New England Grape Notes

May 1, 2011, Vol. 6, No. 4

UMass Extension

Phenology: Dormant-Early Budswell
See http://fruit.cfans.umn.edu/grape/IPM/appendixa.htm for good chart on growth stages

Meetings: June 8, 2011, Twilight Meeting with Justine Vanden Heuvel and Anna Katherine Mansfield. Focus is on canopy management practices on hybrid varieties and review of winemaking considerations for hybrid varieties. **Location**: UMass Cold Spring Orchard Research and Education Center, 391 Sabin Street, Belchertown, MA 01007. 5:00pm - 8:00pm. Donation of $10 requested to help support meeting costs. Co-sponsored by the Massachusetts Farm Winery and Growers Association.

Resources: Comprehensive new viticulture website at: http://www.extension.org/grapes. Let me know what you think.

Don't forget our local New England Wine Grape Resource website at: http://www.newenglandwinegrapes.org/.

Insect Management:

Spring Threats

Tony Wolf, Virginia Tech

There are several recurring threats that new and experienced grape growers should be aware of at this time of year. Here's a recap:

Climbing cutworms and flea beetles:

- Bud swell through 1-inch shoot growth period is prime feeding period for these two grape insect pests. Scout NOW and take action if feeding injury is apparent.
- Climbing cutworms are nocturnal feeders, whereas flea beetles can be found during the day (http://www.ext.vt.edu/news/periodica ls/viticulture/03marchapril/03marchapril.html for cutworm photo). In most Virginia vineyards and in most years, climbing cutworms are the greater problem.
- Cultural control can be improved by raking leaf and weed litter away from the base of vines. By contrast, sod, mulch and other organic matter at the base of vines appears to increase climbing cutworm damage by providing a daytime refuge for the cutworm larvae.
- Insecticides (at least 12 registered for use; some effective against both climbing cut worm and flea beetle; at least one is organically approves) can be used (see Virginia Tech Pest Management Guide (http://pubs.ext.vt.edu/456/456-017/section-3_Grapes-1pdf) for rates, timing and restricted re-entry interval)
- Need to monitor vineyard blocks starting at bud swell. Climbing cutworm damage can increase dramatically (literally overnight) with high populations.
- At least one grower has reported good cutworm control by walking vineyard at night with head-mounted lights and picking larvae off vines. This could work in small vineyards or where "hot spots" exist and where the overall effort is to reduce pesticide usage.

(***Source**: Virginia Vit Notes, Vol. 26 No. 2, March - April, 2011*)

Disease Management:

Early-Season Disease Management

By Anne DeMarsay, Ph.D., Former University of Maryland Extension Specialist in Fruit Pathology

Growers should apply a series of protectant fungicide sprays to new shoots to protect them from several diseases, beginning shortly after bud break. Maryland growers may refer to Extension Fact Sheet 848, Guidelines for Developing an Effective Fungicide Spray Program for Wine Grapes in Maryland for specific management recommendations. [New England growers can refer to the New England Small Fruit Pest Management Guide]

½- to 1-inch Shoots

- **Phomopsis** cane and leaf spot is usually the earliest disease threat. Spores can germinate as soon as temperatures are above freezing, so include protection in your first shoot spray. Cool, rainy weather favors spore production and shoot and leaf infection.
- **Powdery mildew** (PM). In Maryland, the ascospores that cause primary infections on shoots and rachises may be present as soon as bud break, so include a PM fungicide in your first shoot spray. Temperatures above 59° F, high humidity, and overcast skies favor infection. Protecting new growth from primary infections on shoots and rachises is the key to preventing later fruit infections.
- **Black rot** (BR). You may want to include BR protection in the first spray in warmer parts of the state, particularly in wet weather and in vineyards that had high levels of disease last year. Leaf infections may occur at temperatures as low as 50° F if leaves remain wet for 24 hours or longer. The warmer the temperature, the shorter the leaf wetness period needed for infection.

3- to 5-inch Shoots

- Continue protection for **Phomopsis** and **PM**. Begin protection for **BR** if you didn't do so at the first shoot spray. Preventing leaf lesions reduces BR inoculum for fruit infections.
- Make your second shoot spray 7–10 days after the first spray. Use a 7-day interval if you are applying sulfur for PM, if 2 or more inches of rain have fallen since the first spray, or if shoots are growing rapidly. Fungicides must be re-applied as new growth occurs, as they do not move systemically to protect it.
- If rain is predicted between 7 and 10 days after the first spray, make the second spray before the rain. To be effective, protectant fungicides must be on the shoots and leaves before spores arrive.

