

## 2012 VINTAGE UPDATE: 25 MAY

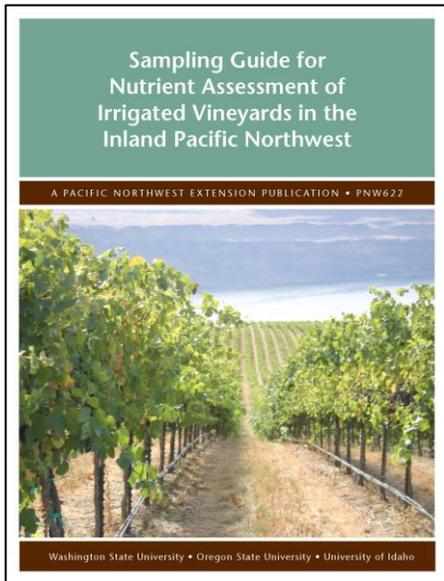
By Michelle Moyer, Viticulture Extension Specialist

The 2012 growing season is marching forward, going into the bloom period with [growing degree day accumulations](#) and [precipitation](#) mirroring historical averages in most AVA representative locations.

A few locations are still seeing the ramifications of the 2010 Thanksgiving freeze, noted by reduce shoot vigor and spur position skips on vines that were damaged, but not sufficiently so to be retrained. Across the Valley, there were increasing reports of erratic budbreak and poor shoot development over the last few weeks; this was attributed to the dry winter conditions and insufficient soil moisture as mentioned in previous [Vintage Updates](#). Recent rains, however, helped level the playing field in terms of vine growth. Of course, this silver lining came with a cloud, which was increasing powdery mildew pressure related to infection events and overall favorable weather for development.

Recurrent frosts in May have also touched some vineyards, particularly in the Puget Sound and Walla Walla Valley AVAs. While shoot damage has occurred, no major reports of crop loss were made, as these events were light and early enough for clusters to escape significant damage.

### **Nutrient Status and Tissue Testing**



As we rapidly approach the onset of bloom, knowing the nutritional status of your vine is important to avoid potential yield and quality issues. Deficiencies in micronutrients such as boron (B) or zinc (Zn) can result in poor pollen viability, and ultimately, poor fruit set. In severe cases, poor fruit set can substantially limit yield; in other cases, reduced fruit set is compensated by the plant via increased berry size and thus, a lower skin : volume ratio, which may be undesirable in certain varieties of wine grapes.

The best way to know if vine problems are related to nutritional deficiencies is to test for them. Generalized fertilization regimes, especially with micronutrients, can result in either insufficient application to correct the problem (and thus, wasted application time and money), or excess application that can result in vine toxicity. While soil tests do provide an estimate of potentially available nutrients for vines, they do not represent the vine nutritional status, and soil deficiencies are not always manifested in the vine, and vice versa. In an establishing and established vineyard, the best way to determine vine nutritional status is coupling the results of a tissue test with that of visual cues of vine health. While the ideal timing to

do tissue testing is often debated, the common ground all share is that: 1) You should do tissue testing before determining your fertilizing regimes; and 2) You should tissue test at a similar time each year to aid in annual comparisons. The two current favored times for tissue testing are at either bloom or véraison; current recommendations by WSU favor the véraison sampling period. Additional guidelines for tissue testing can be found in the Extension publication: PNW622 titled "[Sampling Guide for Nutrient Assessment of Irrigated Vineyards in the Inland Pacific Northwest](#)."

**Nitrogen:** Peak vine accumulation of nitrogen (N) is between bloom and véraison, with a uptake particularly high near bloom (Schreiner, 2006). Similar results were also seen in Concord (Pradubsuk and Davenport, 2010). Application of nitrogen prior to budbreak, or before soils reach a temperature of at least 55°F is inefficient, and does

not maximize vine uptake. If you have not applied N and you need to, we are approaching an ideal time to do so. NOTE: Vines uptake nutrients via water, so irrigation is essential during broadcast/soil application of nutrients.

For those who might be interested, Oregon State University's Viticulture Extension program has an excellent online learning-module related to vine nutrition and nutritional deficiency diagnosis. It is an interactive OSU Extension Publication #EM9024, titled "[Grapevine Nutrition](#)". In addition, eXtension.org, a website for National Extension activities, has an excellent online article regarding [Grapevine Nutrition](#).

Pradubsuk, S., and J.R. Davenport. 2011. Seasonal Distribution of Micronutrients in Mature 'Concord' Grape: Boron, Iron, Manganese, Copper, and Zinc. J. Amer. Soc. Hort. Sci. 135:69-77.

Schreiner, R.P., and C.F. Scagel. 2006. Nutrient Uptake and Distribution in a Mature 'Pinot noir' vineyard. HortSci. 41:334-345.

### **Recap of Powdery Mildew Alert (Originally emailed: 23 May 2012)**

*By Gary Grove, Plant Pathologist, and Michelle Moyer, Viticulture Extension Specialist, WSU-IAREC*

The precipitation / warm temperatures early this week (Sunday, 20 May and Monday, 21 May) in eastern Washington were ideal for primary infection (i.e. epidemic initiation) by the grapevine powdery mildew fungus.

Similar conditions were seen in mid-April, however, bud burst had not occurred in many locations. The powdery mildew fungus requires green, photosynthetic tissue for infection, growth, and reproduction, making these April primary infection events "marginal". The recent disease-conducive precipitation / temperature conditions during the prebloom period are a serious concern.

Fortunately, the windy and cool weather predicted for the next several days should help reduce the reproductive speeds and spread of powdery mildew. However, growers should assume that the recent weather conditions resulted in disease establishment in local vineyards. This assumption is necessary in proactive disease management, as environmental conditions can change rapidly, and the fungus can respond to those changes with equivalent speed.

*We are entering the critical period for infection of fruit, which will last for about 6 weeks and runs from approx. 2 weeks prebloom to 3 weeks post-fruit set. Apply fungicides at recommended rates, intervals, and ensure good spray coverage. Keep tractor speeds at less than 4 mph, do not practice every-other row spraying, and if you haven't done so already, make sure all nozzles are functioning properly.*

We have been watching our untreated Chardonnay vines and to date, have not seen symptoms and signs of powdery mildew. We will be checking these vines almost daily, and will notify you when we observe the first symptoms.