Grape IPM Update

Lorraine P. Berkett
June 27, 2008

Cluster Development - Varied based on variety, ranging from bloom to buckshot berries


Riesling in Bloom


La Crescent berries

Phenology ratings of grapes planted at the UVM Hort. Res. Center are at:
http://pss.uvm.edu/grape/2008UVMphenology.html

Disease Management-- We are still in a critical period!

Just a reminder that the **First Post-Bloom Spray** is very important for the management of **Phomopsis, Black Rot, Powdery Mildew** and **Downy Mildew**. The wet weather we have had and are predicted to have during the next 5-7 days is very favorable for disease development and also impacts the fungicide residue on the vines. Downpours can wash off protective residues on the surface of the vines leaving the foliage and fruit vulnerable to infection. This is not a year where spray intervals should be stretched out. The following are pictures taken on Wednesday, June 25, when there was a break in the weather and I was able to get out to some vineyards. The most prevalent disease symptoms observed was Black Rot lesions on non-sprayed Frontenac.


Severe Black Rot infection of leaves. Source of infection are spores from overwintered, infected mummies.

Close-up of lesion showing the development of pycnidia (black, round structures) within the lesion in which spores will be produced that will be the source of further infection during the summer.

The **Second Post-Bloom Spray** (10-14 days after First Post-Bloom Spray) is also important for management of Black Rot, particularly when there are wet conditions and any lesions are present. The fruit is very susceptible to infection during the few weeks after bloom. Remember: It takes about 2 weeks from when leaves are infected until lesions appear and it can take 3 or more weeks for the berries to show signs of infection. A nice benefit of using Rally or Elite (sterol-inhibiting (SI) fungicides) in combination with mancozeb at this time in the growing season is that you get "reach-back" (post-infection activity estimated up to 10 days) from the SI and "forward" (surface protection) from the mancozeb product against Black Rot. Given the downpours and the possibility of wash-off of surface protective residues, applying a material that will have "reach-back" activity against Black Rot infections that might have occurred when surface residues were minimal should be a serious consideration this year.

The fungicides chosen for the **Second Post-Bloom Spray** should also have activity against **Powdery Mildew, Downy Mildew, and Phomopsis** (if there is a history of Phomopsis in the vineyard). More information about various fungicide options, rates, and special considerations can be found in the **2008 New York and Pennsylvania Pest Management Guidelines for Grapes** which is on the web at: http://ipmguidelines.org/grapes/ . Table 3.2.2 lists the spectrum of

activity of the various fungicides and rates their effectiveness; it can be found at the end of Chapter 3: http://ipmguidelines.org/grapes/content/CH03/default.asp

Other Diseases Observed this Week:

Angular Leaf Scorch -- observed on Marquette vines. This disease is seen sporadically and usually when there are extended periods of wet weather in the spring -- so it is not surprising to see symptoms appearing this year. Infections probably occurred during the first week in June since it takes about 3-4 weeks for symptoms to develop. Fungicides (i.e., mancozebs) applied to manage Phomopsis, Black Rot and Downy Mildew through fruit set should aid in managing this disease. Please see the following for more details about the disease:
http://www.nysipm.cornell.edu/factsheets/grapes/diseases/leaf_scorch.pdf


Angular Leaf Scorch

Phomopsis Leaf Spots - Inoculum for infection comes from dead canes and pruning stubs in the vines. Stems and rachises can also become infected. Fruit are very susceptible to direct infection from bloom through pea-sized berries. Disease is worse in years with extended periods of rain and wetness. Infected berries remain symptomless until late summer or preharvest. At that time, they turn brown and become covered with black, pimple-like fruiting bodies. More details about this disease can be found at: http://www.nysipm.cornell.edu/factsheets/grapes/diseases/phomopsis.pdf


Phomopsis leaf spots

Insect Management

The **First Post-Bloom Spray** is an effective time to manage **Phylloxera (leaf form), Grape Berry Moth** (in high risk vineyards), and **Leafhoppers.** Below are pictures of Phylloxera galls and Leafhopper damage and nymphs taken on Wednesday, June 25, in Vermont vineyards.

Phylloxera galls on young foliage.

Stippling caused by Leafhopper feeding (left). In picture on right, four Leafhopper nymphs (immature leafhoppers) can be seen to the left of the mid-vein.

There are no established action thresholds for **Phylloxera (leaf form)** and one has to make a judgment based on past experience of how susceptible various varieties are to infestation and how vigorous the vines are (i.e., how much reduction in photosynthetic area the vines can tolerate).

Regarding **Leafhoppers**, if stippling (whitish dots where cell contents have been remove by feeding) caused by leafhoppers is easily found in the vineyard and nymphs are present, management is advised. Information about the leafhoppers that are found on grapes can be found at: http://www.nysipm.cornell.edu/factsheets/grapes/pests/glh/glh.pdf.

A **risk assessment method** for **Grape Berry Moth (GMB)** and **guidelines** for management of the **Eastern Grape Leafhopper** were developed by T. E. Martinson and others and are outlined in the publication at: http://www.nysaes.cornell.edu/pubs/fls/OCRPDF/138a.pdf. This publication

also provides a method to classify whether your vineyard is at low, intermediate, or high risk of GBM infestation and gives a sampling protocol to determine if the GBM is over threshold at different times in the growing season. If your vineyard is considered at high risk, an insecticide is advised at ten days post-bloom.

Table 4.2.1 in the **2008 New York and Pennsylvania Pest Management Guidelines for Grapes** lists various insecticides and rates their effectiveness against these insects. The table can be found at the end of Chapter 4:
http://ipmguidelines.org/grapes/content/CH04/default.asp#_Toc195339278

Please note that effectiveness is not the only factor to consider in choosing an insecticide. The relative toxicity to humans (as indicated by the Signal words CAUTION, WARNING, DANGER) and their toxicity to the beneficial organisms in the vineyard that assist in biological control (an example of a harsh material on beneficials is Danitol) are among other factors.

Biological Control in Action --

Life can be violent in the vineyard !! …. The following picture was taken of a spider that was thrashing about an insect it had caught in its jaws to the amusement of an audience of fruit flies. It was quite exciting to see !!

Where trade names or commercial products are used for identification, no discrimination is intended and no endorsement is implied. Always read the label before using any pesticide. **The label is the legal document for the product use. Disregard any information in this newsletter if it is in conflict with the label.**