6- to 10-inch Shoots

- Continue protection for **Phomopsis**, **PM**, and **BR**. Make your third spray 7–10 days after the second spray. See the note on intervals under the previous spray.
- If you are using a fungicide that is at high or medium risk of resistance development, remember to rotate to a fungicide with a different mode of action after each spray. Limit total applications of these fungicides to no more than 2 per season. See Table 2 of Fact Sheet 848 [or page 101 of New England Small Fruit Guide] for more information on fungicide classes and resistance risks.
- Protection against **downy mildew** (DM) may be warranted in warm, wet years once 5 or 6 leaves have emerged on the shoot, though generally no earlier than mid-May. If you are using mancozeb or captan for Phomopsis and BR, they will protect shoots against DM as well.

12- to 17-inch Shoots

- If you have been spraying at 10-day intervals and your vines are approaching bloom, make sure you include DM protection in this spray. Add a fungicide for **Botrytis** blight for Botrytis-prone varieties or if the weather is consistently wet.
- If you have been spraying at 7-day intervals, make one more shoot spray for Phomopsis, PM, and BR. Make sure to include DM protection in this spray.
- If you have been using paraffinic oil (JMS Stylet-Oil or Pure-Spray) for PM, switch to another fungicide after the last shoot spray. Later in the season, oil can slow growth and retard fruit ripening.
- Remember to increase spray volume as the canopy fills out to ensure thorough coverage.

(***Source**: Maryland Timely Viticulture, Early April 2010*)

Weed Management

Herbicide Options During Vineyard Establishment
Jodi Creasap Gee and Rick Dunst, Lake Erie Regional Grape Program

Herbicide options that can be used in the establishment years of a vineyard are limited, and many of them are limited in the spectrum of weeds they control. An "*" indicates the material is a restricted use pesticide and can only be purchased and used by Certified Pesticide Applicators. Please see the New York State Department of Conservation, the Pennsylvania Department of Environmental Protection, or your own state's department of environmental protection website for more information on becoming a certified applicator. Also, be sure to note that some chemicals are not registered for use in specific New York Counties, or New York State. ALWAYS CHECK THE LABEL.

Pre-Emergence Herbicide Options During Vineyard Establishment
(trade name followed by the active ingredient)

Surflan A.S.®, Oryzalin A.S. ® (oryzalin). Oryzalin is a relatively safe herbicide to use on newly planted vines. The only restriction is that the soil should be settled around newly planted vines prior to application. Contact with grapevine shoots and leaves is not prohibited, and current observations indicate that this is a safe use of the product. Some broadleaf weed species such as common ragweed are not controlled with oryzalin products. If ragweed pressure is anticipated, one method of controlling it is to plant the vineyard, allow the ragweed to germinate, control it with cultivation (using a fixed blade or rotary hoe), and then apply the herbicide over the top of actively growing vines. Obviously, one should avoid tank mixing with other herbicides that might damage contacted foliage should be avoided.

Prowl H20®, Prowl 3.3 EC®, Pendimax 3.3 EC® (pendimethalin). Pendimethalin is related chemically to oryzalin and controls a similar spectrum of weeds. Unlike oryzalin products, pendimethalin products need to be applied when the vines are dormant.

Devrinol® (napropamide). Napropamide is not chemically related to oryzalin or pendimethalin, but it controls a similar spectrum of weeds. The active ingredient is degraded by exposure to sunlight; applications should be made when sufficient precipitation for incorporation into the soil is expected soon after application.

***Gallery® (isoxaben).** Isoxaben selectively controls annual broadleaf weeds with no grass control anticipated. It is a potential tank-mix partner with oryzalin, pendimethalin, or napropamide to provide more broad-spectrum weed control. The soil needs to be settled to avoid vine injury. Do not apply within one year of harvesting fruit.*Gallery® is not registered in New York State.

***Snapshot® (isoxaben plus trifluralin).** Snapshot® is a pre-mix that provides broad spectrum annual weed control. Do not apply within one year of harvesting fruit. *Snapshot® is not registered in New York State.

Matrix® (rimsulfuron). Rimsulfuron provides relatively short-term control (less than 60 days, in our experience) of annual grasses and broadleaf weeds. It might be an option as a tank-mix partner with oryzalin, pendimethalin, or napropamide to provide broad-spectrum weed control.

