

Vinews
Viticulture Information News, Week of 17 April 2017
Columbia, MO



Weather Outlook and what does it mean for grape disease management

The weather forecast over the next 5-days is calling for potentially heavy rainfall and above average temperatures for most of Missouri. The extended precipitation probability for next week also suggests the potential for above normal precipitation (Figure 1). Most of the state will likely experience a precipitation event with some areas predicted to receive in excess of 4-inches. The Southwest area of Missouri will receive the greatest amounts of precipitation. Temperatures will range from highs in the mid-70's to lows in the mid-50's. Precipitation events may result in extended leaf wetting periods. Leaf wetness coupled with forecast temperatures will be conducive for disease infection.

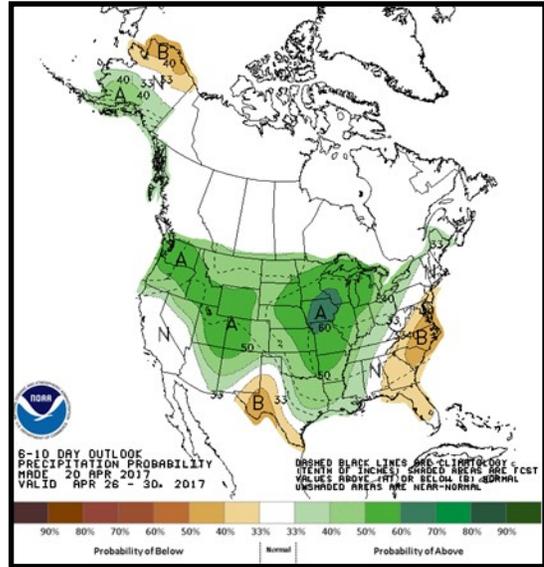


Figure 1. Probability forecast for precipitation suggests Missouri has a 60% probability of above

Rainfall amounts impact on protectant fungicides

Reminder on rainfall amounts and fungicide protection. Heavy rainfall events can reduce the amount of fungicide that remains on the grapevine foliage. Therefore, protectant fungicides may need to be reapplied after a heavy rainfall event. This is especially important if the last cover spray is nearing the end of the protection interval. As a general rule, recently applied protectant fungicides should be re-applied if two inches or more of rain fell. If the protectant fungicide is 7-days old or older and rainfall is 1-inch or more the protectant fungicide should be reapplied.

Fungal pest outlook and management

Early season fungal management targets two main threats: Black rot (*Guignardia bidwellii*) and Phomopsis cane and Leafspot (*Phomopsis viticola*). A protectant fungicide containing mancozeb will provide protection to both Black rot and phomopsis. Mancozeb will also control downy mildew and anthracnose. There are a number of fungicides that have mancozeb as the active ingredient.

Mancozeb is available with various formulations and trade names, for example; Manzate Pro-stick, Penncozeb 75DF, Dithane M45, Dithane F-45 Rainshield as well as others.

All mancozeb products have a 66 day pre-harvest interval (PHI)

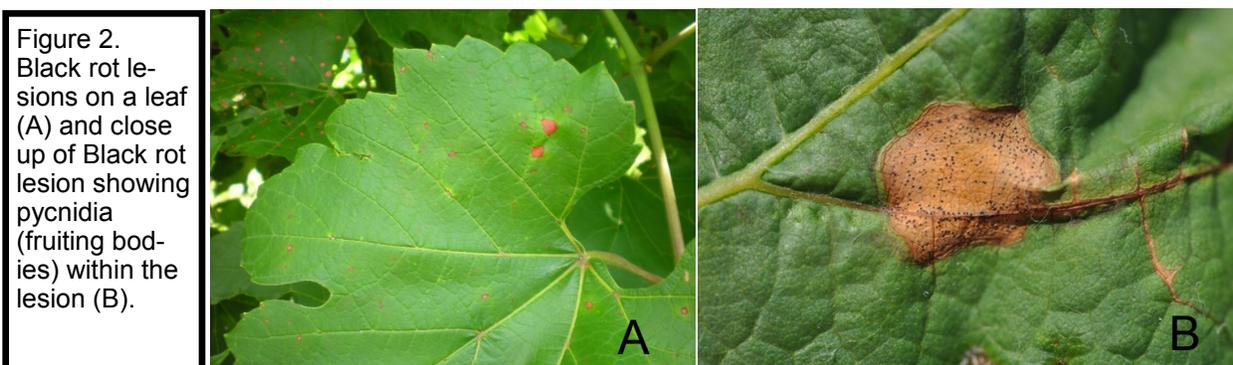
For those of you who missed the 2017 Show Me Grape and Wine Conference I want to share a quote that that Bruce Boredelon from Purdue University presented.

