



Grape News

Monthly updates:

Phenology Update



Buckshot berries

Hudson Valley
Buckshot Berries

Champlain Valley
Buckshot Berries

Insect and Disease Pest Management



Bunch closure

Photos from Vineyard IPM Scouting Report, week of 5/3/10, Univ. of WI Ext. Door Co. and Peninsular Ag. Research Sta., Sturgeon Bay, WI

Across Eastern NY, periods of susceptibility for phomopsis and black rot are nearing an end. Secondary infections of powdery mildew are still possible and it is important to maintain protection on *Vinifera* vines and highly susceptible hybrids. Downy mildew spores are present in the vineyard and waiting for ideal conditions (warm humid nights, rain soon after) to germinate.

Botrytis may be of concern as we approach bunch closure.

Egg laying continues for grape berry moth. Contact materials (e.g. carbamates, pyrethroids) should be applied between 811 and 900 GDD.

Despite significant rainfall during the past two weeks (>2" recorded in some locations), soil moisture sensors in NE-NY are showing a significant soil moisture deficit. If you have irrigation in place, it should be turned on. New grape vine planting should be monitored and watered regularly.

Degree Day Accumulations (Base 50) Jan 1 – July 5, 2016 and 30 year average

Weather Station	2016	30 Year average
Chazy	893	464
Peru	901	477
Willsboro	881	467
Clifton Park	1104	524
Hudson	1166	565
Highland HVL	1190	528
Riverhead	1271	591

Temperature and Rain for June 2016

Weather Station	Avg Temp (F)	High Temp (F)	Low Temp (F)	Rain fall (in)	DD Base 50 Jan 1 – May 10
Chazy	65.6	88.9	47.2	3.68	893
Peru	65.7	89.3	46.9	2.24	901
Willsboro	65.1	88.5	46.3	3.50	881
Clifton Park	68.1	92.9	45.9	3.34	1104
Hudson	68.8	92.9	42.0	4.97	1166
Highland HVL	68.9	88.6	47.8	2.58	1190
Riverhead	70.7	87.6	50.4	1.73	1271

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Drought Stress in Grapevines

Jim O'Connell, ENYCHP

While the dry weather this season has helped keep disease pressure down, it also has many growers irrigating to compensate for the lack of rain. It is important, to identify early, any signs of drought stress from which vines may be suffering. But slight water stress at the right time can encourage good fruit set and control vine vigor. How does a grower know what stress is good and what is bad?

Here are some excerpts from an article written by Alan Lasko and Robert Pool <http://www.hort.cornell.edu/lakso/fcp/PaperScans/2000scan140.pdf>

- o Adequate water early in the season to have good, but not overly-vigorous, canopy and cluster development through bloom. This normally occurs as the early growth period is normally cool and there is little leaf area on the vine.
- o Mild stress should gradually develop after bloom so

that good fruit set can occur, but the growth of the berries and shoots are slowed somewhat.

- o After fruit set, and initial berry growth, the canopy should be filling the trellis, at this time, the stress should increase so that the shoots slow growth markedly, the berries stop growth at a somewhat reduced size and yet the leaves are still fully functional.
- o Mid-season to harvest the vines should be maintained at the intermediate stress to reduce vegetative growth, but keep the leaves healthy through harvest, there should be some, but not a lot of basal leaf yellowing before harvest if the canopy is kept open. In NY this period is most commonly the time that water stress develops to be too severe. Maintaining vines in a healthy state is the most likely value of irrigation in NY

Using NEWA in Vineyard IPM Strategy

Tim Weigle, NYS IPM, Lake Erie Regional Grape Program

Editor's note: We frequently reference the NEWA website and forecasting models for disease and insect pressure in our E-alerts. Below is an excerpt from the June 2014 Finger Lakes Grape Program newsletter, by Tim Weigle, IPM specialist. This article gives an overview of the information available on NEWA and how to use the data to make informed pest management decisions in your vineyard. The full article is available here http://nygpadmin.cce.cornell.edu/pdf/newsletter_notes/pdf23_pdf.pdf

The Network for Environmental and Weather Applications (NEWA) is a web-based system that collects weather data from over 100 stations in New York, Pennsylvania, and across the Northeast, compiles it and then provides weather and pest model information needed for more precise implementation of IPM and crop production practices.

I have written a number of 'how-to' articles in newsletters and LERGP Crop Updates on how to navigate the NEWA website so I will only reiterate that the best way to learn how to access the information found on NEWA is to go to the home page <http://newa.cornell.edu/> and start exploring.

