Japanese Beetles

Japanese beetles have been reported in vineyards around the state. As you plan your management strategy remember a few simple priorities.

- Apply management strategies to grape cultivars more prone to Japanese beetle feeding preference. *Vitis labrusca* are least susceptible, followed by hybrids and then *V. vinifera*
- Apply management to Japanese beetle susceptible young establishing grapevines prior to established grapevines
- Monitor the vineyards; Japanese beetles often will be at higher population densities in border rows than within the interior of the vineyard
- Monitor for other insect pests that may be present during the period of Japanese beetle feeding. For example, Grape berry moth and Grape rootworm. Incidence of multiple target pests will warrant the use of a broad spectrum insecticide
- Rainfall can reduce the effectiveness of insecticides. Mustang Max will provide better rainfastness than Sevin which can be attributed to Mustang Max being less water soluble and more lipophilic than Sevin (Hulbert et al. 2012)
- Pyrethroid insecticides (Mustang Max) provide instant knockdown of Japanese beetles and pyrethroid insecticides may also provide a repelling effect in treated fields
- Adult Japanese beetles emerge in large numbers from moist soil compared to dry droughty soils
- Vineyard rows bordering grass areas (mowed areas or pastures) often have greater population densities of Japanese beetles than vineyard border rows adjacent to wooded areas or row cropped agricultural fields
Foliar Phylloxera

This past week I fielded a lot of questions on foliar phylloxera. From these inquires it became apparent that foliar phylloxera seems to be an increasing problem this year. People I have communicated with have found foliar phylloxera galls on Norton, Regent, Traminette, Seyval blanc and Arandell.

Managing foliar phylloxera requires both monitoring and timely insecticide applications. The first step in managing foliar phylloxera is determining when insect pest is present. For many growers, the realization the pest is present comes too late. If you had a problem with foliar phylloxera last season, then almost undoubtedly the problem will persist this season. The first generation of foliar phylloxera starts early in the growing season, typically when shoots have only 3 to 5 leaves. In the Hermann, Mo area this occurred near April 25, 2017. The first generation emerges from an overwintering egg and begins feeding on an emerged leaf causing a gall to form around her body. After the gall has formed and the female is mature which takes approximately 10 days, 200 to 300 eggs are deposited within the gall. The eggs are deposited over a period of 30 to 40 days. These galls are first generation and the eggs within the galls are second generation. The recognition of severe leaf galling at the end of May to the early June are the result of the second generation galls and within the galls are third generation eggs. The life-cycle continues for 5 or potentially more generations. Management focuses on controlling the nymphs emerging from the galls or using a systemic insecticide targeting the galls.

Management

Focus on controlling early generations of foliar phylloxera thereby reducing the loss of leaf area from galls. Highly susceptible grape cultivars that are establishing should be protected from foliar phylloxera. Established cultivars that are highly susceptible to foliar phylloxera should also be protected.

Some chemical options for management target only the nymphs or crawlers. In order for these insecticides to be effective, the time of emergence of the crawlers from the gall has to be monitored. This can be achieved by slicing through galls and observing the developing eggs over time. Once eggs have hatched nymphs will emerge from the galls. Another monitoring option is to place double-sided tape around the grape shoot above the galled leaf. Once nymphs emerge from the gall and travel up the shoot they will become trapped on the tape. Once nymphs are emerging from the gall or trapped on the tape either Assail or Danitol insecticides need to be applied for control. If these insecticides are applied after the nymphs have matured and enclosed by a gall, the insecticides will not be effective. A systemic insecticide (Movento) can be applied to control maturing females within galls. Typically, if the first generation galls are managed with Movento, the leaves will be almost gall free. A second application of Movento can be applied after 30 – days after the first application. Be sure to read and follow the label.
**Grape Rootworm *Fidia vitcida***

Adult grape rootworm (Figure 1) has emerged. Adult beetles feed on the grape leaves (Figure 2), but the most damage occurs from the larvae feeding on grape roots. Adult beetles should be managed if present prior to egg-laying under loose trunk bark. Many of the broad spectrum insecticides (Sevin) targeted towards Japanese beetle control will control adult grape rootworm.

![Figure 1. Adult grape rootworm beetle. Photo credit: Virginia Tech](image1)

![Figure 2. Feeding damage from feeding by the adult grape rootworm beetle. Photo credit: Virginia Tech](image2)
Herbicide Drift

The 2017 growing season is underway. One major difference between this year and past years is the planting of soybeans that are resistant to both glyphosate and dicamba. Many Missouri crops (grapes) and other plant species are extremely sensitive to extremely low rates of dicamba. As University of Missouri Weed Scientist Kevin Bradley points out in a recent article, a major difference this year is that dicamba has not been applied during June and July in past years. So continue to monitor your vineyards for symptoms of herbicide drift. Kevin reports there have been numerous reports of off-target movement of dicamba from states south of Missouri.

Off label herbicide use as it relates to the release of Xtend-traited soybean or soybeans resistant to glyphosate and dicamba was a recent story on NPR. The story "A pesticide, a pigweed and a farmer’s murder" aired on June 14, 2017. Consider listening and sharing Kevin’s article entitled "Consider your neighbor this spray season."

Disease Update

Disease protection should focus on Downy mildew and Black rot management. Recent rainfall events on Wednesday and rainfall predicted throughout the rest of the week will result in conditions conducive to fungal infections.

It would be wise to scout interior canopies in shaded border rows near wooded areas for powdery mildew. You likely will not see much after this morning’s rainfall event since powdery mildew colonies likely were mostly washed off the leaf surfaces. However, as dry conditions arise with increased humidity, be vigilant in scouting interior canopies.
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.
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

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### Cumulative Growing Degree Days for the Seven Grape Growing Regions of Missouri from April 1 to 12 June, 2017.

<table>
<thead>
<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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</table>

<sup>1</sup>Growing degree days at base 50 from April 1 to 12 June, 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.