

M I C H I G A N  
**GRAPE & WINE NEWSLETTER**

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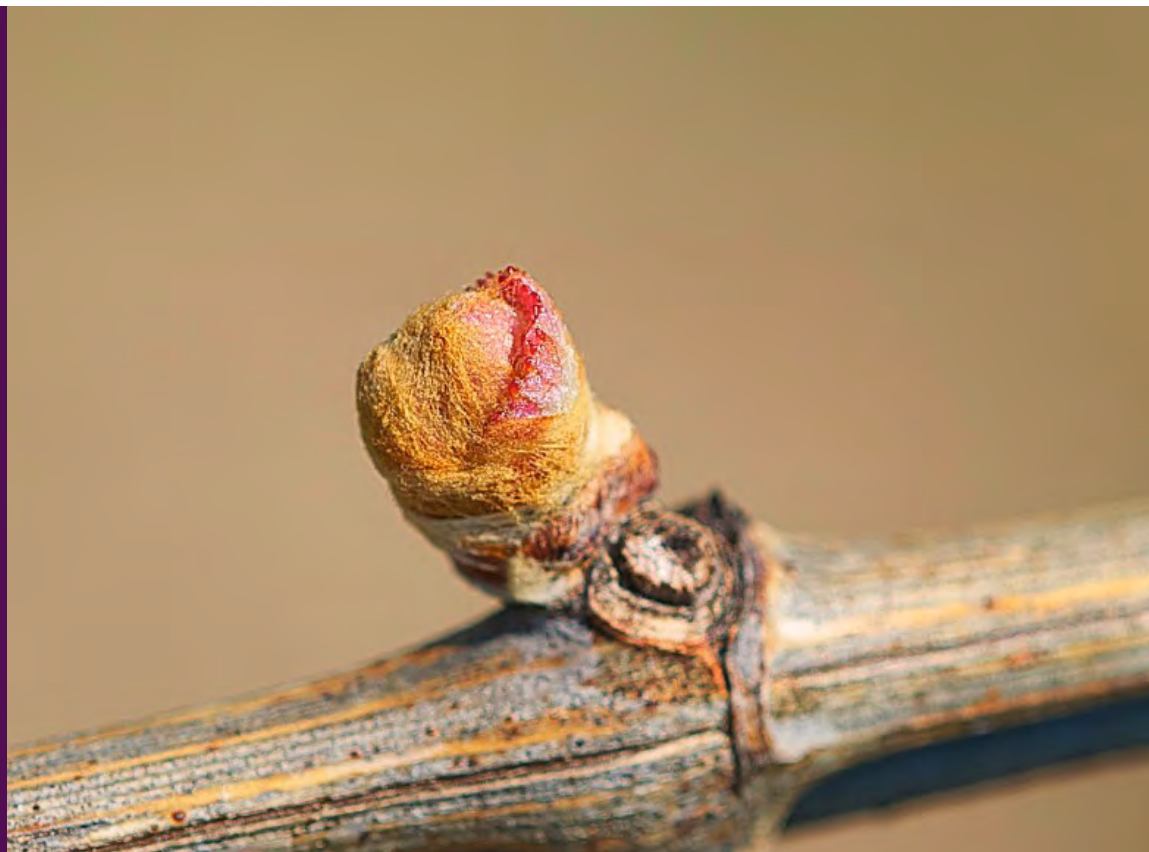
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Riesling on OMP

## News you can use

**Experimental Winegrape Variety Tasting at Spartan Cellars.** Pour, taste, and talk about new wines and potential varieties for Michigan; June 1, 1:00-4:30PM at Spartan Cellars, MSU Campus. Only a few spots left! See calendar for details.

**Short Course on Aromatic White Wine Production.** Spend the day with Anna Katharine Mansfield and Katie Cook as they deliver a program on aromatic white wine production; June 2, 8:30AM-4:30PM, Kellogg

Center, MSU Campus, East Lansing. Early registration ends today!

