

VineWS

Viticulture Information News, Week of 15 June 2020 Columbia, MO



Who are the vectors of Grapevine Leafroll Disease?

In 2017, we learned that Grapevine Leafroll virus-3 (GLRV-3) was one of the most prevalent viruses in a survey of vineyards throughout much of Missouri. Throughout most of the areas where grapevines are grown in the world, GLRV-3 is the most prevalent virus. Once the grapevine is infected with a virus, there is no cure. Interestingly, the cultivars of grapes grown in Missouri that are infected with GLRV-3 do not display symptomology. The only way to know if a grapevine is infected with GLRV-3 is to test some grapevine tissue. Testing is either done using PCR or ELISA to confirm the presence or absence of GLRV-3.

Grapevine viruses may come into a vineyard by planting infected planting material or be vectored by an insect or both. Most reputable grapevine suppliers are currently following protocol 2010, which provides virus-free planting stock. If you are planting a new block in the immediate future be sure to ask your vine supplier if the planting stock is virus free. No process is 100% effective in providing complete elimination of a virus. However, from the time of grapevine establishment through the lifetime of the vineyard your goal is to maintain virus free grapevines. To maintain virus free grapevines after the vineyard is planted involves controlling the insect vector(s) that transmit grapevine viruses. GLRV-3 and other strains of grapevine leafroll viruses are vectored by mealybugs (*Planococcus* spp.). Mealybugs are closely related to aphids, scale, and phylloxera. All these insects belong to the insect order Hemiptera (true bugs) having piercing, sucking mouthparts. In Missouri vineyards there has not been a survey to determine which mealybug species may be present or if mealybugs are present what grapevine viruses they may be harboring. This is likely to change with a recently hired USDA scientist, Jacob Corcoran.



Figure 1. The picture above represents what you will typically observe on the underside of grapevine bark if mealybugs are present in your vineyard. Photo credit: Ontario Ministry of Agriculture, Food and Rural Affairs. <http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2016/05hrt16a4.htm>

This week Jacob and I investigated a few vineyards in search of mealybugs. We were a little late with the first generation already hatched. However, we did find some adults and eggs. Enough material was collected to determine which mealybug specie(s) are present and also determine if these are harboring any grapevine viruses. In August when the next generation of mealybugs emerges we will be out again collecting. If you suspect or have observed mealybugs in your vineyard, please contact me and we will try to visit your vineyard in August. If you would like to determine if mealybugs are present in your vineyard, simply peel off some of the lower trunk bark and look for white cottony webbing. Both the white cottony webbing as well as adults can be visualized with the naked eye. If you have Vidal blanc, Chambourcin or Chardonnay that are of some age (10 years or older), you likely will find some mealybugs.

Managing mealybugs is difficult since the adults typically are feeding underneath the bark of the grapevine. However, there are systemic insecticides available for controlling mealybugs. These include Admire Pro and Movento. There are a number of other insecticides that will control mealybugs, see page 86 of the 2019-2020 Midwest Fruit Pest Management Guide. Prior to applying any insecticide, please identify that the insect pest is present and read and follow the label.

I will keep you updated as we learn more about the mealybug diversity in Missouri vineyards. As well as the grapevine viruses the mealybugs are harboring. Once again feel free to contact me if you have observed mealybugs in your vineyard.

Was your vineyard damaged by frost freeze events in April and May 2020.

If so take this survey to help inform the Missouri Wine and Grape Board.

[Survey Link](#)

Dear Missouri Winery owner:

A number of vineyards in Missouri were negatively impacted by frost/freeze events that occurred in April and May, 2020. As the Viticulture Extension Specialist for the University of Missouri Grape and Wine Institute, I am surveying wineries to quantify the impact of the frost/freeze events on sourcing grapes in 2020. Results of the survey will help the Missouri Wine and Grape Board determine if a declaration should be moved forward within state government allowing Missouri wineries the opportunity to source grapes or juice from outside of Missouri. The survey is completely confidential and your responses will not identify you. The survey will only take a couple of minutes to complete. Thanks for your time and support of the Missouri grape and wine industry.

First Report of Japanese Beetles for the 2020 Season

Today, June 5, 2020 Japanese beetles were reported in Central Northeast Missouri, specifically Boone County. The Japanese beetles were reported on the University of [Missouri Integrated Pest Management website](#). The trapping network has eleven sites around Missouri trapping for Japanese beetles. The Japanese beetles were caught in a pheromone trap. On the IPM website you can sign up to receive pest alerts. The trapping network is conducted by MU regional agronomy and horticulture Extension professionals.



With wet soil conditions throughout most of Missouri there will be an opportunity for the adults to easily emerge in the coming days and weeks. A natural enemy of Japanese beetles has been established in Missouri. A small wasp — *Tiphia vernalis* (Hymenoptera Tiphidae) that parasitizes the Japanese Beetle larva. Hopefully biocontrol agents will help reduce Japanese beetle populations.

Update for week of June 15, 2020

This week I observed no Japanese beetles in 6 different vineyard blocks I scouted in the New Haven and Hermann area on Thursday, June 18. Today, June 19th, I observed Japanese beetles in Mexico, MO. With rain predicted the next few days, adults will have an easier time emerging from the soil. Scout every day if possible. Research has shown that Japanese beetles are not attracted to other Japanese beetles. In other words Japanese beetles do not have congregation pheromones. In grapes it has been shown that Japanese beetles are attracted to grapevines that have been fed on by Japanese beetles. The injured grapevines put out signals that attract more Japanese beetles. The initial influx of beetles is typically always on border rows and so scout border rows first, especially border rows along wooded areas and grassy strips.

Cumulative Growing Degree Days (base 50) for the Seven Grape Growing Regions of Missouri from April 1 to June 13, 2020.

Region	Location by County	Growing Degree Days ¹		
		2020	2019	30 Year Average
Augusta	St. Charles	930	1020	1043
Hermann	Gasconade	875	1015	992
Ozark Highland	Phelps	937	1094	1081
Ozark Mountain	Lawrence	1125	1187	1201
Southeast	Ste. Genevieve	962	1075	1097
Central	Boone	943	1032	1000
Western	Ray	896	921	970

¹Growing degree days at base 50 from April 1 to June 13, 2020. Data compiled from Useful and Useable at <https://mrcc.illinois.edu/U2U/gdd/>. 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. [Use this tool.](#)

Weather Outlook for Weekend

- Scattered thunderstorms

Week of June 22

- Temperatures mid 80's below normal temperatures forecast
- Precipitation above normal forecast

June Highlights as of June 17

- Below normal precipitation for most of Missouri
- Temperatures are below average.

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 573-473-0374 (mobile) or volenbergd@missouri.edu