

Vine news Viticulture Information News, Week of 22 June 2015 Columbia, MO



Hail Damaged Vines and Response

On Sunday June 21 some areas received some slicing hail stones that may have caused damage to vines and developing grape clusters. It is important to take some time scouting this week to determine if your grape crop was damaged. If your grape crop was damaged be sure to document the damage and consider reporting the damage to your proper crop insurance authority. Also when scouting be on the look-out for botrytis.

Botrytis is a fungal disease that can colonize both living and dead tissue. Damaged tissue from hail coupled with extended wetting periods and high humidity increase the risk that botrytis may infect the grape crop. Often we think of botrytis only during two periods during the growing season, those being bloom and veraison through harvest. However, botrytis is a threat all season, especially when crop injury occurs from hail or birds.

Botrytis is a threat to tight clustered grape cultivars that includes both Seyval and Vignoles. If your vineyard experienced botrytis last season there is the potential that the vineyard has a heavy spore load of botrytis. Keep scouting vineyards that were hail damaged and pay particular attention to tight clustered cultivars.

Besides botrytis infection be on the lookout for crown gall in hail damaged vines. Infection by crown gall is initiated at sites that have been injured. These wound sites release both sugars and phenolics that can stimulate the infection process. Pay particular attention to new trunks and cordons that are still green and may have been damaged by hail. If hail damage is severe on new trunks and cordons and the grape cultivar is highly susceptible to crown gall consider replacement parts.

When scouting for hail damage pay close attention to the location of damage on the vines. Often hail storms sweep across from the southwest in a north-eastern direction. Vines planted in north/south rows typically have more damage on the west side. Whereas vines planted in east/west rows will have more damage on the south side.



A young cordon forming callus tissue after being damaged by hail the previous season. Wounds from hail provide an entry for Crown gall. Continue to scout and monitor hail damaged vines.

Once hail damaged has occurred continue monitoring the damage throughout the season. Scout and monitor for botrytis and crown gall. If botrytis becomes a problem use a fungicide to manage the disease (See page 20 of the 2015 Small Fruit and Grape Spray Guide. In severely hail damaged vineyards with crown gall sensitive cultivars be on the look-out for crown gall development.

Botrytis The Opportunistic Fungus

Although this is traditionally not the time we think of Botrytis bunch rot making an appearance, but when environmental conditions are conducive botrytis roars. The past and present holding weather patterns have predisposed the vines to greater susceptibility to botrytis. The high moisture and warm days have resulted in soft tender shoot growth. In addition the day and evening conditions with high humidity and still air have been ideal for botrytis development. All together these conditions have provided extended wet periods that are ideal for botrytis development.



Damage from Grape berry moth provides an entry for botrytis to enter the grape berries. With prolonged wet conditions and high humidity continue monitoring for botrytis infections.

Many of the fungicides used to protect against phomopsis, black rot, downy mildew, powdery mildew, and anthracnose are not effective in protecting against botrytis. The exception is Pristine, but again Pristine needs to be applied at higher rates to protect against botrytis. One of the best ways to protect against botrytis is to get the canopy opened up in the fruit zone by leaf removal. This reduces the humidity around the developing grape clusters, promotes faster cluster drying after a rain-fall or dew event, and allows better spray coverage.

Right now you should add botrytis to your scouting repertoire. When scouting focus not only on clusters but leaves within the canopy. Botrytis symptoms on leaves result in brown/reddish lesions and may or may not have the typical gray mold appearance. Pay close attention to tight-clustered cultivars such as Vignoles and Seyval.

Although the grape phenological stages right now are not conducive to botrytis, the past and current weather patterns should put you on alert.

Downy Mildew Cleanup:

The previous weather conditions and current weather conditions have resulted in difficulties getting fungicide cover sprays applied. If you are in this position, now more than ever, you have to scout on a daily basis and be prepared once you can get into the vineyard. Your concern should be focused on the five major diseases, black rot, phomopsis, anthracnose, powdery mildew, and downy mildew. However emphasis should be on downy mildew because it can spread through a vineyard very quickly once a primary infection has occurred.