How Does Rainfall Affect a Vineyard IPM Program

Conversations at the Lake Erie Region Coffee Pot meetings [in 2014] often dealt with the frequent rain events and thunderstorms [they experienced by that spring]. One of the questions is how much rain can we have before we need to reapply our sprays? The rule of thumb has been

50% of the material is gone after an inch of rain and pretty much gone after two-inches. So the question is always, "Do I need to go out and reapply my materials if it rained hard right after I sprayed?"

I maintain that the amount of rain is only one aspect that you should be looking at when deciding when your next spray should occur. Some of the other factors I look at to determine if shortening a spray interval is needed are how hard the rain fell, the severity of the infection periods that have occurred since your last application, the amount of overwintering inoculum and finally, the type of material that was applied.

The NEWA website can provide information on the amount of rainfall since the last spray, how the rain fell and the severity of the infection period. [There are a number of weather stations in Eastern NY] that send their data to NEWA so there is a very good chance there is a station near you. To access the information you need, use the interactive map on the home page or use the *Station Pages* drop down menu to select the station nearest you. If you have several stations nearby, you should look at the information from all of them to give a better extrapolation of the conditions at your vineyard. Once you are on a station page (in this example we are using the North East Lab in North East, PA), the amount of rain can be found by accessing the *Daily Summary* under *Weather Data Quick Links* (Figure 1). To determine how the rain fell, access *Hourly Data* in the *Quick Links* (Figure 2, not printed here, available online). You can see that 1.56 inches of

The screenshot shows the NEWA Home Page layout. On the left, there is a 'Weather Data Quick Links' sidebar with sections for 'Daily Summary', 'Hourly Data', and 'Growing Degree Days' (Base 50F, Base 50F BE, and Base 86/50F), each with a grid of month links (Jan-Dec). Below this is a 'National Weather Service Forecast' section with a 7-day forecast link and a search box for 'City, ST' or 'zip code'. At the bottom of the sidebar are 'Helpful Links' for pest forecasts, management guidelines, and Cornell Cooperative Extension programs.

The main content area is titled 'North East Lab, PA Weather Station Page'. It features a text block explaining that pest forecasts use 'default biofix dates' and provides instructions for selecting other dates and locations. Below this is a grid of 'North East Lab, PA Pest Forecasts' with links for various pests like Apple Scab, Fire Blight, Sooty Blotch/Flyspeck, Leaf Wetness Events, Spotted Tentiform Leafminer, Oriental Fruit Moth, Codling Moth, Plum Curculio, Obliquebanded Leafroller, Apple Maggot, Grape Diseases, Grapevine Downy Mildew, Grape Berry Moth, Alfalfa Weevil, Cabbage Maggot, and Onion Maggot. It also includes links for 'Onion Disease Forecast', 'Onion Disease Log', 'Onion Blight Alert', 'Onion Modified Blight Alert', 'Potato Early Blight', 'Potato Late Blight Blitecast', 'Tomato Diseases_Tomcast', and 'Late Blight Simcast'.

Other sections include 'Station Location' with coordinates (Lat/Lon: 42.23/-79.85, Elevation: 680 ft.) and a satellite map view. A 'Last Download' box shows the date and time as 6/10/2013 3 PM. A 'Station Sensors' list includes Temperature, Leaf Wetness, Precipitation, Relative Humidity, Wind Speed, Wind Direction, and Solar Radiation.

Figure 1. NEWA Home Page, with ‘Weather Data Quick Links’ in the top left corner.

rain on June 6 in the daily summary occurred over 15 hours with over an inch of it occurring in a three hour period.

The frequency and severity of infection periods can be found by using the link, *Grape Diseases*, on the *Station Page*. First you will notice the *Grape Disease* page provides information on the occurrence of infection periods for Phomopsis, Black Rot, and Powdery Mildew as well as what disease management strategies can be used to at that point in time (information on downy mildew can be found by using the Grapevine Downy Mildew link). By scrolling to the bottom of the page you will notice buttons to *Show grape infection events log* and *Show Leaf wetness events log*. The *Grape Infection Events Log* (Figure 3) provides information on the hours of leaf wetness, average temperature during the hours of leaf wetness and total rainfall that occurred during the infection period for Phomopsis or Black Rot. By accessing this log you can determine the number of infection periods that have occurred since you last application. This table will also provide a sense of the severity of the infection events. However, this table provides information from combined wetting periods so I would suggest taking a look at the *leaf wetness events log*

(Figure 4) as well. As seen in Figure 4, the 42 hour long infection period reported on June 6-6, 2014 is broken down into a 30-hour leaf wetness period during which 1.61 inches of rain fell, and a 12-hour leaf wetness period with no rainfall recorded, sandwiched around an 11 hour period without leaf wetness. While the first 30 hour portion of the infection period would be classified as severe, this is an example of how this information is recorded. While this type of reporting errs on the side of caution, knowing this type of information can be especially helpful in situations where multiple leaf wetness periods – that by themselves would not be infection periods – may be combined to make it look like it was a severe infection period.