**Upcoming Meetings.**  
**Northwest:** June 3 at Crain Hill Vineyards, Leelanau County.  
**Southwest:** June 8 at Cronenwett Farms in Lawton (Van Buren County). See calendar for details.

**2011 Riesling Experience in Niagara Canada.** June 9-10. Featuring Pierre Trimbach and our very own Lee Lutes! Only 25 spots left. For more information, go to [rieslingexperience.com](http://rieslingexperience.com)

**MICHIGAN STATE UNIVERSITY**

**Extension**

## GROWING DEGREE DAYS

		Base 50 from April 1				5-yr Avg*
		2011	2010	2009	2007	
<u>Lawton</u>	5/11	174	299	214	268	249
	5/18	238	345	256	333	289
	forecast 5/25	326	474	376	457	381
<u>Benton Harbor</u>	5/11	173	279	196	250	230
	5/18	224	327	239	307	268
	forecast 5/25	308	459	357	427	355
<u>Leelanau</u>	5/11	95	203	124	168	152
	5/18	129	246	161	216	185
	forecast 5/25	204	377	239	301	254
<u>Old Mission</u>	5/11	80	195	109	137	133
	5/18	108	228	143	179	162
	forecast 5/25	181	347	208	259	225

\*5-yr Avg = 2006 to 2010

See [enviroweather.msu.edu](http://enviroweather.msu.edu) for more information.

## NORTHWEST

**Duke Elsner**  
*Grand Traverse County MSU Extension*

Bud development continues to lag behind normal in NW Michigan.

Some climbing cutworm and flea beetle injury has been reported, all instances very minor. Trap lines recorded all zeros for the week.

## Southwest

**Diane Brown**  
*Berrien County MSU Extension*

**Steve Van Timmeren**  
*MSU Department of Entomology*

Near record temperatures last week with highs in the 80's really moved grape development along. The weather in southwest Michigan this week continues to be on the cloudy and rainy side with weather coming from the southeast. Temperatures should rise into the 70's by tomorrow and be warm for the weekend. At SWMREC, Concord and Niagara shoots are at 3-6" with flower clusters exposed. Table grapes shoots are at 1-6" depending on variety. Wine grapes are a little less far along, with Pinot Noir ranging from budbreak-2" shoots, Chardonnay budbreak-3" shoots, Vignoles 1-2" shoots, and Chancellor 1-3" shoots. All have at least some exposed fruit clusters. Very little climbing cutworm or grape flea beetle (steely beetle) damage has been observed, and it should no longer be a concern for treatment this season. We are in the primary window for phomopsis control, and fungicide applications should already be on or applied soon.

Everything is still fairly quiet in the vineyards so far. The warm weather last week helped push the buds out past the danger point for grape flea beetle and cutworms. We have not seen any flea beetle or cutworm damage during any

of our weekly scouting this year. We have begun to catch grape berry moth adults in traps we have set out. Last week we caught our first adult moth and this week we caught moths at all the sites except the Allegan Chardonnay site. You don't need to worry about grape berry moth yet because the females won't begin laying



Chardonnay in Fennville on May 18; Photo: S. Van Timmeren.



Concord shoot in Lawton on May 18; Photo: S. Van Timmeren.



Vignole in Berrien County on May 18; Photo: S. Van Timmeren.



Niagara in Berrien County on May 18; Photo: S. Van Timmeren.

eggs until closer to bloom time. An insecticide spray applied for grape berry moth right now would just be a wasted spray. If you are planning on using the grape berry moth model this year you will need to make a note of when wild grape blooms on your farm. Now is an excellent time to take a look around your farm for any wild grape vines that are growing. Keep an eye on them over the next few weeks and record when they bloom.

The juice grape “Vineyard of the Future” research project is getting planted at SWMREC this week. It is a five acre planting of Concord grapes, on their own roots or one of five different rootstocks. Plants are spaced at 7, 8, or 9 feet. Two different trellis heights, 6 feet with a single cordon and 7 feet with two cordons are also being tested. The goal of this planting is to allow for complete mechanization, and provide for increased production on a smaller footprint of land. Many thanks to National Grape Cooperative for their financial support of this project.

