

Vineyard IPM Scouting Report for week of May 4, 2009
UW-Extension Door County and Peninsular Agricultural Research Station
Sturgeon Bay, WI

Welcome to the first vineyard IPM scouting report for Wisconsin grape growers

With this report and those that will follow on a weekly basis through the growing season, UW-extension specialist and county based faculty will report on grape pest pressures occurring around Wisconsin. These reports will include information on insect and disease pressures and suggest management options. In addition, these reports will contain growing degree days (GDD) at base 50. GDD help you track the phenological development of your grape vines from year to year and the information is useful for monitoring the development of certain grape insect pests. With vineyards located in the extreme north and southern parts of the state, there is a large difference in the major stages of grape development. With each of these major stages of grape development different pest pressures occur. Please read the article that follows on identifying stages of grape development.



The Stages of Grapevine Development

Grapevine development is often described as having 5 major stages. These stages are budburst, flowering, full bloom, veraison, and harvest. In addition to these major stages there are 47 other stages that occur between the first stage or winter bud and the last stage or end of leaf fall. When these stages occur is dependent on the environment in which the vineyard is planted and often development is related to the number of heat units accumulated or growing degree days (GDD) at a base temperature of 50 degrees F for grapes. To calculate GDD please see page 2. Knowing the stage of your grapes during the growing season has many implications. If problems arise during the growing season, often a grape specialist helping solve your problem will need to know what stage of development your grapes are at when the problem manifested. Communicating this information helps the grape specialist pin-point what problems would most often exist during this stage of grape development. Also, cultural and chemical practices are often prescribed at certain stages of grape development. For example, cluster thinning is often performed when the berries are pea-size or smaller. Often you will see chemical labels refer to certain stages when chemicals should or should not be applied such as pre-bloom, flowering, and bunch closure. For the chemicals to be effective in controlling pests, chemicals should be applied at stages as specified on the label. The most widely used system for staging grape development is the Modified Eichhorn-Lorenz (Modified E-L) system. Please refer to this system when staging your grapes for cultural or chemical practices or communicating problems to grape specialists. You can download a PDF of the Modified E-L system at <http://www.uwex.edu/ces/cty/door/>

Calculating Growing Degree Days

There are a number of ways to calculate degree days, but the simplest method is called averaging.

Degree Days (DD) = average daily temperature - base temperature which =

$(\text{Maximum daily temperature} + \text{Minimum daily temperature})/2 - \text{base temperature}$

Example: Calculate DD base 50, given 70 degrees maximum temperature and 35 degrees minimum temperature

$$DD_{(\text{base } 50)} = (70 + 35)/2 - 50 = 2.5$$

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 the second year grapevines at West Madison Agricultural Research Station?



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



ANSWERS

At West Madison ARS the grapevines are now past budburst with leaf tips visible. Using the modified Eichhorn-Lorenz (Modified E-L) system for staging grape development, this would be stage 4.

At Peninsular ARS the grapevines have not progressed as far along compared to West Madison. The Foch grapevines have a woolly bud with some green just showing, this would be stage E-L 3. Whereas the La Crescent grapevines are just starting to have the bud scales open or stage E-L 2.

Growing Degree Days¹ from April 1 to April 30

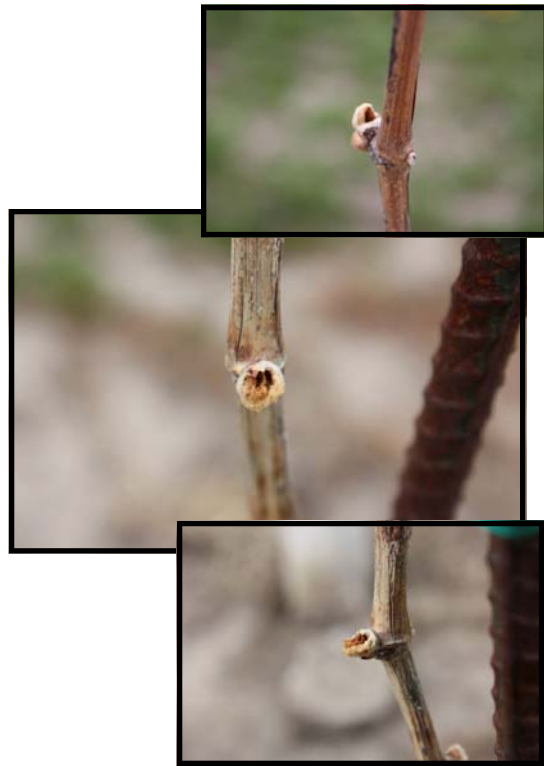
	2009	2008	5 Yr. average
Peninsular ARS	75	76	98
W. Madison ARS	116	113	138 ²

¹Modified method

²3 year average for West Madison ARS.

Grape Flea Beetle

The tell tale signs of grape flea beetle feeding is apparent on the buds pictured at the right. This damage was reported from Madison, WI this week. As temperatures warm and buds begin to expand there is the potential for grape flea beetle damage. You should begin scouting for grape flea beetles in your vineyards now. Grape flea beetles are metallic shiny blue, measuring 4 to 5 mm in length and often will jump if disturbed. Damage in the vineyard appears as hollowed out buds as pictured. Damage from grape flea beetles is sometimes confused with cutworm damage in the early season. Cutworms however will consume the whole bud, whereas the grape flea beetles only hollows out the bud. When scouting, scout borders first as often the flea beetle will migrate into the vineyard from wooded overwintering sites. Once shoots have grown to a length of 1 to 3 inches the potential for damage from the grape flea beetle is reduced. If several buds are damaged and beetle feeding is apparent, you may consider applying a broad spectrum insecticide for control.



Chemical Control Options for Grape Flea Beetle

Insecticide	Chemical Efficacy Rating ¹
Sevin XLR	Good
Danitol 2.4 EC	Excellent
PyGanic EC 1.4 ²	Fair
Evergreen EC 60-6	Good
Baythroid XL	Excellent
Mustang Max 0.8EC	Excellent

¹Chemical efficacy ratings from Michigan Fruit Management Guide 2008.

²Product approved for use in organic production by the Organic Materials Review Institute (OMRI).

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