

Vineyard IPM Scouting Report for week of 7 September, 2009
UW-Extension Door County and Peninsular Agricultural Research Station
Sturgeon Bay, WI

Powdery Mildew

Powdery mildew is one of the fungal diseases that must be controlled throughout the growing season. Unlike many other diseases that can cause disease in grapes, powdery mildew does not require free water for infection. Only moderate to high humidity (40 to 100%) is needed, whereas rainfall is often detrimental to conidia which often burst in water. The optimal temperature range for disease infection is between 68 and 77° F. Conidia move in the wind and are the cause of late sea-



son secondary infections. Although berries become quite resistant to powdery mildew infection 6 to 8 weeks after bloom, grape leaves still remain susceptible to infection. Early fungicide applications starting at pre-bloom until 3 to 4 weeks after bloom, are critical to prevent grape clusters from getting infected by powdery mildew. The timing and number of fungicide applications is dependent on the age of grape clusters as often grape clusters are in variable stages of development throughout the vineyard and even on a single vine. Therefore, fungicide applications should be continued until the youngest grape clusters are past the 4 week post bloom period. Grape foliage should be protected by fungicides even after veraison begins to reduce the amount of overwintering powdery mildew spores. If powdery mildew was a problem in your vineyard last year, then likely it was/is a problem this year and likely will continue to be a problem in the future. Besides using protective fungicide applications for powdery mildew management, the canopy should be managed. Basal leaves should be removed to promote air circulation and allow fungicides and sunlight to fully penetrate the developing grape clusters.

If powdery mildew symptoms are apparent, the damage has already been done and there are limited curative fungicides available. There are some fungicides that have “reach-back” capability that will reduce further damage (See table on following page). If using Bicarbonates (Armicarb, Kaligree, Milstop, etc.) remember these compounds have no protective activity.

Fungicides that have some “reach-back” capabilities for powdery mildew management.

Chemical Class	Fungicide	Use rate	PHI
Sterol inhibitors	Bayleton 50DF	2 to 6 oz/acre	14
	Nova 40W	3 to 5 oz/acre	14
	Procure 50WS	4 to 8 oz/acre	7
	Rubigan EC	5 to 6 oz/acre	21
Strobilurins	Flint	1.5 to 2 oz/acre	14
	Sovran	3.2 to 6.4 oz/acre	14
Bicarbonates	Armcarb	2.5 to 5 lbs/acre	0
	Kaligreen	2.5 to 5 lbs/acre	1
	Milstop	2 to 3 lbs/acre	0

Brix of selected grape varieties from around Wisconsin for the week of 7 September 2009.

Variety	Peninsular ARS	West Madison ARS	Vernon County
		Brix	
Foch	13.8	19.1	17.5
La Crosse	8.0	ND ¹	14.5
La Crescent	14.5	23.1	ND
Edelweiss	ND	ND	13.3
Frontenac	ND	ND	15.5

¹ND represents no data.



**La Crescent at Peninsular ARS
9 September 2009**



**La Crescent at
West Madison ARS
10 September 2009**

Take a look at some of the grape pests that participants saw and learned about at the 2009 Grape IPM Field Days.



Rufus Isaacs from Michigan State University explains the use of pheromone traps to monitor Grape Berry Moth to participants at the Peninsular Agriculture Research in Sturgeon Bay

Rufus explained that pheromone traps are just a starting point in IPM program for Grape Berry Moth and it is important that clusters are monitored if Grape Berry Moths are present in the pheromone traps.



Rufus explained that discolored berries in a red grape variety and webbing (often two berries are webbed together) are signs that Grape Berry Moth is present.

