The University of Vermont Extension

Cold Climate Grape Production

Grape IPM Update

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Cluster Development -

We observed first bloom this past Monday, June 9, on four of the wine grape varieties (Frontenac, St. Croix, LaCrescent, Marquette) and on one of the table grape varieties (Beta) that are planted at the UVM Hort. Res. Center. (http://pss.uvm.edu/grape/2008UVMphenology.html). Cluster development will vary around the state; the picture below was taken today in a more southern vineyard where some of the Frontenacs were in full bloom.

Disease Management-- We are in a critical period!

As mentioned in previous IPM Updates and Newsletters, the **Immediate Prebloom to Early Bloom** period is a very important time to manage **Phomopsis, Black Rot, Powdery Mildew** and **Downy Mildew**. And -- given the prediction of an extended period of rainy weather starting this weekend and extending into the middle of the coming week -- it is very important to make sure your vines are protected before the rainy period begins.

Again, there are many options in terms of fungicides that can be used at this time. Since it is such a critical disease management time, one should think about the "big guns" -- effective fungicides but 'high risk' fungicides in terms of fungicide resistance (see information below). One such option would be using the combination of Nova/Rally or Elite plus mancozeb. The Nova/Rally and Elite

would be effective against Powdery Mildew and Black Rot. Mancozeb would be effective against Phomopsis, Black Rot, and Downy Mildew. [Note: Where resistance has developed in the Powdery Mildew population to the sterol-inhibiting (SI) fungicides such as Nova/Rally and Elite, these SI fungicides will not manage this disease.] Quintec is a consideration in place of the SI fungicide here for Powdery Mildew management if resistance to the SI fungicides has developed.

Also critical for the diseases listed above is the **First Post-Bloom Spray** which is applied about 10-14 days after the Immediate Prebloom to Early Bloom spray. The same combination used in the Immediate Prebloom to Early Bloom spray is an option again.

More information about rates and special considerations for each fungicide 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/

Have You Developed a Fungicide Resistance Management Program ?

Fungicide resistance has developed in the powdery mildew and downy mildew fungal populations in many grape growing regions to the point were the use of sterol inhibiting fungicides or the strobilurin fungicides no longer provide acceptable management of one or both of these diseases.

It is not a question of 'if' fungicide resistance will develop in Vermont but 'when'.

Let us learn from the experience of other grape regions and use the fungicides that have a high risk for resistance in ways that will extend their 'effective life' as long into the future as possible.

The classes of fungicides that are considered to have a high risk for resistance development include the sterol-inhibiting fungicides such as Rally, Elite, Procure, Rubigan, Vintage; strobilurin fungicides such as Sovran, Flint, Abound; anilinopyriidine fungicides such as Scala Vangard; phenylamide fungicides which include Ridomil products; and dicarboximide fungicides such as Roval. In general, if resistance develops in a pathogen population to one of the fungicides within the fungicide class, the other fungicides within that class will also not be effective.

There are some basic rules for extending the 'effective life' of high risk fungicides. These include:

(1) Limit their use. Check the label for the maximum times they can be applied and try to use less than that number. For example, sterol-inhibiting fungicides should only be used a maximum of 3 times per year; strobilurin fungicides should be applied no more than 2 times a year. Note that a potential "benchmark" to keep in mind is that after 15 to 20 applications of a strobilurin fungicide, powdery mildew resistance can be expected. Downy mildew resistance is also a risk with repeated use of strobilurins. Use high risk fungicides when you get the biggest "bang for the buck" at critical disease management times and when a lower risk fungicide will not do the job.

(2) Use lower risk fungicides where appropriate. If using high risk fungicides, alternate with those that have lower risk of fungicide resistance. For example, sulfur is low risk fungicide for powdery mildew management on sulfur-tolerant varieties; mancozeb and captan are low risk fungicides effective against downy mildew. Note: Phosphorous acid products (Phostrol, Prophyt) are considered to have a moderate risk for downy mildew resistance development.

(3) Apply at recommended rates and spray intervals.

(4) Make sure you obtain good coverage when you spray.

Note: There are some fungicide products that are actually a combination of two fungicides. If a sterol-inhibiting fungicide or strobilurin is in the mix, they should be counted in the total number allowed per year per fungicide class. For example, Adament includes both a sterol inhibitor and a strobilurin, each of which would be counted toward the 3 application and 2 application limit per year, respectively. Pristine includes a strobilurin which would count in the 2 application limit recommendation.

Non-Chemical Ways to Reduce Disease Potential

There are a number of important cultural practices that also will lower disease potential. These include practices such as pruning, shoot thinning, leaf pulling, keeping grass mowed, etc., that increase air flow and/or light penetration in the canopy. An open canopy also will allow the penetration of spray material. These practices should not be neglected for both important cultural and disease management reasons.

Insect Management

Please refer to the May 29 issue for information on **Rose Chafer** and **Phylloxera** (leaf form) management at the Immediate Prebloom period (http://pss.uvm.edu/grape/newsletters).

The following pictures were taken of insect damage observed this week in vineyard visits:


The damaged in the pictures above were caused by the **Grape Cane Girdler.** Cultural management of this insect involves cutting off and burning the infested part of the cane before adults emerge in late summer. Information about this insect can be found at:
http://www.nysipm.cornell.edu/factsheets/grapes/pests/gcg/gcg.pdf

The pictures below of foliar and cluster damage was caused by the **Grape Flea Beetle**. The larvae of this insect were present and can be seen just above my thumb in the third picture. Information about this insect can be found at: http://www.nysipm.cornell.edu/factsheets/grapes/pests/gfb/gfb.pdf

Pesticide Safety

Pesticide safety should always be the utmost in your mind whether you are using synthetic or organic pesticides. If you do not have your pesticide applicator license, you should get it. The link to the Vermont Pesticide Education and Safety Program is: http://pss.uvm.edu/pesp/ . The following are links to some fact sheets that contain important information to help keep you, your family, your employees and others safe:

Understanding the Pesticide Label
http://extension.missouri.edu/explorepdf/agguides/agengin/g01911.pdf

Pesticide Applicator Safety
http://extension.missouri.edu/explorepdf/agguides/agengin/g01916.pdf

Personal Protective Equipment for Working with Pesticides
http://extension.missouri.edu/explorepdf/agguides/agengin/g01917.pdf

Tips for Laundering Pesticide-Contaminated Clothing
http://www.human.cornell.edu/che/fsad/outreach/programs/personal-pesticide-protection/educational-resources/laundering-pesticide-clothing.cfm

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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.**