

New England Grape Notes

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General Info - there are some excellent meetings coming up at the end of May and beginning of June. Check the listing at the end of this newsletter for details. Please plan to attend!!

Grape Phenology:

Growth has progressed across the region and ranges from budswell in late varieties in late locations to 3-4" shoots in earlier varieties and locations. Flower clusters are visible on Frontenac shoots at Cold Spring Orchard in Belchertown MA. First fungicide sprays should be going on now where 1" shoots (or longer) are present. Read more on this below and in the last issue.

No photos this week but if you want to review the important bud stages in grapes, consult the following Michigan phenology tables:

Concord- <http://web1.msue.msu.edu/fruit/concrdgm.htm>

Chardonnay- <http://web1.msue.msu.edu/fruit/chargrw.htm>

This will help guide your pest management decisions.

Disease Management:

Disease models in CT and MA indicate that significant infection periods occurred last week for Phomopsis and Downy Mildew. The article below is from Virginia but is very useful for us as it is an indicator of what will soon be upon us here in New England.

Early Season Grape Disease Management Tips from Virginia Tech

Mizuho Nita, Virginia Tech

Central and Northern Virginia have been receiving abundant rain since last week. At this point, your primary concern should be Phomopsis cane and leaf spot, especially if you had this disease in the past. It is not a very aggressive pathogen, but if you do not take care of it, it can cause significant damage on your vines. Up to 30% loss has been reported from southern Ohio from fruit infection. In addition, once canes are infected, the fungus can produce viable spores for at least two years. (In the other words, if you haven't had problems with Phomopsis in the past, you tend to have a lower risk of this disease.) The best approach at this point is a preventative fungicide application (mancozeb, captan, or Ziram) starting from 1-3 inch growth stage. I think many of your vines are already past this stage, thus, you need to protect your vines from now on for Phomopsis until your black rot or downy mildew program starts because they often include chemicals that are effective against Phomopsis. Please refer to aforementioned fungicide guidelines for details. Unfortunately, there are no fungicides with curative (kick-back) activities against Phomopsis infection. The optimal temperature for germination is around 60-65F (15-18C), and it takes 4 hours of leaf wetness at that temperature range to have light infection. Please see the table 1 in my notes from the vineyard meeting for detailed infection requirements.

Another disease you may want to think about is powdery mildew. As you know, the fungus does not require wetness to infect grapevines and is often associated with high relative humidity. However, over-wintering fruiting bodies (cleistothecia) of this fungus require rain to discharge powdery mildew spores called ascospores. This fruiting body requires rain (> 0.1 inch, and more than 2.5 to 4 hr of wetness), and temperature above 50F to discharge ascospore. A French study showed a correlation between rain between bud break and bloom to disease intensity of powdery mildew later in the season. Since sulfur is relatively inexpensive, you may want to add sulfur to your tank as insurance. Sulfur has efficacy against powdery mildew even if you apply a few days (1-3 days) after infection event.

When I checked weather conditions at Winchester, we had several events for Phomopsis and/or powdery mildew since the end of last week (please check my blog for detail). The rain event since yesterday is relatively cold (average temperature was about 50F), but long enough for Phomopsis to cause light (5-15% disease severity on a cane) to moderate (15-25%) disease. In addition, as of this morning, we have received 0.84 inches of rain since last week (and it's still raining).

A typical rule of thumb for fungicide re-application is "2 weeks or 1 inch of rain, whichever comes first" (note: you need to adjust the time between applications based on the growth of vine). Please check your local weather for rain and temperature information. If you go to my blog, there is a banner of "weather underground" on the upper-right side where you can check your local weather information in detail by typing in your zip code (you can even go back in days to see what happened in the past few days). We applied mancozeb + sulfur on April 30th, but vines have grown an inch or more since then. It seems that when there is a break from this rain later this week, we need to apply fungicide for Phomopsis and powdery mildew to add protection to new growth. Please note that it typically requires at least 2 hours of dry period for a fungicide to properly adhere to the plant surface.

Since rain events in these several days are relatively cold, I think the risk of black rot is low at Winchester; however, I encourage you to check your local weather. There is more information about black rot in my notes as well.

Rain probably makes you think about downy mildew too. It has been warm enough (>50F during the rain) for its over-winter structure (Oospore) to produce spores (zoospores). However, it requires warmer weather (65-75F) to grow and reproduce in a significant way. In addition, chemicals for Phomopsis (mancozeb, captan, Ziram) and black rot (mancozeb and Ziram [captan is not as good as mancozeb against black rot]) also have an efficacy against downy mildew.

