

Vineyard IPM Scouting Report for week of June 1, 2009
UW-Extension Door County and Peninsular Agricultural Research Station
Sturgeon Bay, WI

Grape Phylloxera

Grape phylloxera is an insect problem that has infested most Wisconsin's vineyards. The tiny aphid-like insect forms galls on grape leaves and roots. The leaf galls do not cause damage unless the surface area of the grape leaves are severely reduced. However, severe leaf galling on young, newly established grape vines can increase the time between establishment and maximum yield. Most French-American hybrids are highly susceptible to the phylloxera leaf form. The most susceptible French-American hybrids are Frontenac, Frontenac Gris, La Crosse, Marechal Foch, Seyval, and Vignoles. The root form of phylloxera is very damaging to Vinifera grape varieties, whereas French-American grape varieties have moderate levels of resistance. The root form of phylloxera is managed by using lambrusca root stocks grafted onto Vinifera. In Wisconsin, our greatest phylloxera concern is managing the leaf form. Grapevines should be scouted and a protective insecticide applied at the first sign of gall formation. Since phylloxera has multiple generations per growing season, often multiple applications of insecticides are needed.



Insecticides for managing phylloxera are either applied as a foliar spray or as a soil application when the first galls appear (see table on page 2). The soil applied insecticides are systemic, meaning the insecticide is taken up by the plant roots and moved throughout the plant in the xylem and phloem. There are a variety of methods to apply soil insecticides, but regardless of the method, the insecticide has to be in the root zone for uptake. To move many of the soil insecticides into the root zone, irrigation is required. These soil applied insecticides have extended pre-harvest intervals compared to many of the foliar applied insecticides. The foliar applied insecticides, Danitol and Thionex must be thoroughly applied since they are contact poisons. The other foliar insecticide Assail has some systemic activity. Assail penetrates the leaf surface and remains under the leaf surface forming a reservoir of insecticide that provides some residual insect control.

Research from the University of Arkansas suggests that foliar applications are more efficacious than some systemic insecticides on the leaf form of grape phylloxera. Danitol and Assail were more effective than Admire Pro. In the study, grapevines were treated when two galls appeared on each vine. Approximately, one month after treatment, grapevines treated with Danitol and Assail had 0.2 and 1.8 galled shoots/vine, respectively. Whereas grapevines treated with Admire Pro had 10.8 galled shoots/vine which was the same as the untreated check.

One of the keys to managing grape phylloxera is monitoring your grapevines and timely applications once galls are observed. There is no curative insecticide that will manage grape phylloxera once galls have formed on grape leaves.

Insecticides for grape phylloxera management in Wisconsin.

Insecticide	Use Rate	Application method	When to apply	Chemical class	PHI (days)
Admire Pro ¹	7-14 fl. oz./acre	Soil	Bud break to pea-berry size	neonicotinoid	30
Assail 30 SG ²	2.5 oz./acre	Foliar	First sign of galls	neonicotinoid	7
Danitol 2.4 EC ³	10.6 –21.3 fl. oz./acre	Foliar	First sign of galls	pyrethroid	21
Thionex 3 EC ³	1.33-2 qts./acre	Foliar	First sign of galls	organochlorine	7
Thionex 50 W ³	2-3 lbs./acre	Foliar	First sign of galls	organochlorine	7
Platinum 75 SG ¹	2.67-5.67 oz./acre	Soil	First sign of galls	neonicotinoid	60
Venom 20 SG ¹	5-6 oz./acre	Soil	First sign of galls	neonicotinoid	28

¹Admire Pro, Platinum, and Venom are systemic soil applied insecticides that are taken up by the plant roots and moved throughout the grapevine. All of these insecticides are highly toxic to bees exposed during treatment.

²Assail is a foliar applied insecticide that has some systemic qualities.

³Danitol and Thionex kill insects on contact and have no systemic activity.

For further information on insecticides for grape phylloxera management, please consult the labels listed below.

Admire Pro <http://www.cdms.net/LDat/ld74S035.pdf>

Assail 30 SG <http://www.cdms.net/LDat/ld8II009.pdf>

Danitol 2.4 EC <http://www.cdms.net/LDat/ld520030.pdf>

Thionex 3EC <http://www.cdms.net/LDat/ld69B008.pdf>

Thionex 50W <http://www.cdms.net/LDat/ld69C002.pdf>

Platinum 75 SG <http://www.cdms.net/LDat/ld8IH004.pdf>

Venom 20 SG <http://www.cdms.net/LDat/ld74M003.pdf>

What's lurking in the vineyards this week?



