Weekly Vineyard IPM Scouting Summary
Report for the week of June 13, 2008
Southwest Michigan

**Grape Berry Moth:**

<table>
<thead>
<tr>
<th>Site</th>
<th>Variety</th>
<th>Average Number of GBM in Traps (Average of 4 Traps Per Site)</th>
<th>Percent Clusters Infested With GBM (25 Clusters Scouted at 4 Locations at Each Site)</th>
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<tbody>
<tr>
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<td>Chardonnay</td>
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<td>0 0 0 0</td>
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<td>Vignoles</td>
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<td>0 0 0 0</td>
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<tr>
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<td>Concord</td>
<td>0.3 3.8 3.3 13 8.8</td>
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<tr>
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<td><strong>2008 Average</strong></td>
<td></td>
<td><strong>0.3 1.3 2.6 4 8</strong></td>
<td><strong>0 0 0 0 0.3</strong></td>
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<tr>
<td><strong>2007 Average</strong></td>
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<td><strong>8 4 7 32 17 5</strong></td>
<td><strong>0 0 0.6 0 0</strong></td>
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</tbody>
</table>

Adult GBM emergence has finally started to increase (see figure to the left) and is on pace to be ahead of 2006 but behind 2005 and 2007 in timing. We also found the first infested clusters of the season this past week. At this point the larvae are quite small so when you're scouting keep a close eye out for several small berries webbed together. Once you find some berries webbed together take a look inside and you should find a tiny light yellow larva in the middle. Be careful not to mistake spider webs for GBM infestations, and also be careful not to mistake grape flea beetle larvae for GBM (see below).

**Potato Leafhoppers:**

**Potato leafhopper nymphs were found on leaves for the first time this week at the Allegan site.** At this point the nymphs are quite small (see picture to the right) so you will need to look carefully when you are scouting the undersides of your leaves. You should be scouting all of your wine grapes to see if a spray is warranted.

**Grape Cane Girdler:**

**We have been finding grape cane girdler damage on shoots at the borders of both the Van Buren Concord site and the Berrien county Vignoles site.** This beetle causes damage by girdling the shoots, causing the tips to fall off. Generally it's not a problem unless populations build to high levels. When you're scouting, look for the characteristic ring of holes around the shoot stem (see picture to the right). If you only find a shoot here or there with damage you probably don't have to worry about them.

**Rose Chafers:**

**Rose chafer adults are being found here and there at the Van Buren Concord site and the Allegan Chardonnay site.** You should be keeping a close eye on your clusters right now, since rose chafer larvae can cause quite a bit of damage to your blooming clusters. Pay close attention to your borders and hot spots (frequently sandy sites).
**Grape Flea Beetle:**
Grape flea beetle larvae are now showing up on grape leaves and clusters. The larvae will feed on the leaves but most likely won't cause any economic damage. Young larvae are dark brown and gradually lighten in color to dark yellow. You can tell these larvae from grape berry moth larvae by the small black dots on the larvae. Another way to tell the two apart is that GBM won't be found on the grape leaves, and flea beetle larvae won't web grapes together.

**Downy Mildew:**
Be aware that you may find some false downy mildew spots on your leaves this time of year. These spots are lighter colored circles on the surface of the leaf. They are different from downy mildew leaf spots in that they don't have the angular shape of a true downy mildew leaf spot. Also, look for the presence of the downy spore masses on the underside of the leaf, as this is a sure sign a leaf spot is downy mildew. If you don't see any spore masses take the leaf, place it in a ziplock bag along with a moist paper towel and put it in a dark place. Check the leaf in a couple of days and if the leaf spot is indeed downy mildew you should have a spore mass forming on the underside of the leaf.

**Disease Notes:**
**Disease Level Rankings:** None, Trace, Low, Moderate, High, Very High

<table>
<thead>
<tr>
<th>Farm</th>
<th>Variety</th>
<th>Black Rot</th>
<th>Downy Mildew</th>
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<tr>
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<td>Concord</td>
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<td>None</td>
<td>Trace</td>
<td>None</td>
</tr>
<tr>
<td>Van Buren</td>
<td>Concord</td>
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<td>None</td>
<td>Low</td>
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</table>

**Current Growth Stages:**
- Concord-Van Buren
- Vignoles-Berrien 1
- Wild Grape Adjacent to Berrien 1 Site
- Chardonnay-Allegan

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**Leaf discoloration on Concord leaf at the Van Buren site that is not downy mildew.**

**Downy mildew leaf spot on the upper surface of a Niagara leaf (above) and on the lower leaf surface (below).**

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**As of June 12**

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Concord- Berrien 2
Current Growth Stages Continued:

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.

Upcoming Twilight Grape IPM Meetings:
THIS WEEK THURSDAY (JUNE 19) AT THE TIM SEPPALA VINEYARD IN LAWTON:
**The free dinner starts at 6pm.
** One RUP credit is available for this meeting. If you are interested in receiving this credit make sure to bring your applicator number with you to the meeting.

To Lawton

North

Meeting Location at 25101 County Road 354

July 24: Bob Dongvillo farm, Scottdale
August 28: Lemon Creek Winery, Berrien Springs

Starting March 1:

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Previous Year GDDs on June 15 (March 1 Start):

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Click here for more Information on GDDs

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

All photos: Steven Van Timmeren
New Insect Finds this Week!