The information found on NEWA is only as good as the manager who is using it. Knowing your vineyard blocks, their history of disease and insect pressure and having a pesticide application plan that ensures excellent coverage once a decision is made to spray is needed before this information can be utilized to its full potential.

continued on next page

Figure 3. Grape Infection Events Log

Hide grape infection events log
Show leaf wetness events log

Grape Infection Events Log							
When calculating combined wetting periods we use the following rules: 1) an infection event must start with precipitation, 2) successive wetting periods are combined into a single infection event until a dry period of over 24 hours or a wetting period with no precipitation is encountered.							
Starting Date/Time	Ending Date/Time	Hours LW	Avg Temp	Total Rain	Phomopsis	Black Rot	Combined Event
Download Time: 6/10/2013 11:00							
Jun 6 5:01	Jun 8 10:00	42	55.2	1.61	Infection	Infection	Yes
Jun 1 20:01	Jun 2 5:00	9	66.2	1.78	Infection	Infection	No
May 31 18:01	Jun 1 19:00	11	68.1	0.30	Infection	Infection	Yes
May 28 0:01	May 29 13:00	20	61.7	2.76	Infection	Infection	Yes
May 21 20:01	May 24 10:00	33	55.8	0.62	Infection	Infection	Yes
May 8 14:01	May 12 1:00	41	55.5	1.48	Infection	Infection	Yes

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.

Figure 4. Leaf Wetness Events Log

Show grape infection events log
Hide leaf wetness events log

Leaf Wetness Events Log						
Starting Date/Time	Ending Date/Time	Hours LW	Avg Temp	Total Rain	Phomopsis	Black Rot
Download Time: 6/10/2013 11:00						
Jun 10 9:01	Jun 10 10:00	1	68.4	0.01	No infection	No infection
Jun 10 5:01	Jun 10 7:00	2	67.8	0.01	No infection	No infection
Jun 7 22:01	Jun 8 10:00	12	56.7	0.00	No infection	No infection
Jun 6 5:01	Jun 7 11:00	30	54.7	1.61	Infection	Infection
Jun 1 20:01	Jun 2 5:00	9	66.2	1.78	Infection	Infection
Jun 1 18:01	Jun 1 19:00	1	70.7	0.00	No infection	No infection

La Crescent Yeast/ ML Wine Tasting

When: July 28th, 1-4PM

Where: Fort William Henry Lodge in Lake George, NY.

Come taste a variety of 2015 La Crescent wines from Victory View Vineyards, Lincoln Peak Vineyards and Cornell's Vinification & Brewing Lab. Compare and contrast the role of a variety of variables including site, ML timing and yeast strain.

This tasting is open to all current industry members. There is no cost, but pre-registration is required by Friday, July 22.

Cold climate white grapes often have robust aromatic properties but also contain excessive acid. A 2015 trial focused on ways to optimize La Crescent quality through biological de-acidification methods. Believed to be a way to both reduce acid and maintain varietal character, co-inoculation of ML strains was compared with traditional (sequential) inoculation and a control without MLF. The trial also employed a yeast strain (71B) capable of metabolizing some malic acid. Grapes sourced from Victory View Vineyards in Schaghticoke, NY, were transported to Geneva where small fermentations were carried out and tracked throughout the production process. Victory View and Lincoln Peak Vineyards in New Haven, VT also produced small commercial lots of wine employing the same yeast and ML strains. This project was conducted in collaboration with Scott Labs and Lallemand.

Register Online at : <http://enych.cce.cornell.edu/event.php?id=590>



Insights from an Intern: A Valuable Experience at Red Maple Vineyard

*Madi Marshall, Intern Red Maple Vineyard West Park NY
Cornell University, Class of 2018, Agricultural Science*



The first time I pulled up to Red Maple Vineyard I was nothing short of amazed. The moment you step foot on the property you're greeted by wagging tails, and friendly, welcoming smiles by the owners, Gary, Liz, and Shay Stone. The property is located in West Park, NY, and overlooks the Hudson River. At Red Maple currently there is a

beautiful 1-acre organic garden, as well as two vineyards that include a blend of viniferous, and hybrid grape varieties. The property also features a beautifully restored and renovated cow barn and tent that serve as a wedding venue.

I heard about Red Maple through a close friend of mine who had been working there since the Stone family bought the beautiful property 4 years ago. I had been looking for a place to volunteer and learn about organic farming before I decided to make it the focus of my college career. I began volunteering in the garden, and then added working weddings, and doing kitchen prep, and basically involving myself in as much food related work as I possibly could. I ended up working at Red Maple for the rest of the summer and fall. You could say that I was hooked because in the spring I started studying Agricultural Science as well as Viticulture and Enology at Cornell University. As part of the program it is required that students reinforce

their learning and interests with an internship, and I could think of no better place to do that than at Red Maple.

