August 6, 2014

Finger Lakes Vineyard Update

Hans will be traveling out of the country for the next couple of weeks. He will return to the office on Monday, August 25. If you need assistance in the meantime, please contact Mike Colizzi at mac252@cornell.edu or 315-536-5134.

Cornell University

Cooperative Extension

Finger Lakes Grape Program

IPM

Hans Walter-Peterson

Grape Berry Moth

According to the GBM model at the NEWA website (http://newa.cornell.edu/ index.php?page=grape-diseases), warmer sites in the Finger Lakes (like the Teaching Vineyard) are entering the period where growers should be scouting for damage, especially in moderate and higher risk blocks. If more than 15% of clusters are damaged by the previous generation of GBM, prepare to make another insecticide application starting at 1620 GDDs (based on the wild grape bloom biofix date).

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Disease Management

Wayne Wilcox recently provided us with a quick summary on mid and late season downy mildew management options that we wanted to pass along this week. Downy mildew management has been a hot topic at the past couple of our Tailgate Meetings. Given the conditions and what we have been seeing in vineyards this year so far, we think this information is particularly timely.

NEWA Grape Forecast Models

Select a disease or insect:	Map Results	More inf	o						
Weather Station: Dresden (FLGP/FLCC) Date of Interest: 8/5/2014	Grape Berry Moth Results for Dresden (FLGP/FLCC) Wild Grape Bloom: 5/31/2014 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 8/5/2014: 1466 (0 days missing)								
Calculate	Daily Degree Days for Dresden (FLGP/FLCC)								
	Pasa Tamp	Past	Past	Current	5-	Day Forec	ast For	ecast Detai	ls
	Base Temp	Aug 3	Aug 4	Aug 5	Aug 6	Aug 7	Aug 8	Aug 9	Aug 10
	47.14F - GBM	20	24	23	20	19	18	20	22
	Accumulation	1432	1456	1480	1499	1518	1536	1556	1578
	NA - not available Download Time: 8/5/2014 11:00								
	Pest	Pest Status			Pest Management				
	Second generation larvae are protected within berries and completing their development.			The most effective time for treatment of second generation grape berry moth is over. Prepare to scout all vineyard blocks for grape berry moth damage when DD accumulation reaches 1470-1620 DD. During scouting, determine if the number of damaged clusters from previous generation exceeds the treatment threshold of 15%. If above threshold, control measures should be applied starting at 1620 DD.					

Upcoming Events

Tailgate Meeting Dr. Frank's Vinfera Wine Cellars

Yates Farm Safety Days

August 19, 2014

August 23, 2014

Mid and Late Summer Downy Mildew Control Options

Wayne Wilcox, Plant Pathology, Cornell University, NY State Agric. Expt. Sta., Geneva

Plenty of downy out there and likely to be more soon after last week's meteorological festivities. There are a number of spray materials available to help keep this disease at bay for the remainder of the season, here's a quick reminder of some of their basic characteristics.

CAPTAN. It works well, doesn't require a second mortgage to purchase, never has and probably never will have resistance issues. It will also provide good

control of some major warm weather late season rots (bitter rot, ripe rot) if those are a potential issue (bitter rot shows up in warm, wet seasons on Long Island, especially on Chardonnay). But you know the downside: 3-day REI (check the label, a few products still have 4-day), it's a no-no for juice grape processors, some winemakers have concerns about late season use, incompatibility with oils. Strictly a protectant, no post-infection activity, and more subject to wash-off than systemic and locally systemic compounds.

COPPER. The original DM fungicide, and it still works. Will also provide some late season control of foliar powdery mildew, especially on cultivars that are only moderately susceptible (e.g., Concord). Lots of formulations on the market, some more pleasant to work with than others. Quite a range of label rates, with some newer low-rate products available. Not too many independent verification of some of the claims being made for their efficacy but that should start changing soon. You know the positives: effective, some OMRIcertified products available, relatively economical. Negatives include the potential or likelihood of injury on some cultivars; some winemaker concerns about late season residues; the need to avoid acidified spray water; indefinite persistence in the soil. Strictly a protectant, no post-infection activity, subject to wash-off.

PHOSPHOROUS ACID PRODUCTS. We've talked about these for years, no need to rehash it to death. Remember, limited protective activity, significant post-infection activity, which is boosted by back-to-back applications and not skimping on the rate. I do hear more anecdotal reports than I'd like to about disappointing performance, not sure how much of that is due to unrealistic expectations or something more worrisome.

