**News you can use**

**Disease management**
Continue to scout and manage foliar diseases, aiming just to maintain sufficient green leaf area to ripen the crop and the wood. If crop is light, there may be no need for more sprays. If heavy rains occur in the weeks before harvest, expect sour rot and Botrytis bunch rot to come on strong. Leaf pulling is the most effective control option.

**Insect management**
Grape berry moth is still active, especially in high-pressure sites. Continue to protect clusters from this pest. Due to our weather conditions this season, we may experience a 4th generation of GBM in some locations.

**DATE CHANGE:** NW winegrape grower meeting on September 2nd, 10:00AM-12:00PM at Larry Mawby’s, 4519 S. Elm Valley Road in Suttons Bay. Speaker: Rufus Isaacs will discuss late-season insect management. More info: Erin Lizotte, 231-946-1510.

**Enology education workshops**
Special thanks to Doug Welsch and Larry Mawby for hosting our pre-harvest workshops last week. Over 80 people attended one of the sessions! If you have ideas for future workshops, please contact Paul Jenkins (jenki132@msu.edu, 517-432-7751). Our 2011 winter events are in the final stages of organization and will be announced in future editions of this newsletter.
Pressure from grape berry moth (GBM) continues this week, with feeding damage is still visible in clusters. If you are seeing active larvae in your vineyard broad spectrum larvacides may be applied. Potato leafhopper adults continue to be trapped at moderate levels, but no nymph or adult activity was observed on vines this week and few growers report the need for management. Ants and yellow jackets have arrived on the clusters in area vineyards. Ants and yellow jackets can become pests during harvest, when ripe berries are a source of sugar. They can become a hazard for hand-pickers, but rarely require control and usually affect a small area of a vineyard.

Downy mildew continues to be reported, we typically see a minimal amount of downy mildew in northwest Michigan, but the humidity this season may be a contributing factor. It is important to keep in mind that the list of fungicides effective against both downy and powdery mildew is short (Abound-reduced risk, Sovran, Serenade Max-OMRI approved, Pritistine (Strobi+boscalid) so even if growers applied fungicides for powdery mildew it may necessary to treat for downy separately.

Powdery mildew was slow to arrive this season, but we have received reports of isolated severe infections in some area vineyards, these sites are being tested for fungicide resistance. Botrytis has been spotted, not surprising given the persistent wetting events as of late and the elevated levels of grape berry moth infestation. We typically time botrytis treatments for veraison and preharvest, but if you have botrytis infections on green fruit management should not be delayed. Leaf removal is an important horticultural practice that significantly impacts botrytis. Removing leaves allows for increased air and light penetration and well as more thorough fungicide coverage. There are a number of effective materials against botrytis including Rovral, Vangard-reduced risk, Endura-reduced risk, Serenade Max-OMRI, Scala-reduced risk, and Elevate-reduced risk.

Symptoms of leafroll virus are also visible on area vines. Leaves on vines infected with leafroll virus become yellow or reddish purple as the season progresses; the main veins remain green. By late summer, the leaves start rolling downward and at harvest fruit clusters are small, poorly colored, and low in sugar. The disease does not kill the vine but is chronic and is spread primarily via infected nursery stock and the grape mealybug. Within-field spread by mealybug is very slow. Crown gall and nutrient deficiencies can produce similar foliar symptoms, so growers should not assume that leafroll virus is the cause. If you have sites you would like tested please contact Erin at
Lastly, bird feeding damage (Fig. 4) is showing up and nets are visible protecting fruit around the area. Feeding damage is particularly intense in close proximity to wires and other easy perching sites.

DATE AND TIME CHANGE FOR NEXT NW WINEGRAPE IPM UPDATE MEETING!

After requests from growers, we have shifted the Final Winegrape IPM Meeting in northwest Michigan from September 3rd to September 2nd (a Thursday) to avoid the holiday weekend. Please note that this meeting will run from 10am-12pm. We will meet at Larry Mawby’s tasting room located at 4519 S Elm Valley Road in Suttons Bay. Please help us spread the word about this change in plans. Dr. Rufus Isaacs will be on hand to discuss insects of interest and pesticide recertification credits will be available. This program is free, open to the public, and does not require registration. For more information contact Erin Lizotte at 231-946-1510. We hope to see you there!

