Spectrum of activity of fungicides and Phomopsis

Most fungicides only control a few species of fungal organisms. This simple statement makes it important to know what fungal organisms are being targeted at a specific time. Early season protectant sprays target two main fungal organisms – Black rot and Phomopsis cane and leaf spot. Phomopsis is favored during cool wet growing conditions. Phomopsis is a threat from bud-break to bloom. One of the most critical times to protect the grape crop from Phomopsis infections is at bloom. Although grape berries are susceptible to Phomopsis infections throughout the growing season the primary inoculum is depleted near the end of bloom.

All cover sprays from the period of ½-inch shoots up to berry set should contain a fungicide that has activity against Phomopsis. Only two fungicide products in the 2017 Midwest Fruit Pest Management Guide are rated as Excellent as effective against Phomopsis (see pages 95-96). Those fungicides are Captan and Mancozeb. There are other products that are effective against Phomopsis and there are many products that have no effectiveness in controlling Phomopsis.

Use the advice of Bruce Bordelon and apply lower rates of Mancozeb in lower volumes early in the growing season. Bruce recommends 1.5 pounds of Mancozeb in 25 gallons per acre early in the season. These early season sprays should be directed at the cordon that have minimal shoot growth. As the season progresses and the canopy grows increase the Mancozeb rates and the carrier volume to insure spray coverage. Reducing rates early in the season allows for additional applications without exceeding the seasonal limitations (24 to 25.6 lb acre per season). Also be aware of the 66 day pre-harvest interval for Mancozeb products.

Be vigilant in your awareness of rotating fungicides to be assured that early season cover sprays have activity against phomopsis. I know many growers who will apply the fungicides Rally or TebuStar as an early season cover. Neither of these products have activity against Phomopsis. In these instances, be sure to tank mix with Captan or Mancozeb to provide protection against Phomopsis.
Lastly, the forecast is for cooler than normal conditions over the next week. This may result in extended wetting periods and early morning dew. Protection against Phomopsis at bloom through berry set is critical. Once Phomopsis enters the berry, there are no chemical management options available.

Japanese beetle

There have been Japanese beetle trap captures reported in Missouri. These initial reports only included 3 beetles. Areas south of I-70 have accumulated enough growing degree days for adult beetle emergence. Japanese beetles emerge from the soil when approximately 950 GDD (base 50) have accumulated since January 1. Northern counties are still below 950 GDD. Another factor that drives Japanese beetle emergence is moist soils. The month of April 2017 had the greatest amount of precipitation recorded on record with approximately 10-inches. The month of May is normally the wettest month. Above normal temperatures in the first half of May coupled with moist soil conditions may result in Japanese beetles appearing early this year. The typical calendar indicator used by many when Japanese beetles will appear is Father’s Day which is June 18, 2017. Environmental conditions this year indicate that adult beetles may appear a couple weeks prior to father’s Day. Best to keep an eye out for the beetles over the next few weeks.

**Adult Japanese beetles may appear early this season as a result of accumulated growing degree days in the first part of May and moist soil conditions.**

Monitoring and Scouting

Adult beetles typically appear first on border rows adjacent to grass areas. The adult beetles also have a preference for feeding on certain cultivars. Typically Japanese beetles prefer *Vitis vinifera* and French hybrid cultivars followed by American cultivars or American cultivars with *Vitis labrusca*. 
Managing woody weedy plant species

When growing any woody perennial crop there will be the need at some time to control other woody plant species. Weedy woody species will appear in the vineyard rows. These woody weed species take hold often as the result in the absence of tillage. I have observed blackberries, raspberries, and mulberry trees all growing in vine rows. Most of these woody weedy plants can be controlled with non-selective herbicides labelled for use in vineyards. Similar to controlling herbaceous weeds, successful control starts with treating the woody weedy plants when they are small. Once woody weedy plants have become established and grown in size other management strategies are needed.

Large woody plant species can be controlled using cut stump treatments. The woody plant is cut as close to the soil surface and the stump is sprayed with a high concentration of a herbicide. The Roundup Weathermax label suggests using a 50 to 100% solution of Weathermax. The cut stumps should be treated immediately after cutting otherwise the herbicide solution will not be absorbed. I highly advise that all cut-stump treatments be performed during the dormant season. The cut-stump treatments are effective during the cold temperatures. If you are treating a number of stumps consider putting the herbicide in a small spray bottle with a dye indicator. The dye will help you observe which stumps have been treated.

Avoid Brush Killers for Woody Plant Management

Most herbicides labeled as brush killers contain either 2,4-D or dicamba. Grapes are very sensitive to extremely low doses of both 2,4-D and dicamba. Also avoid Tordon herbicides. Tordon herbicides contain the active ingredient picloram, which grapes are also very sensitive. Tordon RTU sold at Farm Supply Stores contains both picloram and 2,4-D. Tordon applied to cut stumps is absorbed very rapidly and the active ingredient picloram can be exuded from the roots. The exuded herbicide can then be taken up by non-target plants causing herbicide damage. Also picloram is broken down very slowly in the soil. It is very important that you read and understand the label before applying any pesticide. When using a pesticide in a crop, the pesticide must be labelled for use in the crop. In the case of Tordon RTU and Brush Killers, these are not labelled for use in vineyards.
Announcements – Programs

**MGGA and MVA Joint Summer Field Day** – June 7, 2017 Crown Valley

Virus Vineyard Survey Participants Needed

May 4, 2017

Double A Vineyards, Inc. is pleased to announce that we will be holding a **Summer Grape Conference and Field Day** on July 25, 2017 at the Clarion Hotel, Marina & Conference Center on the Lake Erie shoreline in Dunkirk, NY.

The morning session will include presentations on grape disease management, pesticide application technology, the development and importance of clean vines, and grapevine breeding, culminating in a wine tasting of new and promising cultivars. Following lunch, we will travel by bus for the afternoon session to tour Double A Vineyards’ new nursery blocks planted from “clean” virus certified plant material developed by the National Clean Plant Network. Our morning speakers and Double A owners and staff will lead discussions and answer your questions on many aspects of managing the nursery.

The cost to attend is $75.00, which includes lunch and the wine tasting. A room block is also available for those who would like to stay the night prior to or following the conference.

There is limited spacing so don’t wait to reserve your spot!

Register now at [www.doubleavineyards.com](http://www.doubleavineyards.com) or by calling the office at 716-672-8493.

Thank you for your interest, and we hope that you will be able to participate in our exciting conference.

Sincerely,

**Danielle Huber**
Marketing Specialist
Double A Vineyards, Inc.
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

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 May 22, 2017.

<table>
<thead>
<tr>
<th>Region</th>
<th>Location by County</th>
<th>Growing Degree Days(^1)</th>
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<td>Western</td>
<td>Ray</td>
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</table>

\(^1\)Growing degree days at base 50 from April 1 to May 22, 2017. Data compiled from Useful and Useable at [https://mygeohub.org/groups/u2u/tools](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](https://mygeohub.org/groups/u2u/tools).

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.