Missouri / Arkansas Vineyard and Pest Management News

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Upcoming Events Calendar

July 20-23 (AR/MO) - The July vineyard tailgate meetings will include our special guest speaker, Dr. Bill Sadler, from Purina Mills. He is also a commercial winegrape grower from the Augusta, MO area. Bill will be discussing organic fertilization of vineyards. Due to other commitments, he will only be participating in the Missouri meetings. These will be the final tailgate meetings of 2010. The dates, times and locations are as follows:
- Tuesday, July 20, Lynn Gay Farm, Hindsville, AR, 1:00 to 4:00 p.m.
- Wednesday, July 21, Crown Valley Winery, Ste. Genevieve, MO, 1:00 to 4:00 p.m.
- Thursday, July 22, Les Bourgeois Winery, Rocheport, MO, 1:00 to 4:00 p.m.
- Friday, July 23, Stone Hill Winery Rauch Farm, Hermann, MO, 1:00 to 4:00 p.m.

Vineyard Management:

Petiole Sampling: We are currently still in veraison and as mentioned last time this is the traditional time to take petiole samples for grapevine nutrient analysis in the Midwest. Remember that soil analysis provides information on the nutrients found in the soil but does not tell us whether nutrients are being removed from the soil and utilized by grapevines. The size of the sample should be approximately 100 petioles. Samples can be collected from a select group of vines (reference plot) or by using a consistent pattern across the uniform vineyard block such as sampling from every 10th vine in every 5th or 10th row depending on block size. It is critical that the sample be representative of the vineyard block. Petioles used for analysis should come from the youngest fully mature leaf near the shoot tip. The leaf blade should be removed immediately and discarded. Petioles are then placed in a clean, labeled paper bag (small lunch size). A record of all information regarding the sample should be retained by the grower to allow for sample identification and interpretation of results from the laboratory. Petiole samples should be sent to the laboratory immediately.

Canopy management: Maintain good canopy management practices as we go through veraison and enter the final ripening period until harvest. The period from veraison to harvest is when our bunch rot diseases become most problematic. For diseases such as sour rot, for which there is no chemical treatment, maintaining good airflow and light penetration into the fruiting zone through good canopy management is one of the best preventative practices to reduce the incidence and severity of this disease complex. Also, if you are applying bird-netting to your vines, any canopy management practices performed must be completed before the
netting goes on the vines. Note that pulling the netting down and tying it under the vines’ canopies can compress the canopy somewhat, closing the open area around the fruiting zone created by earlier leaf pulling if that area had begun getting covered over by foliage from lateral shoot growth. A touch-up leaf removal pass may be beneficial before applying the netting. Even if netting is not being used, touch-up passes of shoot positioning and leaf removal may beneficial in more vigorous canopies, especially Norton/Cynthiana.

Irrigation: While many areas around the region have received ample rains, many others have not. I have been sent photos recently of a couple of vineyards that appear to be suffering from drought stress. I have also been told of some others. While we have had widely scattered showers lately, many areas have been running a serious soil water deficit that an occasional shower cannot correct. While grapevines can become relatively drought tolerant after veraison, excessive stress can reduce photosynthesis, hinder ripening, and cause basal leaves to abscise, leaving fruit overly exposed to direct sunlight, thus making them susceptible to sunburn. Irrigation during this period can help alleviate these problems by reducing moisture stress, thus maintaining photosynthetic rates and keeping foliage intact within the canopy. Irrigation rates do not have to be heavy at this time; you’re not trying to encourage growth, except in the case of young, developing vines. You are attempting to maintain a healthy and photosynthetically productive canopy. The amounts to apply will vary with the soil type predominant in your vineyard and the amount of rainfall that you have received recently, but if it hasn’t rained in awhile and the basal leaves (on the exterior of the canopy) are starting to turn yellow and fall off, the vines probably need a good drink of water.

**Alerts:**

**Diseases:**

![Fig. 1. Diseases of the summer bunch rot complex. A. Bitter rot. B. Macrophoma rot. C. One of the many faces of Sour rot.](image)

**Diseases:** Forecasts for this week show moderate chances for rain early in the week throughout most of the region followed by hot, dry conditions. The summer bunch rots generally start becoming problematic as we move on past veraison and fruit will need to be protected against them. By this time of the season, you should be switched over from mancozeb (66-day pre-harvest interval) as the backbone of your spray program to captan (0-day PHI). Captan provides adequate protection against downy mildew and has good to very good activity against the summer bunch rot diseases (bitter rot, ripe rot, macrophoma rot, but NOT sour rot). In the case of all pesticides used, be aware of their pre-harvest intervals as we get closer to the start of the harvest period.

