Managing Winter-Injury Part II

by Tim Martinson

Early in the season we posted Managing Winter-Injured Vines to provide some background on vines just a few weeks after budburst. In this post, I'll cover two mid-season items: Vine collapse and managing suckers for trunk replacement.

**Vine collapse:** Warmer summer weather leads to increased evaporative demand from grapevines, and trunk injury reduces the vine's capacity to supply water and nutrients from the soil. Vines can collapse at any time. We've seen various stages of vine collapse (on a small number of vines) at our Marquette plot in Clayton.

1. **Small berries and shriveling berries.** Leaves still look healthy (but note they are pointing downward indicating water stress), but berries are small and reddish, or shriveling (below). Leaves will start to brown from margins inward.
2. **Later stages.** Individual shoots may dry up while the rest of the vine stays green. Leaves dry out and turn brown. Eventually entire shoots/trunks will dry up and turn brown. Many of the green shoots (bottom) are suckers that will be good candidates for trunk renewal.
3. Trunk renewal: Reducing and training sucker canes for new trunks.

A. Reducing the number of retained suckers. Earlier on, we recommended that growers save as many shoots as practicable to absorb excess vigor that comes from having an intact, mature root system and no crop and/or few shoots. So we retained 6-8 shoots and tied them up loosely with twine. Last week the vines with only sucker growth looked like this (left). We want to remove all but 2 mid-sized shoots (somewhere around pencil width in diameter) so that the remaining shoots will continue to grow to form appropriate new trunks.

B. After suckering. After removing about 6 of the 'extra' suckers, we're left with two medium-diameter canes, with good growth (up to top wire and mid wire). Next year these will be the new trunks and cordons. Important: try to chose canes that come from a good position at the base of the vines (i.e. they don't stick out from the old trunk at funny angles). Next winter during dormant pruning is the time to remove the old, dead trunks.
4. **Bull canes.** Many vines will have long, fat canes that grow out often to 15 or more feet (example below). If you have a choice, avoid retaining these, as they are more prone to winter injury and will make weaker trunks. Here's me with a huge bull cane, almost the diameter of a quarter (right):

![Bull cane example](image)

**Two year process:** Retaining these medium-sized canes and making them into strong, straight trunks may take two growing seasons to complete. If shoots aren't long enough to tie on the top wire and extend into a cordon next year, they can be tied to the mid wire in the interim. But vines should be able to support at least a partial crop next year.