

The Revolution in Grapevine Training

By John L. Smith, Oakstone Winery

(Number 12 in a series of highly opinionated articles about grapes and wine in El Dorado County)

A college professor once warned us “Nothing I say is ever *exactly* true!” And so it is with the advice that I offer for your evaluation in this series of articles. I’ve stressed several times the benefit of limiting the amount of grapes your vines carry each year, both for ripening and for quality. Before going into the new thinking on grapevine training and yield, let me repeat: **If you try to grow too big a crop, it will be of lower quality and may not ripen in a cool year.** Having said it again (and maybe finally), there are a lot of qualifiers we need to consider.

Much of what follows is described (more thoroughly but a lot more technically) in the book “Sunlight into Wine,” by Richard Smart and Mike Robinson, available from the UC Davis Bookstore (530-752-6846) for \$35.00. Dr. Smart is a New Zealander who studied at Cornell University, where many grapegrowing innovations have originated. He has also toured our area and consulted for a number of local grapegrowers, so his advice has local significance.

Balance is the Key

We have allowed ourselves to be somewhat misled by the wonderfully flavored and concentrated wines produced by really old vines, and by the occasionally thin product from a young vineyard’s first crop or two. These two extremes illustrate the principle that vines will produce excellent fruit when they are in balance, and less desirable grapes when they’re not. Old vines produce really good wine not because of the very small crop, but because the amount of crop is balanced with the vigor and leaf area of the vine. In the same way, many young vines don’t yet have the leaves (or the infrastructure) to produce the enthusiastic crop that eager new growers try to raise.

On average, with established vines, you need each year’s shoots to grow only three to four feet long, producing about twenty-five leaves to ripen the two clusters of grapes that each shoot normally carries. If the vine is too feeble to grow the shoot to that length, it’s easy to see that the vine is out of balance, and that you should prune more severely and leave fewer buds the next year. It’s harder, however, to recognize when vines are out of balance because they have too much vigor. One way is to look at the canes at about this time of year. Are they three to four feet long, or did many grow to eight or ten feet? (Last year’s record in our vineyard was twenty-five feet!) Another is to wait until pruning time to compare the weight of all of the canes pruned from the vine to the weight of grapes that the vine produced. A good average for most varieties is about five pounds of grapes for every pound of prunings. More grape weight indicates that you may have overcropped the vine; less means you could have profitably grown more (and possibly better) grapes.

Another indicator is the condition of the growing tip of the shoot at the time the grapes change color. This event is called “veraison” (meaning in French “truthfulness”), but usually pronounced “ver-ay-zhun,” because we aren’t very good at pronouncing French words. When the vine is in balance, the tip of the shoot should cease to grow; if it continues to produce

additional leaves after the grapes become purple, it's a good indication that the vine has extra energy to burn.

How Much is too Much?

Dr. Smart uses the term “California sprawl” in his book. This describes vines with too much vigor, where excessive growth covers the entire landscape with a “canopy” of shoots and leaves. In our area, we grow a lot of grapes on their own roots (or on AxR1 rootstock, which makes them even more vigorous), on deep soils, in an area with ample water, sunshine and warmth. Simply put, the vines have it too good! So, doesn't it seem logical that we could just increase the number of buds left on the vine, increasing the number of grape bunches and decreasing the woody growth until the vine is back in balance? No, that's not *exactly* right! The problem comes when you leave those extra buds and the increased growth piles all over itself so that the lower shoots get almost no sun and can't make enough sugar to ripen the grapes. (Or, in extreme cases, have poor air circulation so they're prone to powdery mildew and the leaves are too thick for protective sprays to penetrate). Then you're back to where you started or even worse.

The trick is to change the trellising system to allow more shoots to grow in such a way that they don't shade each other, while still increasing the number of grapes to “devigorate” the vine. And of course, this is made a lot harder by the timing of your awareness of the need for a change. Until the vines are four or five years old, the excessive vigor usually isn't obvious, and by the time you can tell you have too much vigor, you have a considerable investment of time, effort and money in an established trellis system that's hard to change.

Overhauling the Trellis

I won't try to describe here the various techniques that can be used—they're challenging to understand even in pictures in a book, let alone in a written description. Let's just say that there are techniques such as “vertical shoot positioning,” “Geneva Double Curtain,” “Scott Henry Trellis” and the cryptic TK2T that can work miracles with an overly vigorous vineyard. Dr. Smart gives examples of vineyards where the yield more than doubled after retraining, with better wine made from the higher yield.

One technique that works well if you have an excessive canopy is leaf removal—pulling the leaves from the fruiting zone of the vine (before veraison) will almost always improve this year's grapes and next year's yield by allowing extra sunlight and air circulation around the berries and buds. As usual, timing is everything—we pulled leaves in 1998 the day before the temperature reached 108°, and the grapes suffered considerable sunburn.

If your vineyard, like ours, is blessed with an overabundance of vigor (and you now realize, like me, why attempts to improve the quality of the grapes by *reducing* the crop didn't work), you might want to investigate the new thinking in vine vigor, trellising and yield. It won't be without effort and expense, but if done properly you should recover the cost in only a few years of higher (and better) yield. You may also want the consulting advice of an experienced vineyard manager, so you can get it *exactly* right, this time!