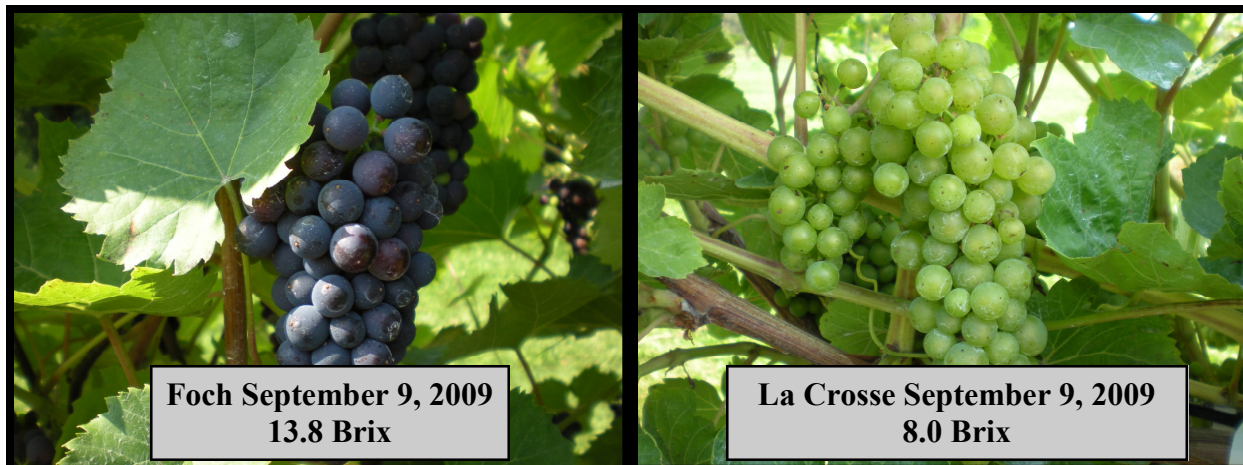


Rufus dissected a grape berry that showed discoloration and webbing and revealed a late instar Grape Berry Moth larvae

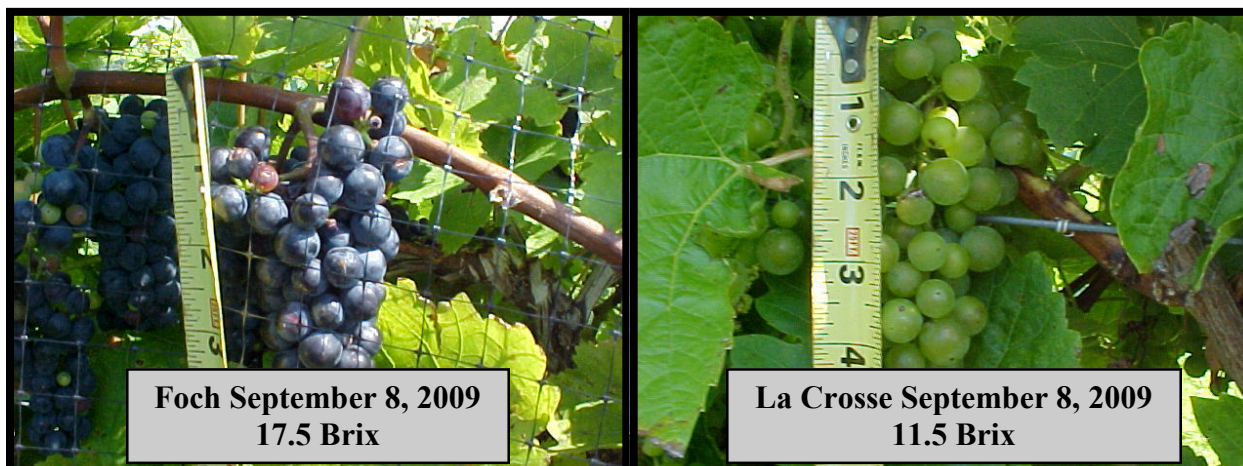


Thanks to Scott Weber for supplying the photographs above.

Fruit development on mature grape vines at Peninsular Agricultural Research Station in Sturgeon Bay, Wisconsin.



Fruit development on mature grape vines in Vernon County.



Fruit development on mature grape vines at the West Madison Agricultural Research Station.



**Foch September 10, 2009
22.8 Brix**

Weekly Degree Day¹ at Base 50 Accumulation at Peninsular Agricultural Research Station in Sturgeon Bay, WI

Date	2009	2008	5 Year Average
7/19	961	1038	1109
7/26	1079	1176	1246
8/2	1200	1313	1402
8/9	1330	1450	1544
8/16	1476	1567	1661
8/23	1579	1707	1776
8/30	1659	1813	1890
9/6	1743	1927	2016

¹Modified method

Weekly Degree Day¹ at Base 50 Accumulation at West Madison Agricultural Research Station, Madison, WI

Date	2009	2008	3 Year Average
7/19	1211	1273	1399
7/26	1324	1419	1545
8/2	1437	1582	1724
8/9	1575	1719	1874
8/16	1732	1833	2011
8/23	1839	1987	2146
8/30	1932	2104	2272
9/6	2018	2220	2392

¹Modified method

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

Understanding Pesticides **An Introductory Course for Commercial Fruit Growers**

- Are you familiar with all the new pesticide groups?
- Do you understand how pesticides work?
- Do you know the difference between a residue and a tolerance, and how these relate to the PHI?
- Do you know all of the legal aspects of a pesticide label?
- Do you understand how pests develop resistance to pesticides? And how to avoid resistance?

If you answered “no” to any of these questions, you may wish to take this UW-Extension workshop for fruit growers.