Chateau® (flumioxazin). Flumioxazin is a broad-spectrum herbicide that controls most annual grass and broadleaf weed species. It is unrelated to other herbicides used in grapes and is a valuable resistance management tool for use in vineyards when used in a rotational program with other herbicides. There are some restrictions that apply to flumioxazin use in vineyards that are less than 3 years old. Damage to emerging buds and shoots can occur from contact with spray, mist, or splashing

from the soil surface. Newly planted vines must be protected from herbicide contact by non-porous wraps, grow tubes, or waxed containers. Additionally, own-rooted varieties such as 'Concord' are susceptible to vine stunting if heavy rainfall occurs soon after application, even when protected with grow tubes. The label states that new plantings of own-rooted varieties should be planted so that all roots are a minimum of 8 inches below the soil surface to be treated. This may require hilling around newly planted vines so that the settled depth of the hill will be 4 to 5 inches above the vineyard floor. Additional restrictions apply to application rate in sandy soils. Consult the label for more information.

Solicam® (norflurazon). Used at the appropriate rate which is based on soil type (consult the label), norflurazon can provide season-long control of annual grasses and certain broadleaf weeds. A tank mix with an herbicide that provides broad-spectrum control of annual broadleaf weeds may be needed for broad-spectrum weed control. Several inches of rainfall are needed to move the herbicide into the soil, so fall or early spring applications are suggested. Vines must be established for two years prior to norflurazon application. Solicam® – norflurazon – is not registered for use in Nassau and Suffolk counties in New York.

Goal®, GoalTender® (oxyfluorfen). Oxyfluorfen primarily controls annual broadleaf weeds; a tank mix with an herbicide that controls annual grasses is generally suggested. Oxyfluorfen must be applied prior to bud swell, as later applications may result in significant vine injury by damaging emerging buds. Do not apply to vines less than 3 years old unless vines are on a trellis at least 3 feet above the soil surface.

Post-Emergence Herbicide Options During Vineyard Establishment
(trade name followed by the active ingredient)

Roundup®, Touchdown®, and many generic products (glyphosate). Glyphosate is a systemic herbicide that controls most annual and perennial weeds. Consult the label for the best rate and timing depending on the weed species present. Vine damage can result from application to green grape tissue. Applications should only be made when vines are dormant, when shielded equipment is used, or when vines are protected with non-permeable grow tubes.

Poast® (sethoxydim), Fusilade® (fluazifop-P-butyl), Select® (clethodim). These are related herbicides that provide systemic control or suppression of annual and perennial grasses only. Applications must be made to young, actively growing grasses (consult the label for recommended rates and growth stages). Sethoxydim can be used on vines of any age, but not within 50 days of harvest, and it can be used for over-the-top applications. Fluazifop and clethodim can only be used on non-bearing vines while avoiding contact with grapevine foliage.

Gramoxone Inteon® (paraquat). Paraquat is a restricted use pesticide that provides burn down of contacted foliage. Repeat applications are needed to control or suppress perennial weeds. It can be used for chemical suckering where desired. Avoid contact of spray or mist with young vines.

Rely®* (glufosinate). Glufosinate is primarily a contact herbicide that provides burn down of contacted foliage. Repeat applications are needed to control or suppress perennial weeds and it can be used for chemical suckering where desired. Avoid contact with foliage and green bark on young vines. *Rely® is not registered for use in Nassau and Suffolk counties in New York.
(***Source***: *Lake Erie Regional Grape Program pages, Viticulture 101*)

Weather data: (Source: UMass Landscape IPM Message #6, April 8, 2011)

Region/Location	2011 Growing Degree Days (base 50° from March 1, 2011)	
	2-week gain	total accumulation for 2011

Cape Cod	5	14
Southeast MA	n/a	n/a
East MA	7	14.5
Metro West MA	0	0
Central MA	0	0
Pioneer Valley MA	0	0
Berkshires MA	0	0

Additional Weather Data is available form the following sites:

- UMass Cold Spring Orchard (Belchertown MA), Tougas Family Farm (Northboro MA), and Clarkdale Fruit Farm (Deerfield MA) at http://www.umass.edu/fruitadvisor/hrcweather/index.html
- University of Vermont Weather Data from several sites around the state at http://pss.uvm.edu/grape/2010DDAccumulationGrape.html
- New Hampshire Growing Degree Days at http://extension.unh.edu/Agric/GDDays/GDDays.htm
- Connecticut Disease Risk Model Results at http://www.hort.uconn.edu/ipm/
- Network for Environment and Weather Applications program run by the Cornell IPM team at http://newa.cornell.edu/. This will include the ability to run disease and insect development models for a wider area. Stay tuned.

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!!

This message is compiled by Sonia Schloemann from information collected by:
Arthur Tuttle and students from the University of Massachusetts
and Frank Ferandino 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

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NORTHEAST SARE Sustainable Agriculture Research & Education

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