

Vineyard IPM Scouting Report for week of 19 August 2013
UW-Extension Door County and Peninsular Agricultural Research Station

The Many Faces of Downy Mildew

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All too often those of us involved in IPM and extension education give presentations and publish articles in which we show “classic” symptoms associated with diseases or insects. This is done in an attempt to keep things short and simple. However, symptoms of a disease such as downy mildew can vary greatly depending on the time of year, variety, environmental conditions, and pesticide exposure. I recently came across downy mildew that did not resemble anything I have seen in a book or web site (Figure 1). The upper surfaces of leaves were normal looking, but the lower surfaces had diffuse, white growth more or less across the entire leaf surface. The lack of powdery growth on the upper surfaces suggested that this was not powdery mildew, and by microscopy I readily identified it as downy mildew. Unfortunately, I did not take note of the variety. The more classic appearance of downy mildew is distinct white patches of fluffy mold on the lower leaf surface (Figure 2). In both cases the downy mildew pathogen will overwinter on grape leaves in the vineyard. If you made the mistake of thinking that the disease in Figure 1 was powdery mildew, you’d set yourself up for trouble next year when choosing fungicides.

These are just two examples of the many faces of downy mildew. If you are in doubt about what is affecting your vines, you should submit a sample to the Plant Disease Diagnostic Clinic for diagnosis. Information about the clinic can be found at <http://labs.russell.wisc.edu/pddc/>.



Figure 1. Diffuse downy mildew on the lower leaf surface.



Figure 2. Downy mildew lesions sometimes appear as distinct white patches on the lower leaf surface.

Start Protective Measures Early to Keep Birds at Bay

Protecting your grape crop from the ravages of birds is similar to protecting the crop from disease. You need to start protecting the crop before the damage begins. Often birds begin feeding on grapes once veraison begins and damage will continue until the crop is completely lost or has been harvested. There are a number of ways to protect your crop from birds. The goal of any control option is to limit your loss.

In the variety trial in Door County, we have been netting the crop for the past 3 years. The first two years of grape production the vines were not netted and resulted in very little damage from birds. I remember the third production year very well. That was the season when we left on a Friday with the intention of harvesting on Monday. Over the weekend the birds moved into the vineyard and there was not one cluster to harvest come Monday morning. The decision to purchase and use bird netting was simple after that.

Besides using bird netting, growers should also consider implementing other strategies to protect their crop from birds. Propane cannons, sometimes called bird bangers can be used to repel birds. If using propane cannons, use one cannon for each five acres, move the cannon within the five acres to keep birds from acclimating to the location. The interval between blasts should be set greater than 3 minutes.

Another method to deter birds are electronic sound devices. These devices produce sounds that either interfere with birds sensory systems making them feel insecure or produce distress calls of specific birds. These electronic sound devices usually are not objectionable by neighbors living close to vineyards. Since birds quickly acclimate to uniform movements and sounds, using a electronic sound system and propane cannon together often is a good combination.

Visual repellents can also be employed to reduce bird damage. However, be advised that birds respond much more to sound than to visual movement. If using visual repellents, such as scare –eye balloons, reflective tapes or mirrors, be sure to use them in conjunction with sound devices.

Grape berries that are damaged by birds can result in other pest problems. Damaged berries are prone to infection from sour rots and other late season pathogens such as botrytis. Insect pests such as multicolored Asian lady beetles and yellow jackets are also attracted to bird damaged berries (Figure 1 and 2). Reducing damage from birds will reduce secondary pest problems.

Lastly, no matter what device(s) are used to reduce bird damage in the vineyard, the netting, propane cannon, electronic sound device, or visual repellent must be installed before the damage has begun to reduce crop loss. Once birds have begun feeding on grapes it is very difficult to eliminate them from the food source. To reduce loss from birds, integrate a number of devices.



Figure 1. Yellow jackets feeding on bird damaged grape berries.



Figure 2. Multicolored Asian lady beetles feeding on bird damaged grape berries.

What is lurking in the vineyards

A grower submitted a completely necrotic grape leaf (Figure 1) to me this week and I wondered if I could diagnose anything from the sample. I looked at the sample under the microscope and the underside of the leaf revealed downy mildew. I would suspect that some growers may be missing downy mildew on their scouting because the downy mildew this season is more diffuse as Patty McManus has pointed out on page 1 of this report. Time to take out the hand lens on those scouting adventures.



Figure 1. Necrotic grape leaf submitted this past week and offset magnified picture showing downy growth of downy mildew on underside of leaf.



Petite pearl (left) is showing some unknown disease problem at the variety trial at PARS. This same problem has also been reported by other growers. A sample will be submitted to the Plant Diagnostic Clinic for diagnosis. Please email me if you are seeing this same problem in Petite pearl.

Development of wine grapes in the grape variety trials at the Peninsular Agricultural Research Station (PARS) Sturgeon Bay, WI and West Madison Agricultural Research Station (WMARS), Madison, WI



Brianna at PARS 8.19.2013



Brianna at WMARS 8.19.2013



Foch at PARS 8.19.2013



Foch at WMARS 8.19.2013



Frontenac at PARS 8.19.2013



Frontenac at WMARS 8.19.2013

2013

Development of wine grapes in the grape variety trials at the Peninsular Agricultural Research Station (PARS) Sturgeon Bay, WI and West Madison Agricultural Research Station (WMARS), Madison, WI



La Crescent at PARS 8.19.2013



La Crescent at WMARS 8.19.2013



La Crosse at PARS 8.19.2013



La Crosse at WMARS 8.19.2013

2013



Marquette at PARS 8.19.2013



Marquette at WMARS 8.19.2013

Grape progress update of other varieties in the grape variety trial located at the Peninsular Agricultural Research Station.



Grape progress update of other varieties in the grape variety trial located at the Peninsular Agricultural Research Station.



**Degree Day¹ (base 50) Accumulation from April 1 to August 18, 2013 at
Peninsular Agricultural Research Station in Sturgeon Bay, WI**

Date	2013	2012	5 Year Average²
4/1 to 8/18	1420	1843	1724

¹Modified method.

²Average from 2008 to 2012.

**Degree Day¹ (base 50) Accumulation from April 1 to August 18, 2013 at
West Madison**

Date	2013	2012	5 Year Average²
4/1 to 8/18	1895	2324	2162

¹Modified method.

²Average from 2008 to 2012.

**Accumulated degree days¹ (base 50) for the month of March in Sturgeon Bay and
Madison, WI.**

Year	Madison WI	Sturgeon Bay WI
	GDD (base 50, ceiling 86)	
2013	1 ²	0
2012	252	106
2011	13	3
2010	72	38
2009	51	12
2008	1	0
2007	90	41
2006	22	7
2005	40	9
2004	49	11

¹Modified method.

²Data from <http://www.doa.state.wi.us/degreedays/>

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 (920)746-2260 or dean.volenberg@ces.uwex.edu