Course objectives. The purpose of this course is to provide basic information on pesticides, such as their toxicity, the laws that govern their use, and how pests develop resistance to them. The intent of the course is **not** to answer specific questions on controlling specific pests, but instead, to lay a foundation for a better understanding of safe and effective pesticide use. Much of the material in the introductory morning sessions (Pesticide Overview Modules) will be similar to content in Wisconsin’s Pesticide Applicator Training program. If you have Pesticide Applicator Certification, some of this material will be a review; if you are not certified, this information will be a useful introduction to some of the subjects covered in the certification training program. **(But note that this short course is *not* part of the formal Pesticide Applicator Training program.)**

Who may attend? The target audience is all commercial fruit growers, whether just beginning or with a life-long experience growing fruit. Those people new to farming will likely benefit the most.

When is the workshop? Saturday, November 7, 2009; 8:30 – 5:15.

What is the location? University of Wisconsin Extension’s Pyle Center, on the UW – Madison campus.

What is the cost? The **registration fee of \$40/person** covers facility costs, refreshment breaks, lunch, and handouts.

Who are the instructors?

Dr. Dan Mahr is Professor of Entomology and Extension Fruit Crops Entomologist, UW-Madison.

Dr. Patty McManus is Professor of Plant Pathology and Extension Fruit Crops Pathologist, UW-Madison.

Dr. Jed Colquhoun is Associate Professor of Horticulture and Extension Weed Scientist, UW-Madison.

The minimum enrollment for this course is 20 registrants by Friday October 16.

Registration will be capped at 48; registration is first-come, first served.

The final, fees-paid, registration deadline is Friday, October 23.

No on-site registration.

For more information, contact Dr. Dan Mahr at 608-262-3228 or email dmahr@entomology.wisc.edu.

The Day’s Agenda

- 8:30 – Registration
- 9:00 – Pesticide Overview – Module 1
- 10:30 – Break
- 10:45 – Pesticide Overview – Module 2
- 12:00 – Lunch (provided with registration fee)
- 12:30 – Catch-up and discussion
- 12:45 – Fruit crop fungicides
- 2:00 – Break
- 2:10 – Fruit crop herbicides
- 3:25 – Break
- 3:40 – Fruit crop insecticides
- 4:55 – Catch-up; wrap-up; evaluations
- 5:15 – Adjourn

Specific topics to be covered in the morning modules include Pesticide Categories, Understanding Pesticide Toxicology, Spectrums of Pesticide Activity, Pesticide Names, Pesticide Formulations, Pesticide Laws and Regulations, the Pesticide Label, Reducing Pesticide Risk, Avoiding Pesticide Resistance, Pesticide Movement in Plants, Pesticide Application, Understanding Label Rates, Biorational Pesticides, Pesticides for Certified Organic Production.

In the afternoon, specialists will present information about the major groups of pesticides – fungicides, herbicides, and insecticides. The emphasis will be on the characteristics and general uses of specific pesticide groups. Discussions will include conventional and biorational products as well as those for certified organic production.

Understanding Pesticides: An Introductory Course for Fruit Growers

Presented by University of Wisconsin – Extension; Saturday, November 7, 2009

Registration Form

Contact Name _____

Farm/Business _____

Address _____

City _____ State _____ Zip _____

Phone () _____ Email _____

Name(s) of Attendee(s) (for name badges)

(1) _____ (2) _____

(3) _____ (4) _____

Registration fee is \$40/person. Fee covers facility costs, handouts, lunch, and refreshments.

Final Registration Deadline: Friday October 23.

You will be sent a registration acknowledgement.

Number attending: _____ Total amount enclosed @ \$40 each: _____

Make checks payable to: **University of Wisconsin.** *(Sorry, we can not process credit cards.)*

Mail form along with payment to:

Fruit Growers' Workshop
Department of Entomology
University of Wisconsin
1630 Linden Drive
Madison, WI 53706

Important – meal choice! Boxed lunches will include a sandwich, chips, fruit, beverage, and light desert. Please check your choice of sandwich from the following list. If there is more than one attending from your group **on this registration form**, place the initials of the attendee(s) next to the choice of sandwich(es).

Choice 1: Smoked turkey breast on cheese roll, with lettuce, tomato, onion. _____

Choice 2: Corned beef and baby Swiss on onion roll with lettuce, tomato, onion. _____

Choice 3: Pine nut humus & feta spread and veggies on sourdough (vegetarian). _____

The following information is optional, but will guide us in developing the program.

How long have you been farming? a. In the process of getting started.
 b. 1-2 years
 c. 3-5 years
 d. 6-10 years
 e. more than 10 years.

Have you taken the Pesticide Applicator Training Program to become a certified applicator? Yes No

What is your current total producing acreage of fruit crops? _____ acres

What are the primary fruit crops that you grow? (Circle up to 3.)

apple	cherry	grape	strawberry
blueberry	cranberry	raspberry	other (please list)