Disease and insect management is “a continuing challenge”, Martinson said. **“and something that gets missed is early season treatment”** – Tim Martinson Wines and Vines 2.23.2017

Bruce did an excellent job stressing early season management of phomopsis and black rot as well as other diseases. To sum it up – you have to start clean to finish the season clean. If you would like to view Bruce’s as well as other presentations from the [2017 Show Me Grape and Wine Conference and Symposium](#)

Something to think about. Every wonder why when viticulture specialists describe the symptoms of phomopsis cane and leafspot that they describe the early infections occurring on first to 3 to 4 basal nodes of the shoot? The first basal node is exposed at ½ to 1-inch shoots. Leaving that shoot unprotected results in the potential for initial infections. The new emerging shoots are in close proximity to where phomopsis overwinters – old diseased wood. All that is needed for infection to take place is a 6-hour wet period and temperatures between 60 to 68 °F. Yes it is true that phomopsis cane and leaf spot can infect most green tissue, but early season tissue is highly susceptible if left unprotected.

A few thoughts on Black rot management. Black rot needs leaf wetness in order to infect grape tissue. As temperatures increase the number of hours of leaf wetness decreases for infection to occur. At 80 °F only 6 hours of leaf wetness is needed, in comparison at 55 °F 12 hours of leaf wetness is needed for infection. With temperatures predicted in the mid-70’s the next few days, about 7 hours of leaf wetness is needed for infection to occur by Black rot. It is worth repeating, that your primary Black rot spore load comes from infected rachises and mummy berries not removed during dormant pruning. Once Black rot becomes established in the vineyard it becomes an uphill battle controlling the disease. Early disease management is a must for Black rot.



Herbicide drift and soybean acreage

In 2017, more than 2.5 million acres of soybeans that are resistant to glyphosate and the growth-regulating herbicide dicamba are expected to be planted in Missouri. These soybean acres likely will be treated with Xtendimax with Vapor Grip Technology herbicide. This is a low-volatile formulation of dicamba. However, as many of you know, grapevines are extremely sensitive to all growth regulating herbicides. Therefore if you have a soybean farmer nearby your vineyard, now would be the time to remind the farmer of your crop and the sensitivity of your grapevines to growth regulating herbicides.

Consider putting your vineyard(s) into the [FieldWatch](#) -Missouri Specialty Crop Site Registry. FieldWatch encompasses both specialty crops and apiaries and allows licensed pesticide applicators the opportunity to view where specialty crops and apiaries are located.

The label of Xtendimax with VaporGrip Technology states the following under 8.1 Spray Drift Management.

“Sensitive Areas: The applicator must survey the application site for neighboring sensitive areas prior to application. The applicator also should consult the sensitive crop registries for locating sensitive areas where available. “

Safeguard your vineyard(s) and get them registered.



Cupping and crinkled leaves and breaking of lateral shoots on a greenhouse grown Norton vine treated with 1/100 the recommended use rate of dicamba, 14 days after treatment. Leaf deformation (crumpled appearance) occurred 48 hours after treatment with 1/100 the use rate of dicamba.

Selected questions from grape growers

Question. Thoughts on when to apply Boron.

Answer. If petiole test results showed low Boron levels then there a couple of ways to correct the deficiency. Research suggests that a fall foliar application of 1 lb of actual Boron/acre (20.5% Solubor) after harvest results in correcting the deficiency. In addition, a fall application of boron (after harvest) reduces the potential of phytotoxicity. Since this window of time has now passed, the alternative is to apply 3 to 5 applications, each application containing of 0.2 lbs Boron/acre starting prior to bloom through bloom. Never apply a foliar application of Boron containing more than 0.5 lb of Boron per acre or phytotoxicity will likely occur.