Be prepared to clean-up a downy mildew infected vineyard by having fungicide products on hand. The phosphorous acid fungicides (Agri-Fos, Aliette, Legion, Phostrol, ProPhyt, Rampart, Topaz) will help you “burn out” downy mildew colonies. These products have limited protectant activity and should be followed up with either Pristine or Abound. Tank mixing either Pristine or Abound with Captan would provide both a rainfast systemic fungicide as well as a protectant and limit the potential of fungicide resistance development.



If vines have a lot of sporulating downy mildew colonies, do not be tempted to use Ridomil Gold MZ or Ridomil Gold Copper. The potential for selecting for fungicide resistant downy mildew increases as the number of active downy mildew colonies increase. Besides both of these products have a long pre-harvest-interval (PHI); Ridomil Gold MZ, 66 day PHI, and Ridomil Gold Copper, 42 day PHI.

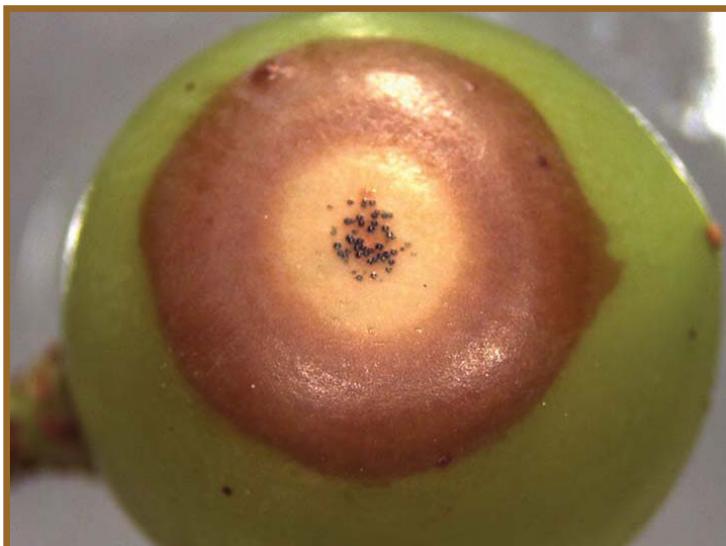
Be sure to read and follow the label of all pesticides. Pay close attention to the Phosphorous acid fungicide labels, especially crop use precautions and application instructions. Some products have the potential to burn if not used as stated on the label.

All labels can be [viewed here](#) by simply typing in the name of the product.

From the Mailbag: What growers are seeing in the vineyard.



Diffuse Downy mildew on the underside of a grape leaf (right) and downy mildew on a cluster (below).

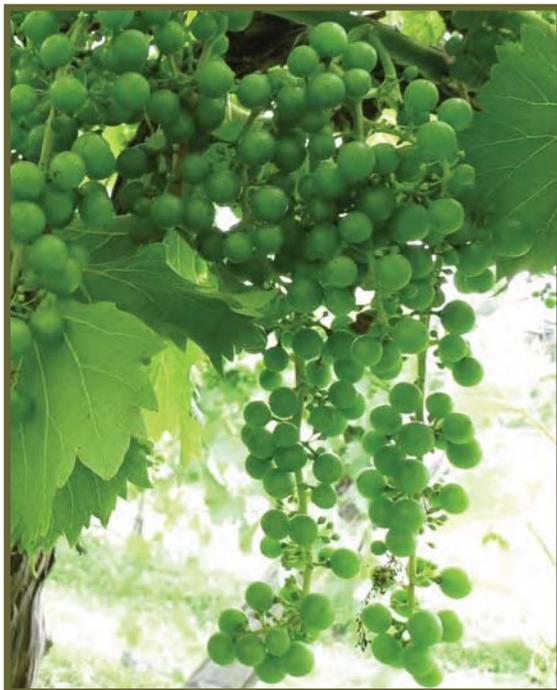


Black rot on a grape berry.
Photo credit: Marilyn Odneal

Downy mildew and Black rot.



Phenology from Gasconade County



Chambourcin June 22, 2015.
Gasconade County



Vignoles at bunch closure
on June 22, 2015. Gascon-
ade County



DriftWatch, a Tool for Missouri's Specialty Crop Farmers, Organic Farmers, Beekeepers and Pesticide Applicators

What crops are sensitive to pesticide drift?