-E.L.

Thanks for all of your hard work!

Abby Woughter completed an internship at the NW Michigan Horticultural Research Station this summer. She helped with scouting vines and managing the research vineyards. According to Abby, she was able to gain a lot of practical experience that would be difficult to acquire from a textbook. She is now able to recognize insect pests and diseases, and learned about the different styles of hedging and tucking vines for maximum airflow and sunlight exposure. She has a new understanding for agricultural research, and appreciates the other benefits of being able to work in a vineyard. As she states, “textbooks also fail to explain the behind-the-scenes pleasures of working in viticulture, the tranquility of the vineyards, or the natural ‘wildness’ of a biodynamic site.” She will be a senior at Central High School this fall. Thanks Abby for all of your hard work!
Grape Berry Moth. Grape berry moth infestations in clusters have decreased slightly at the two higher pressure sites and remain similar to previous weeks at the two lower pressure sites. Most of the larvae appear to be older, although some smaller ones are present (Fig. 5). We did see an increase in adult moth trap catches at the Berrien Concord site this week, potentially indicating that we’re seeing the emergence of at least some 4th generation adults (Fig. 6). The GDD model predicts that 4th generation egg-laying, if it does happen, will start at the end of this week in southwest Michigan (see table below). It’s very important to continue scouting for GBM in your hot spots to get a feel for what’s going on and whether you need to put on another spray. Pay close attention to varieties that are going to be hanging for a while yet, since they’re more at risk than those that will be harvested in the next few weeks.

Japanese Beetle. Japanese beetles remain very low and are no longer an issue in most mature vineyards. Continue to keep an eye on your younger vineyards and hot spots as the adults that are still around could still aggregate and cause some damage.

Ants. A few ants are beginning to show up on clusters at the Van Buren Concord site (Fig. 7). They are mostly feeding on previously damaged berries (cracked, GBM, etc.) on the cluster.

Phomopsis. Phomopsis continues to show up on berries at the Berrien Vignoles site and the Van Buren Concord site. Infected berries that were rubbery last week are now beginning to shrivel into black mummies. If you do find Phomopsis, make some notes on where it’s worst and take that into consideration when you’re planning protectant sprays next spring.

Powdery Mildew. We have begun to find a few more powdery mildew rachis infections at the two Concord sites over the last couple of weeks. Only scattered clusters have infections, but those that do have a considerable portion of the rachis infected. We are also seeing a few infections showing up on leaves, but only in low amounts. If you are scouting for powdery mildew on the leaves look for the dirty gray fuzz on top of the leaf. Sometimes it can help to look at the leaf from an angle so that the infections are easier to see. See the pictures for a top versus side view of an infected leaf.

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Fig 5. Young grape berry moth larva on Concord in Van Buren County; Photo: S. Van Timmeren.

Fig 6. Number of grape berry moth adults caught in pheromone traps at the Berrien Concord site in 2010 as compared to the six year average at that site. In order to compare multiple years, the x-axis is arranged by the total GDD\(^47\) accumulation through the season and not by date. The last 2010 trap catch data point on the figure was from traps checked on 24 August 2010.

Fig 7. Ants feeding on a Concord berry; Photo: S. Van Timmeren.

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Downy Mildew. We are starting to see a bit more downy mildew showing up on leaves at the two Concord sites. In addition, we found small amounts at the Berrien Vignoles site for the first time this week. So far all the infections are somewhat small and affecting only a small percentage of the total leaves. You should continue to watch for leaf infections, especially in more susceptible varieties. Also, keep in mind that in less susceptible varieties such as Concord you probably don’t have to worry about spraying for downy mildew since infections won’t cause complete defoliation of the vine. This is especially true for vineyards with a lower amount of crop that you don’t have to worry about ripening up.

Botrytis. Botrytis infections on clusters at the Allegan Chardonnay site have mostly stopped spreading and are beginning to dry out. However, we are starting to see a few infections at the Van Buren Concord and Berrien Vignoles sites. Infections at the Van Buren Concord site are mostly on GBM-infested berries. If the weather continues to remain dry then Botrytis will probably remain low, however, if the weather turns wet we could see a lot of Botrytis showing up. Remember that preventing infections is always going to be easier than eradicating infections once they show up. For more information on Botrytis, see Dr. Annemiek Schilder’s article in the August 4th issue of this newsletter.