Long-term management of Boron deficiency should involve soil testing followed by boron additions to the soil. A basic recommendation is 1 lb actual Boron/acre/year. Ideally soil applications should be applied in the fall to early winter. Fall and early winter rainfall events will result in moving the Boron into the soil. Care should be taken to never over apply Boron or phytotoxicity may result.

Reference

[Christensen, P., R.H. Beede, and W.L. Peacock. 2006. Fall foliar sprays prevent boron deficiency symptoms in grapes.](#)

Updates from the Grape and Wine Institute

Madeline Wimmer will be joining the Grape and Wine Institute on June 1, 2017 as a Research Specialist. Madeline will be responsible for managing the GWI experimental vineyards located in Columbia, New Franklin, and Mt. Vernon, MO. Currently, Madeline is completing her M.S. in the Department of Horticulture at the University of Wisconsin-Madison. Her research focused on different training systems of grapes as part of the Northern Grapes Project. We are looking forward to having Madeline join our team.

Announcements – Programs

[MGGA and MVA Joint Summer Field Day](#) – June 7, 2017 Crown Valley

Virus Vineyard Survey Participants Needed

Grape Virus Vineyard Survey

The University of Missouri Grape and Wine Institute is soliciting Missouri vineyard owners to participate in virus vineyard survey. All results from the survey would be confidential – meaning results would not be linked to an owner, vineyard name or physical location. Participants would be provided results for their vineyards.

Requirements to participate

- Vineyard must be half an acre or greater of a single cultivar (250 vines or greater)
- Vines must be bearing (3 years old or greater)
- Vineyard is for commercial wine grape production
- Owners need to provide: cultivar name, age of cultivar and rootstock name or own rooted

If you would like to participate, please email Dean Volenberg at volenbergd@missouri.edu

The following information

- First and last name
- Contact information: mailing address, phone number
- Approximate vineyard block size (acres) of each cultivar
- Location of vineyard (county) if different from mailing address
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Objectives of Survey

Determine the prevalence and types of grape viruses present in Missouri wine grape cultivars. Additionally, determine if nematode vectors as well as insect vectors are present in Missouri vineyards.

Background of grape viruses in Missouri

Past research by others has determined that a variety of grape viruses are present in Missouri. Grape leafroll associated virus has been found in Norton, St, Vincent, Seyval blanc, Vidal blanc, Vignoles, and Catawba. Two leafroll variants GLRaV-2 and GLRaV-3 but GLRaV-1 has not been confirmed in Missouri. Mealybugs are the vector of GLRaV-3 whereas soft scales are the vector of GLRaV-1. Grapevine fleck virus has also been confirmed in Vignoles, Vidal blanc and Norton. Two Nepoviruses, Tomato ringspot virus and Arabis mosaic virus that are vectored by the nematode *Xiphinema americanum* have also been confirmed. More recently (2011), Grapevine vein clearing virus was reported. In 2016, Red Blotch was confirmed present in Missouri. Although a number of viruses have been confirmed, the industry has no information on how prevalent these viruses are within a vineyard, a cultivar, or geographic location.

Impact

Prior to implementing any pest management strategy the causal agent(s) need to be identified. Most hybrid grapevines infected with viruses do not display apparent symptomology to the naked eye. Therefore the only way to be sure vines are infected with a virus is to test the vines. If viruses are determined to be present then management strategies could involve using nematode resistant rootstocks in the case of Nepoviruses, controlling mealybug or soft scale in the case of specific leafroll viruses, and if planting a vineyard block to use virus free plants.

Cumulative Growing Degree Days for the Seven Grape Growing Regions of Missouri from April 1 to April 17, 2017.

Region	Location by County	Growing Degree Days ¹		
		2017	2016	30 Year Average
Augusta	St. Charles	193	96	125
Hermann	Gasconade	187	106	126
Ozark Highland	Phelps	202	123	132
Ozark Mountain	Lawrence	195	136	144
Southeast	Ste. Genevieve	201	119	136
Central	Boone	183	100	119
Western	Ray	152	110	112

¹Growing degree days at base 50 from April 1 to April 17, 2017. 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