Three new insects were observed in the northwest region this past week, so growers/vineyard managers should be on the lookout for the following pests:

1. **Grape phylloxera**, Daktulosphaira vitifoliae (Fitch) was sited in one of our commercial vineyards. These insects rarely make serious pest status in areas with our sandy soils; they are considered to be more problematic in regions with heavier clay soils. Despite the fact we rarely see damaging numbers of phylloxera in the north, we remind growers to be vigilant about control. This caution should be particularly noted in choosing a phylloxera-resistant/tolerant rootstock for newly planted vines. If populations reach high enough levels, the foliar or aerial part of the phylloxera life cycle can result in premature defoliation, reduced shoot growth, and reduced yield and quality of the crop. We often observe foliar damage on wild grape, labrusca and some vinifera vineyards as raised galls on the undersides of leaves (Figure 1) in the eastern part of the U.S. The root form of phylloxera stunts growth of susceptible vines and can kill them, but this form prefers vines grown in heavy clay soils. Phylloxera damages the roots by feeding on growing rootlets, which then swell and turn yellowish; dead areas eventually develop at the feeding sites.

These insects are a bit strange looking and have an even stranger life cycle. Phylloxera are small, yellow, aphid-like insects. In the foliar form, they reside inside the galls and can only be viewed once the gall is opened (Figure 2). Phylloxera overwinter as a winter egg under the bark of older canes or trunks or as nymphs on grapevine roots. The winter egg becomes the ‘stem mother’, and she moves to a shoot tip to feed. Feeding induces gall formation, and eventually the stem mother becomes enclosed within a small gall on the underside of the leaf. Females are capable of producing several hundred eggs by parthenogenesis (fertilization without males). First instar nymphs (crawlers) hatch from eggs, emerge from galls, and move to shoot tips where they begin feeding. This behavior induces new gall development. During the summer, some of the foliar crawlers move through cracks in the soil to reach grapevine roots.

Phylloxera can also overwinter on grapevine roots as nymphs, and as soil temperatures warm up in the spring, crawlers resume feeding. Root feeding results in two types of galls: a) nodosities are galls formed on small rootlets, and these galls are thought to result in little damage to the vine, or b) tuberosities are galls formed on larger, older parts of the root, and these galls can eventually cause vine mortality.

In late summer and early fall, some root-infesting phylloxera develop into fully winged adults. These sexual forms mate and the female deposits a single overwintering egg under grape bark, and the life cycle begins again for another season. The MSU Fruit Management Guide states that Thiodan is excellent on phylloxera. Danitol, Assail, and Platinum are all rated good.
2. **Grape Erinium mites** were found at one vineyard on Riesling. We remember this insect on this vineyard last year, but we do not see much evidence at other winegrape sites. We have considered grape erineum mite a minor pest, and it is usually controlled in vineyards where sulfur is part of the fungicide spray program. In this particular case, sulfur is used at this vineyard, and the populations of grape erineum mite can reach high levels later in the growing season.

Grape erineum mite is an eriophyid mite and is extremely small; magnification (10-15x hand lens) is necessary to see this pest. The mite overwinters beneath loose bark of one-year old canes. In spring, mites move to leaves where they cause a gall-like "erineum" (mite-induced growth of leaf surface hairs or erinea) on the upper leaf surface. On the lower surface, beneath the erineum, is a dense, white growth of abnormally curled plant hairs. Mites feed and reproduce in this patch of hairs. Best time for control is when shoots are growing or when erinea are forming. When mites have retreated to beneath bud scales, control is difficult. In other grape growing areas, sulfur is mentioned as a control tactic for erineum mite as many insecticides/miticides provide limited control for this pest. Most commonly we see very little economic damage from erineum mite, but severe infestations, especially on young vines can produce serious stress by reducing photosynthesis and causing early drop of leaves.

3. **Potato Leafhopper**

Along with the storm systems from the southwest, potato leafhopper have arrived in Northern Michigan vineyards. Adult leafhoppers are pale to bright green and about 1/8 inch long. Adults (Figure 4) are easily noticeable, jumping, flying or running when agitated. The nymphs (immature leafhoppers), are pale green and have no wings. They will move in all directions when disturbed, unlike some leafhoppers which have a distinct pattern of movement. The potato leafhopper can’t survive Michigan’s winter and survives in the Gulf states until adults migrate north in the spring. Hybrid or vinifera varieties may be sensitive to the saliva they inject while feeding and can be seriously damaged. Most damage occurs on new tissue in the top of shoots. If you’re interested in applying insecticides via soil applications, Venom 70 SG, Admire Pro, and Platinum 2 SC are all labeled for early season soil applications. For foliar applications there are many different options.

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**NEWS... Cost of Grape Establishment and Production Bulletin Now Available!!!**

Below you will find a link to *Cost of Establishment and Production of Vinifera Grapes in the Finger Lakes Region of New York, 2007*, written by Gerald B. White from Cornell University.

http://aem.cornell.edu/outreach/extensionpdf/eb0805.pdf
Current Growth Stages:

Reisling, as of June 9

Pinot noir, as of June 9

Pinot gris, as of June 9

GARPE IPM UPDATES FOR 2008

We hope that you are all attending and enjoying the IPM updates. There are two more scheduled so be sure to put these dates on your calendar. Both sessions will take place from 3:00-5:00pm. Hope to see you there!

July 11: Larry Mawby’s vineyard, S. Elm Valley Rd. - Dr. Annemiek Schilder will talk about pathology issues.

August 1: NW MI Horticultural Research Station - Paul Jenkins will be leading a discussion of a new workbook for evaluating agricultural sustainability followed by an end of the season POTLUCK!!

Starting March 1:

<table>
<thead>
<tr>
<th>SITE</th>
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Previous Year GDDs on June 12 (March 1 Start):

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