The second in-season grape meeting, will be held on June 8<sup>th</sup>, at **Brian Cronenwett’s Farm, 70121 28Th St, Lawton, MI.** This meeting will focus on crop load management. Tom Zabadal will demonstrate a new shoot positioner, Paolo Sabbatini will discuss other aspects of managing crop load. Rufus Isaacs and Annemiek Schilder will give brief updates on insects and diseases. The meeting begins at noon with a catered lunch, followed by programs until 3 pm. Registration is \$15.00 in advance, \$20.00 at the door. Please RSVP for this meeting so we can have an accurate lunch count. Register by calling Linda or Jamie at: 269-944-4126.

## First catches in traps are an early warning for tracking grape berry moth this season

In the past week, grape berry moths (GBM) have been caught in pheromone traps in SW Michigan vineyards, indicating the start of the first flight of this pest. Growers who had problems with this pest last year should be thinking ahead to optimal timing for control of this insect, so they get their clusters protected against the larvae that can infest the fruit. One important tool to aid with these decisions is the MSU Grape Berry Moth Degree Day Model. Although grape berry moth has a small first generation around the time of bloom, this damage contributes little to the eventual infestation at harvest time. **July and August are the most important times for control of grape berry moth to prevent infestation at harvest time and protect against yield loss.** But, growers have had the hardest time controlling GBM in the mid- and late-season timings, so this model has been developed to help focus growers on identifying when the egg laying of the second and third generation of GBM occur. With this information, insecticide applications can be applied to prevent the larvae from these generations from surviving.

The model is based on degree day accumulation from the time when wild grape blooms, so it is critical for growers to identify when wild grape (*Vitis riparia*, specifically) blooms near their vineyards. This is typically about a week before Concord bloom. Record the date when wild grape is at 50% bloom, and this is the biofix to start the model running. This date will then be used as the starting point for accumulating degree days to the point of the predicted start of second and third generation egg laying. This is 810 and 1620 GDD after biofix, respectively. In recent years, the 810 mark has been reached in Berrien County as early as June 28 and as late as July 14, highlighting the benefit that a degree day model can have in adjusting the timing of sprays based on the different seasons.

This degree day model also now includes a prediction for the (rare) fourth generation of GBM. The extra generation was seen during the hot season last year, with many eggs being laid before the days were getting short enough to trigger diapause (the overwintering stage when larvae only develop to pupation and then wait through the cold temperatures). As a result of this early egg laying that developed through to

the next generation, there was a high amount of infestation late in the season. The MSU degree day model has now been programmed to include this potential last generation. The model can be found at [www.enviroweather.msu.edu](http://www.enviroweather.msu.edu)

In the next newsletter, we will review the model in more detail, along with the insecticide options registered for grape berry moth, and their relative performance.

## Potato leafhopper control in winegrapes

Potato leafhoppers (*Empoasca fabae*) can cause significant injury to winegrape vineyards, causing leaf cupping, reduced shoot growth, and leaf yellowing. These symptoms are most evident in sensitive cultivars, which react to the saliva and cell disruption caused during feeding. The most sensitive cultivars are white vinifera (such as Pinot Gris and Chardonnay), although some hybrids (e.g. Cayuga White) are also quite sensitive to this insect. The injury can delay the establishment of young vineyards and can compromise the vine's ability to grow a large canopy that is needed to ripen fruit.



Potato leafhopper nymph on Chardonnay in Allegan Co.  
Photo: S. Van Timmeren.

Potato leafhoppers arrive in Michigan on southerly winds each spring, although their timing and abundance vary greatly between years. A small number of leafhoppers can cause a sensitive response in vines, resulting in a low threshold for this insect in vineyards of sensitive varieties. As few as one potato leafhopper nymph per leaf is sufficient to cause the typical symptoms and measurable reductions in vine growth. However, these studies also suggest that vines can recover from damage if the insects are controlled. We are currently working with Paolo Sabbatini to examine the response of vines with varying levels of resistance and different crop loads.

