research under way at Cornell University. Attendees will be able to select from tours of berries, hops, grapes, and tree fruits.

Admission fee is $50/person ($40 for additional attendees from the same farm or business). Pre-registration is required, but walk-in registration may be available for a $10 surcharge on the day of the event. To register or for more information, visit http://app.certain.com/profile/web/index.cfm?PKwebID=0x831574809f&varPage=home or call Gemma Osborn at (315) 787-2248.

2016 Growing Degree Days and Rainfall

FLX Teaching & Demonstration Vineyard – Dresden, NY					
Date	**Hi Temp (F)**	**Lo Temp (F)**	**Rain (inches)**	**Daily GDDs**	**Total GDDs**
7/6/16	92.0	66.1	0.00	29.1	1021.0
7/7/16	86.8	71.8	0.17	29.3	1050.3
7/8/16	80.9	67.8	0.02	24.4	1074.6
7/9/16	82.6	68.8	0.00	25.7	1100.3
7/10/16	75.8	62.7	0.08	19.3	1119.6
7/11/16	79.6	57.1	0.00	18.4	1137.9
7/12/16	92.3	61.9	0.00	27.1	1165.0
Weekly Total			**0.27”**	**173.1**	
Season Total			**4.88”**	**1165.0**	

GDDs as of June 21, 2015: 1231.2

Rainfall as of June 21, 2015: 14.45”

Go to Top

Seasonal Comparisons (at Geneva)

Growing Degree Days

	2016 GDD [1]	Long-term Avg GDD [2]	Cumulative days ahead (+)/behind (-) [3]
April	36.1	65.2	-9
May	270.1	252.3	0
June	489.1	480.6	0
July	254.6	639.8	+1
August		588.2	
September		351.0	
October		105.2	
TOTAL	1049.9	2481.8	

1 Accumulated GDD's for the Month

2 The long-term average (1973-2015) 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.

Precipitation

	2016 Rain [4]	Long-term Avg Rain [5]	Monthly deviation from avg [6]
April	1.17"	2.89"	-1.72"
May	1.66"	3.11"	-1.45"
June	0.65"	3.68"	-3.03"
July	0.02"	3.42"	
August		3.15"	
September		3.64	
October		3.22	
TOTAL	3.50"	23.12"	

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)

Go to Top

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 University Cooperative Extension provides equal program and employment opportunities. CCE does not endorse or recommend any specific product or service. This program is solely intended to educate consumers about their choices. Contact CCE if you have any special needs such as visual, hearing or mobility impairments.

FINGER LAKES VINEYARD UPDATE
Is published by
Cornell Cooperative Extension
Finger Lakes Grape Program
Ontario, Schuyler, Seneca, Steuben, Wayne and Yates Counties
417 Liberty Street, Penn Yan, NY 14527
315.536.5134