Insect Management:

Insect Management Update

Lorraine Berkett, Univ. of Vermont

Grape Flea Beetle -- This insect has been reported to have caused damage to buds in past years in some Vermont vineyards. The adult beetle chews holes in the sides and ends of the buds. Pictures of this relatively small, dark, shiny metallic greenish-blue or steel-blue beetle and the bud damage it causes can be seen at:

http://www.nysipm.cornell.edu/factsheets/grapes/pests/gfb/gfb_fig1.asp

http://www.nysipm.cornell.edu/factsheets/grapes/pests/gfb/gfb_fig5.asp

Bud swell is the time to monitor your vineyard to determine the need to manage this insect. Although damage is often concentrated along vineyard borders near wooded areas, scouting for adult beetles and damage should be conducted around the perimeter and in the center of the vineyard. At least 25 vines should be surveyed at each of five locations in the vineyard. Scouting should continue until the first leaf separates. If 4% or more of buds are damaged, an insecticide is warranted at bud swell. See page 43 of the 2009 New York and Pennsylvania Pest Management Guidelines for Grapes for details on insecticide application. [Note: A second application may be warranted in June when larvae are on grape foliage to help manage a further outbreak in 2010.]

Cultural techniques to help manage this insect -- This insect primarily attacks buds of wild and cultivated grapevines and Virginia creeper (*Parthenocissus quinquefolia*). There is only one generation of the insect per year; the insect overwinters in the pupal stage in the ground about 0.5" to 2.5" below the surface. Non-chemical ways to help manage this insect are to remove alternate hosts surrounding the vineyard (e.g., wild grape vines) and to cultivate the land around the vineyard if feasible to expose the delicate pupae in the soil and thus cause desiccation and death.

[Sources of information: <http://ohioline.osu.edu/b861/> and

<http://www.nysipm.cornell.edu/factsheets/grapes/pests/gfb/gfb.asp>]

(Source: UVM Grape IPM Update, May 1, 2009)

Other Issues:

Stunted Shoots: You notice stunted shoots in the vineyard. What could it be?

Alice Wise, Cornell Cooperative Extension Suffolk County

- **Cold spring weather** – After budbreak, cool, cloudy weather can slow growth, making shoots look pale and anemic. Early shoot growth relies on vine reserves; cool, cloudy weather slows mobilization of reserves. Shoots will 'green up' with warm weather. Some growers feel an early application of foliar nitrogen helps overcome this stage.
- **Damage to bud** – An occasional shoot looks pale and stunted with whitish, mottled leaves. This is likely low temperature injury to the bud.
- **Blind sections** - Canes, particularly long canes, may have an exacerbated case of stunted shoots in the mid-cane area due to the effects of apical dominance.
- **2,4-D injury** – Drift from this herbicide causes very distinct symptoms. In moderate to severe cases, shoots are stunted, leaves are small, pale and distorted with pronounced veins and a jagged leaf edge. Sometimes basal leaves look OK, then the symptoms are expressed on the more apical leaves. This gives you a clue about the timing of the 2,4-D application. In more profound cases, berry set will be disrupted.
- **Glyphosate** – If green tissue is inadvertently contacted during a fall application of glyphosate, symptoms can be manifested the following spring. Spindly shoots and small, pale, distorted, sometimes arrow-shaped leaves are characteristic. This damage is distinctly different than 2,4-D. Also, the entire side of a vine or entire vine can be affected.
- **Eutypa dieback** – Diagnostic symptoms are stunted shoots with pale yellow cupped leaves. Often shoots grow out of the symptoms but they recur the following spring. One trunk can be affected and not the other. In cross section, the trunk will have a pie shaped canker. However other lesser known trunk rots can also cause this symptom. Flag the vine and watch it

through the season. It may be possible to cut the canker out during the dormant season.

- **Thrips** – Tiny leaves, stunted shoots, leaves often somewhat tattered or shredded in appearance with necrotic (dead) areas may be due to a thrips infestation. An affected shoot can be next to a shoot with no symptoms. Thrips are impossible to see without a good hand lens or microscope. Older leaves are usually not affected. Thrips are more common bloom to postbloom. Thrips infestations are not common but do occur occasionally. There are a few labeled materials for heavy infestations.

- **European red mite** – Very stunted, pale shoots. Upon close examination, leaves are loaded with tiny red mobile mites. Early spring outbreaks are usually spotty within a block. Prebloom use of horticultural oil by many growers has reduced the occurrence of mites early in the season.

- **Virus** – Fortunately rare on LI, fan leaf virus leads to very stunted shoots with highly serrated leaves. Symptoms are pronounced. Vines should be pulled out, along with as many roots as possible. There were a couple of infected blocks a few years ago and nothing since.

- **Boron deficiency** – Though not common this early, boron deficiency can be manifested as slightly distorted leaves on young shoots. The leaf margins become rounded, the leaf abnormal in size/shape compared to normal leaves. If in doubt, send a sample to a lab for analysis, ask for results ASAP. A good lab will give an appropriate recommendation, likely ≤ 0.1 lb/a actual B in a foliar spray. Note – it is worth doing the tissue analysis as B deficiency and toxicity symptoms can be confused.

- **Boron toxicity** – The window from B toxicity to deficiency is narrow. Toxicity can result from heavy or unevenly distributed soil applications, where ground application was followed by rapid uptake esp. in young vines or where movement through the soil was limited by compaction. Leaves are slightly puckered and rounded, losing the serration on the edges, often with necrotic flecks. Where injury is more pronounced, shoot tips are spindly, leaves are tiny, chlorotic and cupped, reminiscent of Eutypa. Shoots can display both symptoms. Sometimes one side of a vine is more profoundly affected than the other. We have seen and confirmed boron toxicity several times. Where it was suspected, petiole and leaf analysis (results for each were similar) confirmed the diagnosis. Typically boron levels are 25-50 ppm with the lower end of that range more common on LI. Samples from damaged vines were in the 60-65 ppm range, even higher where symptoms were pronounced. Most vines will outgrow symptoms with TLC. Avoid moisture stress, thin or remove crop on affected vines.