These insects also prefer to feed on the youngest tissues of grape shoots, so they tend to move to newly-expanded foliage. This creates a challenge for vineyard managers in the spring because if a foliar spray has been applied, the rapid shoot growth at this time can

mean that new (unprotected) leaves are present within days of an insecticide spray. Often this leads to repeated application of insecticides to maintain protection of the vines, particularly in years when potato leafhopper populations are high or when storm fronts bring repeated infestations to Michigan.

**Scouting for leafhoppers.** In vineyards sensitive to this pest, early detection is the key to maintaining protection against injury. Weekly scouting should be done through the spring, with more frequent spot checks immediately after rain storms from the south. Potato leafhoppers live on the undersides of leaves and on stems, and move sideways when disturbed. They are bright green and



Leaf yellowing (Above) and leaf cupping (Below) are symptoms caused by potato leafhopper. Photo R. Isaacs



about 1/8 inch long. Shaking the foliage of a vine can be used to see if any adult PLH are present (they will fly off the vine), but this will not help in detecting the nymphs which cannot fly. Adult PLH arrive first and lay eggs in the leaves, and the eggs hatch into nymphs in early-mid June. Both nymphs and adults can cause vines to exhibit leaf injury, cupping, and shoot stunting so it is important to count both stages.

**Cultural control of potato leafhopper.** Host plant resistance is the main approach that can minimize pest pressure from potato leafhopper. Vineyards of juice grapes or thick-leaves hybrid varieties tend to have minimal concerns with this insect.

**Chemical control of potato leafhopper.** *Foliar applications:* Application of an effective insecticide to the foliage can quickly stop PLH from feeding on the

vines. Grape growers currently have a number of effective broad-spectrum insecticide options available, including Sevin, Lannate, Brigade, Sevin, Danitol, Capture, Baythroid, and Imidan which will provide a week or more of protection on the treated foliage. Although they are all active on leafhoppers, the performance of all of these insecticides is reduced by leafhoppers moving to untreated parts of the vine that have grown since the spray was applied. This means that another application may be needed to control PLH that move into the vineyard after the earlier spray. To address this problem, growers now have a number of systemic neonicotinoid insecticides that have valuable properties for PLH control. These provide long residual control because they are absorbed into the foliage after spraying, move within the plant to improve the chance of controlling the leafhoppers, and this makes them much less sensitive to being washed off. Members of this class of insecticides now registered for use in vineyards include Provado, Assail, Actara, and Belay, and the recently-registered Scorpion.

*Soil-applied applications:* Systemic insecticides provide unique tools for growers because once the insecticide is in the vine, it should provide a long duration of protection against insects feeding on the leaves, stems, and shoots of grapevines. This group includes rosechafer, Japanese beetle, leafhoppers, scale, and mealybugs. Once the insecticide is absorbed by the roots, it moves in the transpiration stream to the foliage. Insects feeding on the vines would then receive a dose of the insecticide, causing either repellency, or death. Potential benefits of this approach to insect control include: longer duration of residual control against foliar pests, protection of insecticide from wash-off, control of multiple pest types with one application, minimal worker exposure to pesticide residues, and reduced toxicity to natural enemies.

To get the insecticide into the plant, the soluble insecticide is typically delivered through a drip irrigation system. This is preferable to banding under vines followed by irrigation or rain, as the product moves to the root system more effectively. Our recent research supported this, as we saw high activity only on vines trained to drip, but not in vineyards where the applications were made to the weed-free strip before a rain. There are currently a number of soil-applied insecticides labeled for use in vineyards for systemic control of insect pests, including Venom, Admire Pro, and Platinum.

*Organic options:* Although we have not conducted replicated trials, organic growers have reported activity of 1% Stylet Oil against potato leafhopper. This product can cause temporary inhibition of photosynthesis so it should be used with caution. Another organic option expected to provide control for a few days is the pyrethrum insecticide Pyganic. Neem containing insecticides such as Azadirect and Neemix are also registered for organic producers.