Climbing cutworm damage



Anthracnose on wild grapes on vineyard border

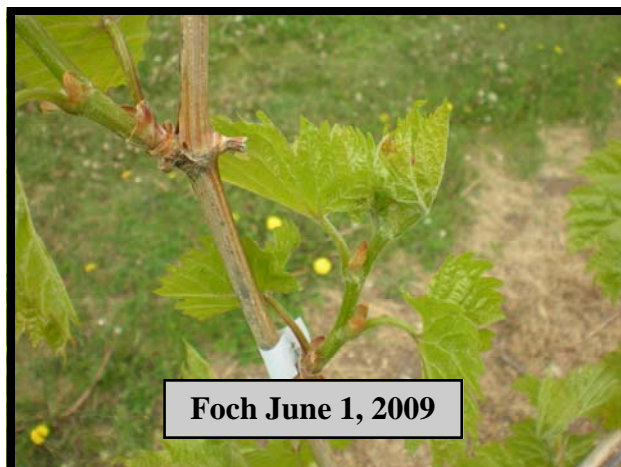


Frost damage of grapes at Peninsular Agricultural Research Station on May 31, 2009

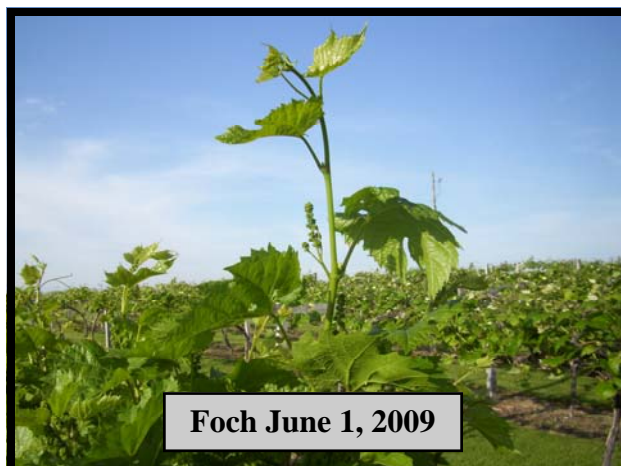


Potato Leaf Hopper on grapes at Peninsular Agricultural Research Station on June 1, 2009

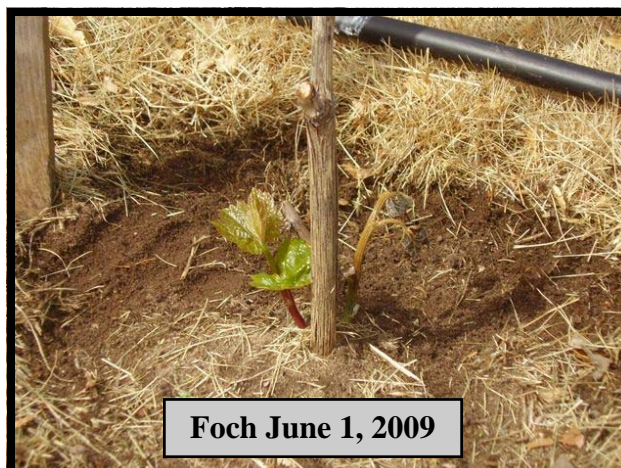
How are well established mature grapevines developing in Sturgeon, Bay Wisconsin?



How are well established mature grapevines developing in Vernon County Wisconsin?



What stage are second year grapevines at Spooner Agricultural Research Station. Compare these pictures to those on the following page and it becomes apparent how important location is for growing grapes.



What stage are the second year grapevines at West Madison Agricultural Research Station?



Foch West Madison ARS June 1, 2009



La Crescent West Madison ARS June 1, 2009

What stage are the second year grapevines at Peninsular Agricultural Research Station?



Foch Peninsular ARS June 1, 2009



La Crescent Peninsular ARS June 1, 2009

Growing Degree Days¹ from April 1 to May 31

	2009	2008	5 Yr. average
Peninsular ARS	277	255	299
W. Madison ARS	413	361	467 ²

¹Modified method

²3 year average for West Madison ARS.



An excellent example of good weed control in a newly established vineyard in Door County

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