- **Potassium deficiency** – More common in summer than in early spring. We have seen several cases in years past where severe potassium (K) deficiency led to stunted shoots with tiny, malformed leaves in younger plantings. As potassium moves with the soil water, dry conditions can reduce K availability. Where there is a true soil K deficiency, irrigation may exacerbate symptoms. Perhaps cover crops used preplant utilized a lot of K and it was not replaced via fertilization. Petiole and soil analyses are a quick way to verify the condition. A more readily available potassium source such as potassium sulfate would be an option. Though not an efficient way to deliver large amounts of K, foliar K products may help as well. (*Source: Long Island Fruit & Vegetable Update, No. 9, May 8 2009*)

Weather data: compiled from various sources up to 5/8/09

Region/Location	2009 Growing Degree Days		Precipitation 1-week gain
	1-week gain	total accumulation for 2009	
Cape Cod, MA	37	132	0.75
Southeast MA	54	157	0.30
East MA	69	156	0.06
Metro West (Waltham) MA	--	--	--
Metro West (Hopkinton) MA	60	172	0.25
Central MA	58	134	0.03
Pioneer Valley MA	50	188	0.18
Belchertown MA	--	--	2.01
Deerfield, MA	--	--	1.37
Berkshires MA	56	181	0.29
South Hampton, NH (as of 4/30)	49	99	--
Riverhead, NY	39	158	1.80
Lockwood CT	--	--	1.51
Windsor CT	--	--	1.90
Griswold CT	--	--	1.35
Newport CT	--	--	1.96
Colchester CT	--	--	1.17

Meetings:

The Vermont Grape and Wine Council is Sponsoring a Conference on May 20 - The Vermont Grape and Wine Council has posted the Agenda and the Registration Form for their First Annual Conference on their website at: <http://www.vermontgrapeandwinecouncil.com/>. The Conference will be held at The Three Stallion Inn in Randolph, VT, on May 20. Directions to the Inn can be found at: <http://www.3stallioninn.com/directions.htm>. It should be a very interesting and informative conference ! Dr. Anna Katharine Mansfield of Cornell University is a featured speaker. There will also be a grower/winemaker panel and a wine tasting. Seating at the Inn is limited and registrations will be accepted on a "first-received" basis. Deadline for discounted registration is May 6. Please see registration form for details.

Massachusetts Farm Winery and Growers Association Summer Marketing Conference on June 2 - Reserve the date and plan to attend our first mid-year marketing conference. We've got another great opportunity to network with your colleagues, listen to some great speakers, help plan and improve Massachusetts wine trails, and gain some new marketing insights. Tuesday, June 2, 2009 9 am – 2 pm Hopkinton Country Club 204 Saddle Hill Rd. Hopkinton, MA. Please Contact John Commando to register at johnc@needhamgroup.com

Coastal Wine Trail Kick-off - June 7, 2009, 1pm-3pm, The second annual Coastal Wine Trail Kick-off will take place at Sakonnet Vineyards, Little Compton, RI. All members of the Coastal Wine Trail will be represented offering tastings of their locally grown and produced wines. Local farmers, cheese makers and more will hand out delicious samples for guests to taste This walk around sampling will take place under a tent, rain or shine. Enjoy the pristine grounds while experiencing the best of what Southern New England has to offer.

Advance registration is required. Tickets will be available through our online store at sakonnetwine.com For more information please call 800-998-8486 ext. 116 or email sakonnetri@aol.com

FYI - check out the newly formed [Massachusetts Farm Winery and Growers Association](#) and [New Hampshire Winery Association](#) and the [Vermont Grape and Wine Council](#). These associations are of, by and for you! Join today!!

For Massachusetts residents, check out the new [Massachusetts "Aq Taq" license](#) plate. Each purchase can yield \$15 for the Massachusetts Farm Winery and Grower's Association through a check-off plus pooled funds available for various programs or competitive grants. Get yours today!

*This message is compiled by Sonia Schloemann from information collected by:
Arthur Tuttle, Dan Cooley, Hilary Sandler, Bill Coli and students from the University of Massachusetts
and Richard Kiyomoto from the University of Connecticut. We are very grateful for the collaboration with UConn.*

We also acknowledge the excellent resources of [Michigan State University](#), Cornell Cooperative Extension of Suffolk County, and the [University of Vermont Cold Climate Viticulture Program](#). See the links below for additional seasonal reports:

[University of Vermont's Cold Climate Grape Growers' Newsletter](#)
[UConn Grape IPM Scouting Report](#)

Support for this work comes from [UMass Extension](#), the [UMass Agricultural Experiment Station](#), [University of Connecticut Cooperative Extension](#), [USDA-CSREES](#).