## Early-season scouting for diseases in the vineyard: What to look for

Regular scouting of is the foundation of effective disease management in vineyards and ensures early detection of disease problems before they reach damaging levels. Disease monitoring also helps optimize timing of control measures. Below some tips for scouting and what symptoms to look for.

### Strategies for scouting:

- Familiarize yourself with disease symptoms so you know what to look for.
- Understand basic disease biology (life cycles). This will give you the best indication of when and where diseases are most likely to occur.
- Know where on the vine disease symptoms are most likely to be found first.
- Scout with the sun behind you, and look under the canopy at interior leaves and fruit.
- Walk multiple rows and inspect both sides of the vine.
- Look carefully for disease symptoms within 1-2 weeks after prolonged wet periods.
- Develop vineyard history maps with locations of areas most affected by disease outbreaks and monitor more intensively in these areas.
- Keep track of the weather and pesticide applications to help distinguish disease symptoms from physiological disorders and herbicide injury.

### Tools for scouting

- A 20X hand lens for close-up inspection of symptoms.
- Waterproof notebook and pencil for note-taking.
- Vineyard maps to document location of disease outbreaks.
- Colored tape or tags to mark vines of interest
- Collection bags to gather samples for identification
- Water-insoluble marker to write on tags/tape or on leaves
- Cooler with icepacks to keep samples cool while transporting.

### Early disease symptoms:

- Powdery mildew: inspect leaves closest to the trunk as the fungus overwinters in cracks in the bark and clusters in the interior of the canopy. First colonies may be small and a faint white. Hold leaves sideways to see young colonies better. Early colonies may also be present on the underside of the leaf (radiating fungal threads and brownish specks) and are indicated by a vague yellow spot on the upper surface of the leaf. Young berries will have a whitish gray, floury coating on the shoulder or other part of the berry.
- Downy mildew: look for yellow oil spots on leaves close to the ground and white sporulation on the lower leaf surface. Sporulation requires high humidity. Also look for suckers covered with white sporulation close to the ground. The shoots may be thickened and curved. In highly susceptible cultivars (e.g., Chancellor), also look for misshapen flower clusters for white sporulation. Young berries may show rosy pink flecking and have white spores on them.
- Phomopsis: look for small brown specks and streaks on shoot internodes, leaves, flower and fruit clusters. The spots are pin-prick size and on leaves, develop small yellow halos around them. Hold the leaf against the light to see the yellow halos better. If there are many spots, the leaves may be somewhat crinkled. If spots are predominantly round, they are probably not Phomopsis but black rot or chemical injury.
- Black rot: look for small round, leaf spots with light-brown centers and dark margins. Look for tiny black pimples in a circle to confirm that it is black rot and not Gramoxone injury. No symptoms will be visible on fruit until bunch closing or veraison, at which point early infections look like creamy white spot surrounded by a spreading brown ring.
- Anthraco: look for small irregular dark brown spots on leaves that develop a lighter center and shot holes. They often follow main veins and cause the leaf the curl under or be crinkled. On shoots tips and internodes, the spots are blackish brown and sunken and can coalesce to kill young shoots. The spots later develop grayish centers. On flower clusters, blackish spots may cause the clusters to twist, resulting in

cork-screw-shaped clusters. On young berries, spots are round and purple to gray with a dark rim. They are also called “bird’s eye” spots because of their resemblance to a bird’s eye.

- Eutypa dieback: At about 10 inches of shoot growth, scout the vineyard and look for pale stunted shoots with short internodes and cupped leaves. The leaves will may pale green with almost white rims. As the leaves expand, they will crack and become tattered-looking. If you wait until later in the season, the stunted shoots will be overgrown by healthy shoots and the symptoms will become harder to observe.

