Hangtime and Extended Ripening
- A Presentation by Stan Grant at VASCM's August 9 Meeting

This presentation discussed the findings to date of a review of currently available documentation concerning extended ripening conducted by CAWG, the California Association of Winegrape Growers. Current documentation is not extensive, but additional trials are being conducted throughout the State and following this year's harvest will contribute to the research. If you wish to participate and contribute data, the protocol can be found on the VASCM website at www.vascm.org (click here). It involves weekly sampling and measurement starting at about 21° Brix and leaving some grapes to measure until 30° Brix.

Extended ripening is a fairly recent phenomenon that seems to have accompanied the grape glut, and the growing prevalence of big, robust wines. Specifically, this means letting the fruit hang longer than 'usual' in order to acquire more so-called 'desirable' flavors and aromas, which by and large include fruity characteristics (i.e. berry and cherry. Generally, vegetative flavors, such as grass, bell pepper and green vegetables, are considered 'undesirable'. Hangtime refers to the period of time the fruit is left on the vine, and certainly you want the fruit to fully ripen. Extended ripening takes this to an 'extreme' length of time, where fruit usually harvested at, for example, 24° Brix or so is encouraged to hang until 27°, 28°, even 30° Brix.

Growers' concerns about extended ripening include: yield loss; increased risk of fruit damage and disease (i.e. botrytis bunch rot); and shortened post harvest periods, which may reduce the plant's ability to store reserves for the following year. To what extent are these concerns substantiated? Stan Grant and the California Association of Winegrape Growers (CAWG) set out to review all of the available documentation on the topic to find out. So far, available research indicates that:

1. **Extended ripening does not necessarily improve 'desired' flavors, and in fact can reduce them**. Vegetative flavors are most prevalent at veraison, degrade slowly, and are hardly present when the fruit is fully ripe. At optimal ripeness the fruit enjoys a 1:1 glucose/fructose balance, but glucose sugar levels actually taper off with overripening. Dessication concentrates solids as the fruit ripens, and 'desirable' flavors decline as overripe flavors, such as raisin, date, prune, jammy, and dried fruit increase. Overripening also leads to loss of acidity and higher pH levels.

2. **Extended ripening does result in significant yield loss**. Beyond optimal ripeness fruit loses water and therefore, weight. Using a yield model, a loss of 0.1 grams resulted in the loss of 0.5 tons per acre for a yield of about 4.0 tons per acre at conventionial ripeness. In reality, yield loss during overripening is dependent on several factors, such as berry size and water content at ripeness, weather conditions, variety and other vineyard attributes. One trial documented a 5.2% yield loss in Syrah with an extended ripening that raised its **B**rix level by 3.1

points; and for Grenache by 10.6% over 3.9 points Brix. (Ironically, it is not unusual for wineries to add the water back during the winemaking process.)

3. **Extended ripening does not have an overtly deleterious effect on healthy vineyards, but does increase the risk of decline in vineyards challenged by pests, diseases, deficiencies, disorders, and stresses.**

4. **Extended ripening does not prohibit the plant from storing minimum reserves for the next year, but does reduce the accumulation of 'extra' reserves.** The available documentation indicates that post-harvest periods are not essential for healthy plants to sustain vine health, but it certainly is beneficial. By mid-season the plant accumulates the minimum carbohydrates necessary for next-year growth in its root system, but additional carbs that support the plant's vigour and aid in more rapid ripening accumulate through the remainder of the year. Vines that have been compromised during the year especially rely on the post-harvest period to store nutrients and recover for the following year, and if not given the opportunity can lead to vine decline.

Ultimately, what is most important is to design and manage the vineyard well so that sugars and flavors develop early, and the fruit does not need to undergo extended ripening.