I think what makes Red Maple unique, and perfect for this opportunity is that no one there is a real "expert." Everyone who works there brings their own knowledge and experience to the table. There is an openness and willingness to learn from each other that really makes this experience so amazing. I think that there is a misconception that interns are just an opportunity for free labor and in reality it should be the complete opposite. An internship should be a time to reinforce what you've learned in class, and to build on it. Because all of us at Red Maple are learning together, a lot of what we do is trying different things out, seeing what works, and what doesn't, and lastly, making mistakes! Through this process I can say I've solidified what I learned at school, and built upon it tenfold. Before you begin an internship Cornell requires you to fill out a learning agreement. The purpose of this is to make sure that the student, the site supervisor, and your mentor are all on the same page when it comes to expectations, goals, and how you're going to do it. As long as you're learning, and furthering your interests I think an internship is a very doable thing for both the student and farm involved. It's a learning opportunity for both sides, not just the student, and a positive one at that. I hope to return to Red Maple for years to come as I further my education and to bring back to the table what I've learned, so that we can all grow together.

Cornell Fruit Field Day, July 20th, Geneva, NY

Art Agnello, Dept. of Entomology, NYSAES

Mark your calendars for the Cornell Fruit Field Day, to be held in Geneva on Wednesday, July 20. The 2016 version of this triennial event will feature ongoing research in berries, hops, grapes, and tree fruit, and is being organized by Cornell University, the NYS Agricultural Experiment Station, CALS Fruit Program Work Team and Cornell Cooperative Extension. All interested persons are invited to learn about the fruit research under way at Cornell University. Attendees will be able to select from tours of different fruit commodities. Details of the program presentations are still being finalized, but the event will feature a number of topics.

For more information visit the following website:

<https://blogs.cornell.edu/hort/2016/06/24/cornell-fruit-field-day-july-20-geneva-ny/>

Register now!

Admission fee is \$50/person (\$40 for additional attendees from the same farm or business), which covers tours, lunch and educational materials. Pre-registration is required. Walk-in registration may be available for a \$10 surcharge on the day of the event. Register on the Cornell Fruit Field Day Event registration page,

<http://events.cals.cornell.edu/ffd2016>



Upcoming Events

7/20 - Geneva Fruit Field Day

<https://blogs.cornell.edu/hort/2016/06/24/cornell-fruit-field-day-july-20-geneva-n-y/>

The 2016 version of this triennial event will feature ongoing research in berries, hops, grapes, and tree fruit, and is being organized by Cornell University, the NYS Agricultural Experiment Station, CALS Fruit Program Work Team and Cornell Cooperative Extension. All interested persons are invited to learn about the fruit research under way at Cornell University.

7/28 – La Crescent Wine tasting

Save the date of July 28th, 1-4PM at the Fort William Henry Lodge in Lake George. We will do a tasting of La Crescent wines made at 3 locations using 2 styles of fermentation. More details to come!

Resources for Cold Climate Vineyard IPM

Cornell IPM Fact Sheets for Grapes

<http://nysipm.cornell.edu/factsheets/grapes/default.asp>

New York and Pennsylvania Pest Management Guidelines for Grapes (published annually)

<http://store.cornell.edu/p-189430-2015-new-york-and-pennsylvania-pest-management-guidelines-for-grapes.aspx>

Grape Disease Control, 2015. Dr. Wayne Wilcox (published annually)

http://rvpadmin.cce.cornell.edu/uploads/doc_308.pdf

Cornell Vineyard Spraying Website

<http://web.entomology.cornell.edu/landers/pestapp/grape.htm>

Integrated Pest Management Strategy for Cold Climate Winegrape Growers. Lorraine Berkett

http://www.uvm.edu/~fruit/grapes/gr_ipm/AnInitialIPMStrategy.pdf

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Cornell Grapes Website

<http://ww.fruit.cornell.edu/grape/>

ENYCHP: <http://enych.cce.cornell.edu/>

Northern Grapes Project

<http://northerngrapesproject.org/>

NEWA Weather and Pest Forecasting

<http://newa.cornell.edu/>

Viticulture and Enology Cornell

<https://grapesandwine.cals.cornell.edu/>

Veraison to Harvest

<http://grapesandwine.cals.cornell.edu/newsletters/veraison-harvest>

Appellation Cornell

<http://grapesandwine.cals.cornell.edu/newsletters/appellation-cornell>

NYS IPM Fact Sheets

<http://www.nysipm.cornell.edu/factsheets/grapes/>

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