Pestalotiopsis Update:

Over the past couple of weeks I have had the opportunity to scout a number of vineyards in the Augusta and Hermann areas. Pestalotiopsis, a fungal disease was apparent on the grape cultivars Chambourcin and Vignoles. The symptoms of the disease are a leaf blight. In Chambourcin, the symptoms are very apparent and appear as a “reddening” or “pinking” of the leaf tissue (Figure 1). In most instances the symptomology is confined to the first three basal leaves that suggests the infections likely took place very early in the growing season. Although grape leaves were mainly infected, delayed shoots also showed similar symptoms as the leaves (Figure 2).

In the cultivar the Vignoles, the symptoms on the leaves are very difficult to see in the vineyard. The leaf symptoms in Vignoles appear similar to those in Chambourcin, except the “reddening” or “pinking” is very subdued (Figure 3 and 4).

Pestalotiopsis spp. were first identified as trunk diseases in Missouri in 2012. Over the past three growing seasons, Pestalotiopsis has shown up in Missouri vineyards as either a fruit rot or leaf blight.

Figure 1. Pestalotiopsis leaf spotting on Chambourcin on 27 April 2017. Augusta/Dutzow, MO area. Photo credit: D. Volenberg.

Figure 2. Late emerging shoots of Chambourcin display symptoms of Pestalotiopsis on the shoot, expanded leaves and unexpanded leaves.
The cultivars; Concord, Catawba, Valvin Muscat, and Traminette did not show any symptoms suggesting that the cultivars are potentially tolerant to the disease or asymptomatic. During the 2016 growing season, Norton and Chambourcin leaves displayed symptoms and were confirmed to be infected with Pestalotiopsis. In 2015, Pestalotiopsis was confirmed as an early season fruit rot in Norton.

Pestalotiopsis is species rich and difficult to identify at the species level. However, my colleague Dr. James Schoelz has identified two species from field samples collected in 2016. The species were identified using sequence data of the internal transcribed spacer-rDNA region. Sequence data identified *P. sydowiana* and *P. microspora*. Both of these species have been reported to be ubiquitous on tropical and semi-tropical plants and have a broad host range. *P. microspora* has been reported as a weak pathogen or an endophytic symbiont of green plants. The biology, ecology and epidemiology of Pestalotiopsis spp. in grapes is poorly understood.

Currently, no chemical management of Pestalotiopsis can be recommended for grapes. From the research literature, pyraclostrobin the strobilurin component of the fungicide Pristine has shown activity in controlling some Pestalotiopsis spp. Additionally, Pristine was applied to a Norton vineyard in 2015 that was confirmed to have fruit rot from Pestalotiopsis. This field treatment resulted in controlling the disease. At this time, chemical control of leaf blight from Pestalotiopsis does not appear necessary. The leaf blight is very transient and field observations suggest that over time the symptoms fade or in extreme cases the infected leaves drop.
Herbicide Drift

Herbicide drift incidents to grapes have been occurring. These early season incidents appear to be the result of the application of burndown herbicides applied to agricultural fields in the near vicinity of grape vineyards. Please take the time to review the Herbicide Drift: What to Do article that was posted last week.

Vignoles showing symptoms of herbicide drift. Both the leaves and the shoot have necrotic areas where spray droplets landed. The lower photograph shows the same shoot but the opposite side. Notice that no symptoms from herbicide drift are apparent on the shoot. In the background is an agricultural field that had been recently sprayed with herbicide(s). The spray pattern on the grapes highly suggests that winds were blowing directly in the direction of the vineyard at the time of application. For more information on how to respond to herbicide drift.
Grower Reports

I received some pictures showing gummosis of the trunks on the cultivar Vignoles. Gummosis is a sticky substance that is the result of some type of plant wounding. The sticky gummy formations are made up of plant sap. Wounding that results in gummosis is often the result of a canker or insect, but can also be from mechanical damage.

I advised the grower to remove the sticky substance from the vine and determine if a hole was apparent in the canes. A hole was apparent and is likely the result of the Grape Cane Borer (GCB). The holes of GCB are perfectly round and range in size from 1/8 to 3/16-inch in diameter. The GCB will typically tunnel into the vine just above or below a bud. In all the pictures shared with me, the gummosis was covering a nodal area, This provided some good evidence that the GCB may be responsible. I suggested that the grower split the cane or trunk longitudinally and see if an adult GCB beetle or larva was present.

The GCB can be a problem in the Spring of the growing season. Adult beetles emerge and mate and lay eggs on the bark of the vine. The larvae burrow into the vine where they complete their lifecycle. Adults emerge the following spring to repeat the cycle. There is one generation per year. Both the adults and larvae injure grapevines.

Management of GCB involves burning or destroying grape cane pruning’s as well as wood and brush piles in or near the vineyard. The GCB is not host-specific to grapes and so the removal of alternative host plants near the vineyard would aid in control. Grape pruning’s and brush piles should be burned or removed from the vineyard site prior to the adult beetle emergence. Adult beetles typically emerge during the period of sap-flow to bud-burst.

It is difficult to control the GCB with chemical management. Once larvae have entered the vine, chemical applications are not efficacious. Chemical management needs to target the adult beetles. Insecticides such as Sevin or Imidan will provide control of the adult beetles.
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 1, 2017.

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<tr>
<th>Region</th>
<th>Location by County</th>
<th>Growing Degree Days&lt;sup&gt;1&lt;/sup&gt;</th>
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<tr>
<td>Western</td>
<td>Ray</td>
<td>268</td>
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<sup>1</sup>Growing degree days at base 50 from April 1 to May 1, 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.