### Vineyard Scouting Calendar

Vine growth stage	Bud swell	1-5" shoot	8-12" shoot	Pre-bloom	Bloom	Pea-sized
<b>Insects</b>						
Cutworm	+	+				
Rose chafer				+	+	+
Grape berry moth				+	+	+
Grape leafhopper				+	+	
Potato leafhopper			+	+	+	
Japanese beetle						
<b>Diseases</b>						
Phomopsis		+	+	+	+	+
Black rot		+	+	+	+	+
Downy mildew			+	+	+	+
Powdery mildew		+	+	+	+	+
Botrytis bunch rot					+	
Anthraco		+	+	+	+	+

Usual time for monitoring and control.
  Lesser risk, but monitoring and control may still be required.
  Dormant sprays
 + Potential period of insect activity or disease infection risk.

### Vineyard Scouting Calendar

Vine growth stage	Berry touch	Bunch closing	Veraison	Pre-harvest	Harvest	Post-harvest
<b>Insects</b>						
Cutworm						
Rose chafer						
Grape berry moth	+	+	+	+	+	+
Grape leafhopper	+	+	+	+	+	
Potato leafhopper	+	+	+			
Japanese beetle		+	+	+		
<b>Diseases</b>						
Phomopsis	+	+	+	+	+	
Black rot	+	+	+			
Downy mildew	+	+	+	+	+	+
Powdery mildew	+	+	+	+	+	+
Botrytis bunch rot		+	+	+	+	
Anthraco	+	+	+	+	+	

Usual time for monitoring and control.
  Lesser risk, but monitoring and control may still be required.
 + Potential period of insect activity or disease infection risk

## 2011 NW Wine Grape 'First Friday' Meetings

Sponsored by Parallel 45 Vines & Wines  
 Info: Jay Briggs, 231-499-0763; Duke Elsner, 231-357-8353

*Please note that all meetings do not fall on a Friday this year due to holidays.*

**June 3**

**3-5PM**

**Crain Hill Vineyards - Leelanau**

Topics: Shoot thinning, leaf pulling

**June 30 (Thursday)**

**3-5PM**

**Leorie Vineyard - Old Mission**

Topics: Crop estimation

**August 5**

**3-5PM**

**2 Lads - Old Mission**

Topics: MSU cover crop trials

## Experimental Winegrape Variety Tasting

Sponsored by MSU Extension  
 Info: Paolo Sabbatini, 517-355-5191 X1302;  
 Paul Jenkins, 517-648-5099

**June 1**

**1-4:30PM**

**Spartan Cellars - MSU Campus, E. Lansing**

\$20 per person

## Short Course on Aromatic White Wine Production

Sponsored by MSUE, MGWIC, and MWF  
 Paul Jenkins, 517-648-5099

**June 2**

**8:30AM-4:30PM**

**Kellogg Hotel & Conference Center - MSU Campus, E. Lansing**

\$95 for 1st person from each winery; \$30 each additional person from same winery.

[Register online here.](#)

## 2011 SW Grape Grower Meetings

Sponsored by MSU Extension  
 Info: Diane Brown, 269-605-6305

Registration includes lunch, and is 15.00 per person/meeting, paid in advance, 20.00 paid the day of the meeting. Please register in advance with Linda Gustafson at the Berrien County MSUE office (269-944-4126). Checks should be made out to Berrien County MSUE and mailed to 1737 Hillandale Rd, Benton Harbor, MI 49022.

**June 8**

**12-3PM**

**Cronenwett Farms - Lawton**

Registration: \$15/\$20 per person, lunch provided

Topics: Shoot thinning, leaf pulling

**July 27**

**Viticulture Field Day - SWMREC**

Topics: To be announced

Info: Tom Zabadal, 269-944-1477

**August 10**

**6-9PM**

**Dongvillo Vineyards - Berrien**

Registration: \$15/\$20 per person, dinner provided

Topics: Insect management, spray coverage comparisons using UV dye.

## 36th Annual ASEV-Eastern Section Conference

**July 11-14**

**Sheraton Baltimore North Hotel - Baltimore, Maryland**

*(Symposium on July 12, Pest management: Impacts in the vineyard and winery)*

Registration and information: <http://www.asev-es.org/>