Missouri has over 55,000 acres of **grapes, tomatoes, apples, vegetables, berries, nut trees, nursery stock, certified organic acreage and bees** valued at over \$95 million (2012 Ag Census, Mo.). Many of these specialty crops are sensitive to spray drift from herbicides and insecticide drift can affect pollinators. Pesticides that settle onto certified organic acreage can jeopardize certification for several years.

What is DriftWatch and who can use it?

DriftWatch is a voluntary on-line sensitive crop locator to help specialty crop farmers and pesticide applicators communicate more effectively. Many Midwestern states participate in DriftWatch or similar registries.

Farmers can use it to map locations of their specialty crops that are sensitive to drift. **Applicators** of pesticides (on crops, rights-of-way for railroads, roads and utility corridors, etc.) can access the aerial maps to locate sensitive crops so they can exercise extra caution to minimize the potential for damaging pesticide drift.

Participants must meet one of the following minimum requirements to list crops or beehives:

- Grow half an acre of specialty crops for sale or have certified organic crops (including pasture)
- Have beehives:
 - Commercial honey sales are not necessary
 - Multiple hive locations can be listed
 - New option: Hives can be designated as viewable only by registered applicators
- Grow half an acre of pollinator habitat, including areas for conservation of pollinators; select "other" category under crop type
- DriftWatch is for mapping commercial specialty crop locations, not for homeowner use.

How do I sign up?

Go to www.driftwatch.org and follow the prompts to create your account as a farmer, beekeeper or applicator. It's easy to enter your crop or beehive locations and map them out electronically; automatic notification to update your location(s) will be sent each year.

Applicators can receive alerts for new sites in their area.

Are sensitive crop signs available to mark sites?

"No Drift Zone" signs can be purchased by participants.

Who oversees Missouri's sites?

The Missouri Department of Agriculture maintains Missouri DriftWatch as a service to specialty crop farmers, beekeepers and applicators. If you have questions, need assistance mapping, or don't have computer access, please contact the Missouri DriftWatch data steward at the Missouri Department of Agriculture at 573.751.3505.



Cumulative Growing Degree Days for the Seven Grape Growing Regions of Missouri from April 1 to June 22, 2015.

Region	Location by County	Growing Degree Days ¹		
		2015	2014	30 Year Average
Augusta	St. Charles	1321	1279	1224
Hermann	Gasconade	1229	1187	1156
Ozark Highland	Phelps	1350	1315	1242
Ozark Mountain	Lawrence	1301	1293	1220
Southeast	Ste. Genevieve	1353	1332	1249
Central	Boone	1237	1184	1168
Western	Ray	1175	1207	1105

¹Growing degree days at base 50 from April 1 to June 22, 2015. Data compiled from Useful and Useable at <https://mygeohub.org/groups/u2u/tools>. Click on link below to determine growing degree days in your area.

To determine the number of growing degree days accumulated in your area since April 1, click this link [Search for GDD at your location using this tool](#).

Please scout your vineyards on a regularly scheduled basis in an effort to manage problem pests. This report contains information on scouting reports from specific locations and may not reflect pest problems in your vineyard. If you would like more information on IPM in grapes, please contact Dean Volenberg at 573-882-0476 or volenbergd@missouri.edu

Grape Berry Moth (GBM) Update

Egg laying of the second generation likely started in Cape Girardeau on June 11, Boone County on June 20th and Gentry County on June 23. You should start scouting clusters. Look for webbing and stings on the berries where larva entered a berry. In red berried cultivars look for early coloration of berries which is a symptom of a GBM infestation.

Many of you may be using a broad spectrum insecticide to control both Japanese beetles and GBM. If using a pyrethroid (Baythroid, Danitol, Capture, or Mustang Max) be sure to rotate to another chemical class of insecticide. Consider Sevin or Imidan which are in different chemical classes. Another good insecticide for GBM is Intrepid applied at the initiation of egg hatch.



Webbing and early coloration of red berried grape cultivars are signs of a Grape berry moth infestation.