As pointed out on several occasions, these are <u>real</u> fungicides (despite how some of them are marketed) and the DM organism can develop a "quantitative" resistance to them after repeated use, as we've encountered with the DMI (sterol inhibitor) fungicides and powdery mildew. This means that, over time, they'll provide progressively less control unless we keep raising the rate or substituting a more active member of the class. We've been able to do the latter with the DMIs (remember when we only had Bayleton and Rubigan?), but phos acid is phos acid, there's really only one form of the truly active component in all of the products out there. And not only is there no option to substitute a more active form, but there's a limit as to how high we can raise the rate due to the potential for plant injury (and cost). So if we beat these materials into the ground, that's it.



Mid and Late Summer Downy Mildew Control Options (continue from page 2)

<u>Do not</u> add these products to every spray tank during the summer if you want to maintain their efficacy. There's no magic number of "safe" applications per year, but three is a nice round number, with no more than two back-to-back before switching to something else.

PRESIDIO. Another relatively new product unrelated to anything else on the market for grapes. It has given us excellent results in a couple of trials and appears to have some significant post-infection and antisporulant activity in addition to protective activity, although these are not well characterized. It's not cheap. Resists wash-off, 21-day PHI.

RANMAN. Relatively new, it's the only product used on grapes that's in this group of chemicals (Group 21). Has given good results in our trials, appears to be strongest in a protective mode and has performed better on 14-day spray intervals when mixed with a phosphorous acid product, which provides complimentary post-infection activity. Should resist wash-off, 30-day PHI.

REVUS (and REVUS TOP). I've consistently gotten very good results with this compound in my trials. It's a "locally systemic" material that's absorbed by the plant tissues (hence, resists wash-off) and should have at least some post-infection activity, but that does not appear to be its strength. Rather, indications are that it's stronger in the protective mode, although its physical mode of action is not very well characterized. 14-day PHI. Not related to any other product currently marketed in NY, although it is in the same "Group 40" as one of the components of the new product, Zampro (labeled in most states other than NY, maybe next year here).

RIDOMIL GOLD COPPER. The biggest weapon in the arsenal (and priced accordingly). Provides protective, post-infection, antisporulant, and even some eradicative activity. Also has significant vapor phase activity for redistributing the material to unsprayed tissues as a gas, and it moves through the plant systemically. Which does NOT mean that you can get away with applying it sloppily, but these properties make it more forgiving of applications that are anything less than perfect, should anyone ever need to deal with such a situation. Wash-off is not an issue.

Ridomil is at very high risk for resistance development. Using it to "put out fires" is a good way to hasten this process and lose a unique tool. I wouldn't recommend using it to try to rescue a full-blown disaster (and it won't, anyway), but if you see more downy than you're comfortable with this time of year and feel like it has a chance of getting away from you unless you hit it hard, there's nothing better. However, if you're going to use the product this way, use it <u>once</u> per season to get things under control, then switch to something else. You won't go to heck if you use it twice, but the more you do this, the greater the risk. We really want to maintain this control option into the future, so resist the temptation to burn it out. Remember, there's a 42-day PHI.

Mid and Late Summer Downy Mildew Control Options (continue from page 3)

"STROBILURINS" (Group 11; Abound/Quadris Top, Pristine, Reason). I put "strobilurins" in quotes because Reason is in this group because it has the same biochemical mode of action and resistance risks, even though it's not a true strobie. As mentioned on other occasions, these materials largely working against downy in some states to our south several years ago due to resistance development. We've managed to dodge that bullet to a great extent in NY, probably because we started severely limiting their use after the powdery resistance problems in 2002 (a dozen years ago!). But it's probably a matter of when we'll hit the wall with them, not if.

Strobie resistance can come on suddenly and intensively in a year of high disease pressure (this one qualifies). These can be great products without resistance, but if they don't work then they don't work. If you've been using them conservatively (no more than twice per year) and they've been doing a good job, great. But keep a close eye out, and if it looks like the first application of one of 'em didn't do much, don't rely on a second one.

Botrytis Management Options

Alice Wise, Long Island Horticulture Research & Extension Center

For a more complete discussion of Botrytis, see Wayne Wilcox's 2013 grape disease overview, which is posted on our website at <u>http://</u><u>nygpadmin.cce.cornell.edu/pdf/newsletter_notes/pdf19_pdf.pdf</u>. A botrycide at veraison is the single most effective timing in humid climates such as eastern North America. Serious losses in quality and quantity are the result of rapid spread as the berries become highly susceptible after veraison. A quick review of the options from Wilcox's write up.