**Downy Mildew:** The weather has not been conducive to downy mildew development recently and it does not appear that this is going to change anytime soon. However, if disease symptoms develop, the phosphorus acid materials ProPhyt, Agri-Fos, and Phostrol provide good clean-up.
**Powdery Mildew:** I continue to receive reports from growers of powdery mildew (PM) infections, some of them rather severe. As I stated last time, many new growers believe that PM is like other grapevine diseases, requiring rainfall to cause infection. On the contrary, PM is hindered by rainfall, but does very well under warm, humid conditions and can have a new generation (and new infection periods) every 5-7 days under optimum environmental conditions (a.k.a. – almost every day of the typical Midwest summer). Be cautious about spreading spray applications too far apart, especially with highly-susceptible cultivars (i.e. – Chambourcin, Seyval, every known *vinifera* cultivar). Also be aware if a powdery mildew infection gets seriously out of hand, it can be extremely difficult to get it completely under control again.

Remember, too, that even if the PM infections on berries are cleaned up, the resulting scarring on the berry surface can open the door for infection by other fruit rots, and that keeping fruit clean and healthy is an important cultural control for sour rot. Stylet oil has been shown to be effective as a rescue material but cannot be used with or within two weeks of a captan or sulfur application.

![Insects](Photo: Donn Johnson, UA)

**Grape berry moth (GBM):** It recently cooled off so the start of third generation is slightly delayed compared to the previous prediction in the 2 July Newsletter. Note that third and fourth generations overlap so you could have larvae entering fruit from 2300 DD through September.

**The 3rd GBM hatch period starts in:**
- **Arkansas** by 8, 12 and 19 July, respectively, in Clarksville, Hindsville and Fayetteville (click: [DD Graph](https://example.com)). We actually saw one small GBM larva in a berry on 13 July in Hindsville, AR.
- **Missouri** by 12, 19, 23, 24, 26 July, respectively, in Cape Girardeau, Barton, Boone, Carroll, Crawford Co. (click: [DD Graph](https://example.com)).

**Monitor:** Growers should begin weekly checking of 300 clusters on perimeter vines adjacent to woodlot for damage by GBM larvae ([Fig. 2](https://example.com)).

**Control:** Apply full vineyard insecticide sprays during hatch periods.

**Japanese Beetle:** *Vines defoliated by Japanese beetles may die.* Growers in Arkansas and Missouri continue to report foliar feeding damage by Japanese beetle adults in grapes and other fruit crops.

**Monitor:** Watch for beetles defoliating the upper canopy of grapes, especially ends of rows where the insecticide sprayer may have been shut off too early.

**Control:** Spray insecticide to susceptible cultivars when you see significant defoliation. Typically, growers apply 2 to 4 weekly sprays to prevent defoliation.

**Grape phylloxera (GP):** In Arkansas (click: [DD Graph](https://example.com)) and Missouri (click: [DD Graph](https://example.com)), the third generation GP crawler emergence period is over and fourth and later generations will probably emerge from now into September.

**Control:** Insecticide best applied at start of 2nd and 3rd crawler periods (500 and 1080 DD).
**Green June beetle (GJB):** Soil soaking rains that occur from the last week of June to mid-July are often followed by emergence of adult GJBs from soil in pastures. After mating and laying eggs in soil in the pasture, the adults get hungry and search for and feed as group on ripening fruit. This insect can cause fruit loss in July to early August (peaches, Table grapes, blackberries, raspberries, blueberries, apples, and even cobs of corn).

**Monitor:** Watch for GJBs flying into fruit planting.

**Control:** Apply insecticide when you start to see clusters being fed on by GJBs.

**Insecticide Efficacy Chart for Grape:** Click: [http://www.oardc.ohio-state.edu/grapeipm/Pesticide.htm](http://www.oardc.ohio-state.edu/grapeipm/Pesticide.htm)

**List of pest management suppliers:** Click [Suppliers](http://www.oardc.ohio-state.edu/grapeipm/Pesticide.htm)

**Guides giving recommended grape insect and plant disease control products (available online):**

1) “Midwest Small Fruit & Grape Spray Guide 2010”
   (Click [Grape Guide](http://www.oardc.ohio-state.edu/grapeipm/Pesticide.htm); or type in [http://www.ag.purdue.edu/hla/Hort/Pages/sfg_sprayguide.aspx](http://www.ag.purdue.edu/hla/Hort/Pages/sfg_sprayguide.aspx))

2) “2010 Arkansas Small Fruit Management Schedule”
   (Click [MP467](http://www.oardc.ohio-state.edu/grapeipm/Pesticide.htm); or type in [http://www.uaex.edu/Other_Areas/publications/PDF/MP467.pdf](http://www.uaex.edu/Other_Areas/publications/PDF/MP467.pdf))

**Disclaimer:** Much of the information is this newsletter was gathered by the authors. All monitoring and control recommendations are given to aid growers in managing insects and diseases whereas chemical information is given with the understanding that no endorsement of named products is intended nor is criticism implied of similar products that are not mentioned. Before purchasing or using any pesticide, always read and carefully follow the directions on the container label.