Grape Berry Moth:

** Traps at all four sites caught GBM this past week. The Berrien Concord site had the highest increase with ~10 moths per trap.

** Even though the moths have begun to emerge, you don’t need to worry about spraying for them until after bloom. So far we have found no larvae infesting the clusters, which is really what needs to be controlled.

** Last Thursday, May 21, trace bloom was observed for the first time on some wild grape vines along the border of the Berrien Vignoles site.

** As of Tuesday, May 26, many wild grape clusters at both of the Berrien sites (Concord and Vignoles) scouted for this report were in bloom. The Berrien Concord site had 1 wild grape vine out of 5 with 50% of its clusters at 50% bloom or greater while the Berrien Vignoles site had 2 vines out of 10 with 50% of its clusters at 50% bloom or greater. There’s a good chance that these two sites will have 50% of the clusters at 50% bloom by the time we scout there again on Thursday.

** While some wild grape bloom has been seen at the Berrien sites, so far no bloom has been found at the Van Buren sites.

** Remember to keep track of the wild grapes at your farm and record when 50% of the clusters are at 50% bloom. This will be important for keeping track of growing degree days for the grape berry moth model through the growing season.
Grape IPM Evening Meetings

** Thanks to everyone who came out to the grape IPM evening meeting this past Thursday! Thanks especially to Bob for hosting the meeting and Glenn for cooking the spaghetti and garlic bread. If you missed this meeting we still have two more meetings coming up this summer. See below for details.

Additional Evening Grape IPM Meetings To Put On Your Calendar:
June 25: Tim Sepalla farm, Lawton (6-8pm, free dinner, 1 RUP credit)
July: No evening meeting in July due to Viticulture Day on July 29
August 13: Lemon Creek Winery, Berrien Springs (6-8pm, free dinner, 1 RUP credit)

Grape Flea Beetle (aka Steely Beetle):

** Now is the time when you may begin to see grape flea beetle larvae showing up on leaves. These larvae look somewhat like grape berry moth larvae, but are yellow-brown with dark spots and a dark head. Also, you won't find grape berry moth larvae wandering around on the leaves; they remain hidden in the young clusters. Flea beetle larvae are usually more common at the vineyard borders, but rarely cause any economic damage.
**Phomopsis:**

Phomopsis lesions have begun to show up on shoots at all of the sites scouted for this report. Infection levels appear to be higher than last year at this time. Spots are especially common on the first couple of internodes of the shoots. Most of the infections took place during all the wet weather we had a few weeks ago. This underscores the importance of making sure your clusters are protected during these crucial infection periods.

![Phomopsis spots on shoot](image1)

**Eutypa Dieback:**

Now is the time when you should be looking for Eutypa symptoms in your older vineyards. This disease is slow developing and usually occurs through a pruning wound after which it can be several years before symptoms of the disease become visible. Symptoms usually show up on one arm of the vine beginning with shoots that are stunted as well as leaves that are smaller than normal, cupped, and showing white/yellow streaks. Clusters that form will be fewer in number, smaller, and have smaller berries. Over time the symptoms will continue to get worse until the entire vine dies. While the vine is in decline a cross-section of the trunk will show a distinctive wedge of dead wood that is characteristic of this disease.

You should scout for Eutypa right now when shoots are 8-16 inches long. At this point in the season the shoot and leaf symptoms will stand out more than they will later in the season. Mark any vines that appear to be infected with flagging and watch them over the season. Once symptoms begin to worsen, prune out the infected wood and remove the wood from the vineyard.

![Eutypa symptoms on Concord shoot](image2)
Current Growth Stages:

- Concord-Berrien
- Niagara-Fennville (TNRC)
- Concord-Fennville (TNRC)
- Vignoles-Berrien
- Chancellor-Fennville (TNRC)
- Concord-Van Buren
- Chardonnay-Fennville
This report is a summary of weekly scouting from winegrape and juicegrape vineyards in southwest Michigan. It should be used only as a general guide, because pests vary greatly in their abundance from site to site. Scouting your own vineyards is the best way to know whether pest problems are developing in your farm.

For more information on this project, contact Steve at (517) 242 1282

More information on Vineyard IPM is available online at: [www.grapes.msu.edu](http://www.grapes.msu.edu)

All photos: Steven Van Timmeren

<table>
<thead>
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<th>SITE</th>
<th>5/3</th>
<th>5/10</th>
<th>5/17</th>
<th>5/25</th>
<th>5/17</th>
<th>5/25</th>
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Starting March 1:

Starting April 1:

Click here for more Information on GDDs

Growing Degree Days (Base 50)
**Grape Berry Moth:**

We sill have not caught grape berry moth (GBM) in the pheromone baited traps in Leelanau or Old Mission peninsula vineyards. This is not surprising due to the cold temperatures so far this spring. Last season we captured very few GBM in traps but observed many infested clusters with the first trap catches being reported in mid-late May. We should expect to see the majority of adult flight after bloom.

Grape berry moth spends the winter as a pupa in leaf litter in and around vineyards. First generation adults emerge from the pupae around bloom. Male and female moths mate and then females lay circular, flat eggs directly onto the cluster. The eggs can be difficult to find because of their small size (approximately 1 mm diameter). Their shiny exterior can be used to detect them, especially with a hand lens. Eggs parasitized by wasp parasites turn black. Larvae hatch from the eggs in three to six days, depending upon temperature, and feed on the cluster until they have developed to full size.

Larvae of the first generation feed on young grape clusters and may remove sections of clusters. Then, when berries are formed, the young larvae burrow into the fruit. Webbing and larvae are visible in the small clusters during and after bloom. Damage from redbanded leafroller can be mistaken for grape berry moth at this time, so it is important to identify the larvae to determine the appropriate management strategy. Keep an eye out for more grape berry moth info as we move through the season!

**Ascospore Release in Powdery Mildew to Help Predict Infection:**

It may be a little early for powdery mildew, but it's never to early to start thinking about the biology of this important disease or your management strategies for the season. In collaboration with Dr. Annemiek Schilder, Dr. Nikki Rothwell has been working to refine our understanding of the conditions under which powdery mildew ascospore release occurs in Michigan vineyards and how those conditions translate to disease severity.

Ascospores are released from overwintered cleistothecia on the bark of grapevines when > 0.1 inch (2.5 mm) of rain occurs and the average temperature is >50ºF (10ºC) during that period (some publications say at least 0.1 inch rain and 50ºF). Ascospores are released from bud break (Late April-early May) through bloom and early fruit set (late June-early July). The ascospores do not require leaf wetness for infection, so theoretically any time green tissue is present and ascospores are released, infection is possible. The goal of Rothwell and Schilder's research is to develop an ascospore release warning model to indicate when to start scouting the leaves for powdery mildew colonies. Also, the more ascospore release events that occur, the higher the risk of a severe powdery mildew epidemic, especially if these events occur at bloom and early fruit set, which is the critical time for fruit infection. Wayne Wilcox found a very strong relationship between the severity of fruit infection at harvest and the number of "primary infection periods" (>0.10 inches rain + temperatures >50 F) that occurred from just before bloom until fruit set (see Table to the right). Similarly, years in which 4 or more such events occurred during this fruit growth stage were typified by severe outbreaks of powdery mildew region-wide.

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<th>Year</th>
<th>% Fruit surface</th>
<th>Number of infection periods* just before bloom to fruit set</th>
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<tr>
<td>1996</td>
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*Infection period = greater than 0.1 inch of rain and temperature greater than 50º F
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All photos: Steven Van Timmeren and Erin Lizotte