1) Switch. Most of the international viticultural world has been

using Switch, a mixture of cyprodinil (=Vangard) plus a second active ingredient called fludioxonil, which has a wide spectrum of activity that includes Botrytis and a number of other fungi. This helps to limit the risk of resistance development and gives Switch some ability to reduce miscellaneous fungal infections that are sometimes associated with sour rot, although it will not affect what appear to be the primary causes of this disease.

2) **Rovral.** We all remember the resistance issues in years past. Bottom line is that Rovral should not be the workhorse of your program. However, if you've been giving it a rest, it may be a useful tool in a rotational program when used on a limited basis. Rovral is one material where the use of an adjuvant improves control. Stylet Oil (assuming proximity to sulfur sprays is not an issue) is a good choice. Standard nonionic or organosilicate surfactants are also beneficial.

3) **Vangard.** A consistent performer in Wilcox's trials, Vangard is absorbed into the berries, so it's largely rainfast and also has limited postinfection activity. There doesn't seem to be any data showing improved performance by adding an adjuvant. Vangard is highly prone to resistance development, so its use should be strictly minimized. The label allows a maximum of two applications per season, but keep it to a single spray each year unless you really get into a bind.

4) **Scala.** Same chemistry and mode of action as Vangard, the two have performed similarly in a limited number of head-to-head tests. Same resistance concerns, consequently, there is no benefit in "rotating" between the two in terms of resistance management. Thus, the seasonal limitation on the number of Vangard sprays noted above should be applied to the number of Vangard and/or Scala sprays (combined).

5) Elevate. Unrelated to any other on the market. Wilcox's results with it have been good to very good. Elevate is retained within the waxy cuticle of the berries, so it is rainfast within a few hours after its application (lab studies show 50% retention within 3 hours and 75% retention within 24 hours). Long sold as strictly a protectant fungicide, it does appear to reduce symptomless infections within the berries (i.e., post-infection activity) – see Wilcox's write up for details. There is a resistance risk, not as significant as that for Vangard, but real. The label allows a maximum of three applications per season, but European guidelines recommend just one, in rotation with unrelated materials.

Botrytis Management Options (continued from page 5)

6) **Flint.** Has provided very good to excellent control at 3 oz/acre, versus 1.5 to 2 oz for powdery mildew. Limit strobies (which includes Pristine) use to a maximum of two applications per season, so if you're already there, this is not an option.

7) **Pristine.** Has provided good control at a rate of 12.5 oz/acre in limited testing, and excellent control at 19 oz/acre. Both the strobie and non-strobie component of this "combination product" have activity against Botrytis, so there is some resistance-management benefit to using it.

Still not a preferred option if you've already used it or another strobie product twice earlier in the season.

8) **Oxidate.** Oxidate is formulated to stay on the outside of the waxy cuticle covering leaves and berries rather than enter them. In '06 trials on Chardonnay at LIHREC, it did indeed burn out Botrytis sporulation. However, since the fungus extends into the flesh of the berry, new sporulation reappeared within a week or so and infections progressed (this was in the absence of botrycides). The temporary reduction in sporulation may inhibit the spread of spores, particularly if repeat applications are used. This is purely a guess; however, if faced with difficult-to-control cluster rot, it may be worth a shot. Use of Oxidate in combination with or in addition to botrycides may be a better strategy but it is still unclear if the addition of Oxidate will enhance control. If possible, leave treated and untreated rows to gauge efficacy.

Final word: Cultural practices (canopy management, leaf pulling, thinning out clumps of clusters, moderate use of nitrogen) are critical components of Botrytis control programs. Botrycides will be minimally effective if cultural practices are not timely and well executed.

Finger Lakes Vineyard Update

Finger Lakes Grape Program

Tailgate Summary

Mike Colizzi

Rain, do I even have to say anything else? The joke this year has been of course it's going to rain we have a tailgate meeting tonight. It seems like this past week however it's just been of course it going that's just what it does around here. Well despite the rain we had a great tailgate meeting at Hunt Country Vineyards.

It seems like this year has been the year of extremes. Whether it was the "Polar Vortex" this winter or the flooding this spring and over the past week we have been on a rollercoaster ride this season. These recent storms have brought leafhoppers up and increased the instance of downy mildew and botrytis. We have also been seeing a good amount of berry moth stings which with the wet weather can lead to botrytis. At the meeting we got on the topic of fungicide labels and how hard it can be to find the info you are looking for. One suggestion that came up was the <u>Vinesmith Spray Guides</u>. While there is no substitute for reading the label these charts coupled with the information in the Cornell Guidelines can really help.