Growth Stages. Clusters at the Berrien Vignoles site (Fig. 8) are mostly at the soft fruit stage. Secondary clusters at the Concord sites are just beginning to change color and primary clusters have mostly changed color (Fig. 9). Veraison is well underway at the Allegan Chardonnay site.

-S.V.
What to do when you start seeing disease in the vineyard: post-infection treatments

Unusually warm and humid weather this season has provided plenty of opportunity for diseases to become a problem in vineyards. Black rot, Phomopsis, anthracnose, powdery mildew, downy mildew, and Botrytis have all been seen to varying degrees in Michigan vineyards this year. The general approach to disease management is to apply preventative fungicide sprays and careful and timely canopy management. Field scouting for diseases is an important component of an integrated disease management approach. But sometimes diseases can take us by surprise and symptoms appear, either due to high disease pressure, poor fungicide timing, suboptimal spray coverage, fungicide wash-off due to rain, or a combination of factors. In addition, fungicide resistance may play a role in some cases, e.g., in grape powdery mildew. In that case, prepare to apply post-infection treatments if necessary. Several fungicides have substantial “post-infection” activity (e.g., the sterol inhibitors such as Elite and Nova), which means that they’ll stop disease development if applied after an infection period has occurred but before disease symptoms appear. However, very few fungicides have the ability to eradicate active infections once symptoms have become apparent. At most you can expect to knock them down a bit and suppress sporulation while you keep infections from spreading to healthy clusters and leaves.

Things to remember:

1) Apply treatments as soon as possible after symptoms are seen (regular and careful scouting is a prerequisite)

2) If disease symptoms are showing up on leaves and shoots, you can assume that there is plenty of disease pressure to infect the fruit as well

3) Spraying systemic fungicides on heavy infections is less effective and can encourage fungicide resistance development in the pathogen

4) Waiting a little longer to ensure good spray conditions is a better option than spraying immediately under poor spray conditions

5) Remove infected clusters (if possible) and leaf pull to ensure good spray coverage of fruit zone and reduce humidity around clusters. This is especially important for Botrytis bunch rot and sour rot – be careful not too pull too many leaves which will leave the clusters vulnerable to sunscalding.

6) Ensure thorough coverage of leaves and bunches, particularly for contact fungicides, which means: increase spray volume, reduce air flow, reduce tractor speed, spray every row and adjust nozzles accordingly.

7) At this time, berries are resistant to powdery mildew, downy mildew, and black rot (although already-infected berries may show symptoms). Therefore, there is no point in spraying clusters to protect them from new infections. The exception to this are clusters produced by secondary and tertiary buds, which are behind in their development and still susceptible.

8) As berries ripen, they become more susceptible to Botrytis bunch rot, sour rot, and Phomopsis (secondary infections). Choose effective fungicides to apply for control of these diseases.  

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9) Apply fungicides at the highest labeled rate to ensure good post-infection activity

10) Ensure forward protection of healthy plant parts by tank-mixing or applying materials that have good protective activity

11) Always read the label for the pre-harvest interval, incompatibility with other products, and other restrictions.

12) Scout again to see if your treatment was effective, keeping in mind that newly developing infections may continue to manifest themselves for a week or more after the spray.
2010 NW Wine Grape IPM Updates
More information: Erin Lizotte, 231-946-1510.

PLEASE NOTE THE DATE & TIME CHANGE!
September 2
10AM-12PM
L. Mawby, Suttons Bay
Speaker: Rufus Isaacs

2010 TNRC Field Day

September 28
1-4PM
TNRC, Fennville
Speakers: Rufus Isaacs, Annemiek Schilder, John Wise, Larry Gut, Mark Whalon, George Sundin.

2010 Great Lakes Fruit, Vegetable, & Farm Market Expo

December 7-9
DeVos Place Convention Center, Grand Rapids

Grape sessions are being planned. Please note there will not be an enology session at this venue this year.

2011 Orchard & Vineyard Show

January 18-19
Grand Traverse Resort, Acme

2011 SW Hort Days

February 9-10 (Tentative)
Lake Michigan College, Benton Harbor