

May 20, 2009

It's that time of year when many of you are out and about scouting for the earliest signs of powdery mildew and implementing your vineyard spray programs throughout the state. Here's a quick status update for powdery mildew forecasting and management.

Powdery mildew can show up as flag shoots in poorly managed vineyards. Keep an eye out for these or search unmanaged vines for these shoots. These are a result of infection last year and packed with conidia and can readily begin a powdery mildew epidemic.

Yellow (chlorotic) spots can often be seen on young leaves this time of the year. They are few in number and widely scattered throughout a vineyard (Figure 1). Although these spots may be due to powdery mildew, a wide variety of other causes, such as foliar insect feeding or even herbicide drift, are usually responsible. The first symptoms of powdery mildew on leaves will be a slight discoloration of the leaf in the area of the infection and may not be strikingly visible. Once colonies begin to produce spores they are more easily seen when the sun is over your shoulder lighting up the leaf spot in question.

Surveys across the Willamette Valley have shown that powdery mildew seems to show up first on the pathology research farm at Corvallis. Although many of the first yellow spots that show up are *not* due to powdery mildew, they have historically occurred within one to two weeks of the first powdery mildew colonies, according to Dr. Jay Pscheidt of OSU. These spots were found early this week and are a useful guide when scouting for the disease and timing first spray applications.

Unfortunately this same relationship has not held true for commercial vineyards according to Dr. Walt Mahaffee of USDA-ARS. Yellow spots due to causes other than powdery mildew have been observed in commercial vineyards since late April. This is not a surprise since the Corvallis farm is a research/extension "disease garden" with very high inoculum levels. Disease development in heavily managed commercial vineyards would be expected to be later.

The Pearson-Gadoury Model, used to forecast ascospore infection events, indicated that conditions were suitable for infection at the Botany Farm in Corvallis, OR on 4/17, 5/2-5/7, 5/12, 5/18, and 5/19. However, none of the 11 vineyards in the Willamette Valley being monitored with spore traps by Walt Mahaffee's group has had a positive detection of powdery mildew spores.

If you haven't had your spray program for powdery mildew implemented at this point, you probably are OK, but it is the time now to get prepared to begin your program. Don't forget to

adequately calibrate your equipment beforehand. For more information on spray programs and sprayer calibration, see the *OSU Pest Management Guide for Winegrapes* online at <http://extension.oregonstate.edu/catalog/pdf/em/em8413-e.pdf>. If you'd like to manage your vineyard conservatively, you should have a spray program implemented no later than the end of next week.

For those of you registered for the OSU Vineyard Sustainability and Mechanization workshop on Thursday, May 21, you'll hear more about disease control and the spore trapping method to predict infection potential.



Figure 1. The leaf on the left exhibits a single chlorotic spot, which is in closer focus in the photo on the right. Early in spring, these chlorotic spots have not been found to be due to powdery mildew infections, at least in the cool climate of the Willamette Valley.
Photo: P. Skinkis