While out scouting vineyards in between the rain on Tuesday we were noticing pretty big crops in some native blocks. After such a big year last year and the cold winter the last thing growers expected was another big year. We have talked to some growers who's mechanical estimates for some blocks were around 13-14 TPA. Of course in a year like this it might be hard to ripen a crop that big. It seems like the birds are starting flock up pretty well around the vineyards in anticipation of veraison, which is starting in some of the early varieties (Marquette, Baco, Foch, etc...).

We would like to thank Art, Jonathan, and all the staff at Hunt Country for their hospitality. Our next and final meeting of the growing season will be on August 19th at Dr. Franks Vineyards in Hector.

Finger Lakes Vineyard Update

Finger Lakes Grape Program

Upcoming Events

Don't forget to check out the calendar on our website (<u>http://flgp.cce.cornell.edu/events.php</u>) for more information about these and other events relevant to the Finger Lakes grape industry.

FLGP Tailgate Meeting

Tuesday, August 19 5:00 – 6:30 PM Dr. Frank's Vinifera Wine Cellars Beattle Hill Road, Hector, NY (<u>click here for map</u>)

Our final Tailgate Meeting of the season will be held on Tuesday, August 19th at 5:00 PM at Dr. Frank's Seneca Lake vineyard in Hector.

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. Growers are eligible to receive 0.75 pesticide recertification credits at each meeting this year.



Yates Farm Safety Day August 23, 2014 8:30 am - 2:30 pm Benton Fire Department 932 Route 14A Penn Yan, NY 14527

For information or to register contact Henry Martin at 315.536.4736

The Yates Farm Safety Day is a FREE and fun day for both children and adults to learn about potential hazards on a farm. It is open to ALL farm families, hired help, neighbors and other interested folks!

Farm Safety is for all ages. Various safety topics with hand-on activities and demonstrations will be presented to ensure a safe farm environment while living, working or visiting a farm. A FREE lunch is included.

2014 GDD Accumulation

2014 GDD & Precipitation

FL Teaching & Demonstration Vineyard – Dresden, NY					
Date	Hi Temp	Lo Temp	Rain (inches)	Daily GDDs	Total GDDs
7/29/14	67.8	56.2	0.00	12.0	1552.9
7/30/14	73.9	54.5	0.49	14.2	1567.1
7/31/14	76.0	56.9	0.10	16.5	1583.6
8/1/14	85.6	59.5	0.00	22.6	1606.1
8/2/14	85.2	63.1	1.55	24.2	1630.3
8/3/14	75.6	62.4	0.94	19.0	1649.3
8/4/14	81.3	63.2	0.02	22.3	1671.5
Weekly Total			3.10"	130.6	
Season Total			19.03"	1671.5	

 GDDs as of August 4, 2013:
 1768.9

 Rainfall as of August 4, 2013:
 13.63"

Seasonal Comparisons (at Geneva)



Growing Degree Days

	2014 GDD ¹	Long-term Avg GDD ²	Cumulative days		
April	52.1	65.6	-3		
May	298.3	247.3	+3		
June	516.9	480.6	+4		
July	573.3	642.3	+1		
August	78.9	590.3	0		
September		347.5			
October		104.6			

¹ Accumulated GDDs for the month.

 $^{\rm 2}$ The long-term average (1973-2013) GDD accumulation for that month, or up to the most recent records in the current month.

³ Numbers at the end of each month represent where this year's GDD accumulation stands relative to the long-term average. For example, at the end of April 2014, we were 3 days behind average accumulation. The most recent number represents the current status.

2014 GDD Accumulation

Precipitation

	2014 Rain ⁴	Long-term	Monthly deviation from avg ⁶
April	2.90"	2.90"	0.00"
May	3.64"	3.11"	+0.53"
June	3.23″	3.60"	-0.37"
July	7.81″	3.31"	+4.50"
August	1.01"	3.18″	
September		3.69"	
October		3.26″	

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)

Finger Lakes Vineyard Update

Finger Lakes Grape Program

August 6, 2014

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, "The Grape Lakes – Viticulture in the Finger Lakes" at <u>http://</u>flg.cce.cornell.edu.

Got some grapes to sell? Looking to buy some equipment or bulk wine? List your ad on the <u>NY Grape &</u> <u>Wine Classifieds website today!</u>

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