The UNIVERSITY of VERMONT EXTENSION
Cold Climate Grape Production

Cold Climate Grape IPM News

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Disease Management

July is when you can see the results of your **Black Rot (BR)** management program — you do not want to see the following **BR** symptoms in your vineyard. These pictures were taken last week in a non-sprayed vineyard in Vermont. This is what can happen if the disease is not managed. Note that infections that occurred during all the rainy weather we have had in July may not be visible yet. Although the overwintering spores are depleted by this time of the growing season, a new crop of spores are produced from infected tissue about 2-3 weeks

Severe **BR** infection of leaves, petioles, rachises, and fruit.

Early **BR** development on fruit

Pycnidia (black "balls") in fruit which will release additional spores.

after infection has occurred. The "good" news is that the fruit become progressively less susceptible to infection and are considered highly resistant to further infection about 5-8 weeks after bloom, depending on the variety and year. If **BR** symptoms are present, protecting the fruit through the end of July to early August is advisable. Table 3.2.2 in the **2007 New York and Pennsylvania Pest Management Guidelines** lists fungicides that are effective against **BR**. Note that the Mancozeb fungicides have a pre-harvest interval (PHI) of 66 days which means you cannot apply these materials if you plan on harvesting the fruit within 66 days from the last date of application.

Fungicide selection at this time of year also depends on what other diseases need to be managed in your vineyard. Fruit are becoming more resistant to **Powdery Mildew (PM)** but new foliage remains highly susceptible to infection throughout the season. I did not observe any powdery mildew last week and thus, could not take any pictures. However, note the picture below which was taken last year — the leaf was in the shaded part of the canopy. **PM** is inhibited by sunlight. With this disease and others, canopy management will have an impact on disease development. Opening up the canopy not only lets the sunlight in, it also allows better air movement which lowers humidity and allows for better drying of the tissue and fungicide penetration. Any practice which improves air circulation and speeds drying within the canopy will also help to manage **Downy Mildew (DM)**. Again, I did not observe any lesions in my limited travels last week but I would not be surprised if **DM** were present on susceptible cultivars given the wet weather we have had. Pictures and details about these two diseases can be found at:

Powdery mildew - http://www.nysipm.cornell.edu/factsheets/grapes/diseases/grape_pm.pdf
Downy mildew - http://www.nysipm.cornell.edu/factsheets/grapes/diseases/downy_mildew.pdf

The following are possible fungicide considerations: **Sovran or Abound* or Pristine*** [BR, DM, PM] [These are 'big guns'; use if have very favorable weather for disease.] **OR Sulfur*** [PM] **+ Mancozeb [**BR, DM] [if outside 66 days to harvest and if under the maximum amount allowed per season per acre] **OR Sulfur***[PM] **+ Captan** [DM] [note captan has a restricted-entry interval of 72 – 96 hours] [*denotes potential phytotoxicity issues - check labels]

Powdery Mildew lesions on a leaf in the shaded, inner canopy of a vine.

As noted in the May 24th issue of this newsletter, fungicides with a high risk for the development of resistance should be used *very judiciously*. These include the sterol-inhibiting fungicides, the strobilurins, and the carboxins. Strobilurins should not be used more than twice in one growing season; sterol-inhibiting fungicides should be limited to a maximum of three applications. [Note: Pristine is composed of a strobilurin and a carboxin.] As I have said before, it would be good to save these materials for when you *really* need them, i.e., if a fungicide with a lower risk for fungicide resistance will do the job, consider using it.

Other Diseases Observed …

Botrytis berry rot that appeared to have infected fruit that had been cut by hail. (see cut berry in upper left of picture above)

Anthracnose-like lesion on fruit.

Anthracnose-like lesions on leaves

Arthropod Management

The following table appeared in the last issue of this newsletter. You can see that the latter part of July and the beginning of August is the time to monitor your vineyard to see if it has reached threshold levels for the **Grape Berry Moth (GBM)** and the **Eastern Grape Leafhopper (LH)**. This table is from a publication by Martinson, et al., entitled : "Risk Assessment of Grape Berry Moth and Guidelines for Management of the Eastern Grape Leafhopper" (http://www.nysaes.cornell.edu/pubs/fls/OCRPDF/138a.pdf).

GBMrisk category	Recommended Sampling Times and Treatment Thresholds				Recommended Time to Spray[2]	
	Grape Berry Moth		Eastern Grape Leaf hopper[1]		Grape Berry Moth	Eastern Grape Leafhopper
	Sampling	Threshold[1]	Sampling	Threshold		
High risk	•4th week of August	•15% damaged clusters	•4th week of August	^10 per leaf	•Ten days post bloom •Early August • BOS Late August	BOS Late August
Intermediate risk	•3rd week of July	6% damaged clusters	•3rd week of July •4th week of August	•5 per leaf •10 per leaf	•10 days post-bloom •BOS Early August	•BOS Early August •BOS late August
Low risk	•3rd week of July	•6% damaged clusters	•10 days post-bloom •3rd week of July •4th week of August	•Stippling + adults •5 per leaf • 10 per leaf	•BOS Early August	•BOS 10 days post-bloom •BOS Early August •BOS Late August

1 An insecticide treatment is recommended if damage levels exceed the stated threshold. Consult Cornell Pest Manageme Recommendations for selection of appropriate insecticide.

2 BOS = Based On Sampling. BOS sprays are those made only when the results of sampling confirm that damage exceeds t stated threshold. Sampling often will demonstrate that a BOS treatment is not needed.

Details on how to monitor your vineyard are in the original publication and appeared in the June 22 issue of this newsletter.

The following are pictures taken last week in Vermont vineyards of grape berry moth damage to the fruit and leafhopper stippling damage.

GBM larval damage to fruit. Notice white webbing and entrance hole.

Leafhopper feeding damage (stippling)

Please see references listed below for pictures of insects.

More information on the **GBM** and **LH** can be found at:

Grape Berry Moth: http://www.nysipm.cornell.edu/factsheets/grapes/pests/gbm/gbm.pdf

Grape Leafhopper: http://www.nysipm.cornell.edu/factsheets/grapes/pests/glh/glh.pdf

Details on **insecticide options** can be found in the

2007 New York and Pennsylvania Pest Management Guidelines

Other Insect Observed: I saw the worst case that I have ever seen of a Japanese Beetle infestation last week — the infested vines were actually *buzzing* there were so many beetles and if you slightly shook the vines the beetles arose in a cloud of metallic green and brown bodies. It was quite impressive …. Suffice to say, be on the alert for this insect.

Registration Material for the August 29 Workshop Almost Finalized ...

A **Grape Workshop and Vineyard Tour** is being planned for **Wednesday, August 29**. The Workshop will begin in the morning at the University of Vermont Horticultural Research Center (HRC) with classroom presentations and a tour of the small vineyard that was planted this spring at the HRC. We will have a catered lunch at the HRC and then head to Lincoln Peak Vineyard in New Haven to tour the vineyard and continue discussions. **Dr. Paul Domoto** of **Iowa State University** is the featured guest speaker. Dr. Domoto, a viticulturalist, has been conducting research on many of the cultivars being planted in Vermont and will be sharing his knowledge and insights with us. The Workshop and Tour are being sponsored by the **University of Vermont**, the **University of New Hampshire Extension System**, an **EPA Pesticide Environmental Stewardship Grant** and by the **USDA Risk Management Agency**.

Registration material should be available within the next few days and will be sent out.

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