

Grape Sorting for Better Wine

Nelson Stewart

Karamoor Farm Vineyard

As wine grape growers we understand that the quality of the fruit we bring into the winery will have a great, some might say paramount, influence on the quality of wine produced. The old adage about not being able to make a silk purse out of a sow's ear really is true, even with all of the magic winemakers have in their toolbox. We can probably all agree that the best wines are produced from the best grapes, but what about all of the other stuff that can follow the grapes into the fermenter? Leaves, twigs, bugs, unripe and damaged fruit, grass clippings and bits of stems, potentially all add flavors that we probably did not farm for. I'm not sure any of us would think of adding one lug per ton of vineyard MOG back into the fermenter for the flavor benefits they might add. I think each of us, secretly or not, want our hard work and creativity in the vineyard to be reflected and rewarded in the wine. So why do we accept all of this extra stuff going into the must and potentially degrading the quality of what we have worked so hard for?

My harvest experience for many years consisted of picking for most of the day into lugs, at the end of the day transporting the lugs to the winery, weighing a certain number of lugs to get an average, dumping one lug at a time into a neat machine that is suppose to remove the stems, crush the grapes and pump (more likely grinds) the whole mess to wherever. It is a tried and true routine that is pretty common. Perhaps this tried and true process is having a bigger influence on our wines than we recognize or want to admit. This past harvest I was able to run my fruit through a pretty serious regiment of sorting so that by the time the grapes entered the press or fermenter they were the best grapes, the whole grapes and nothing but the grapes. It's made a believer out of me.

Our first step in assuring that only the best fruit is picked was to eliminate in the field as much of the bad fruit as possible before the picking even began. We start going through the vineyard several weeks before harvest and remove any bunches that have unripe or damaged fruit. I am pretty adamant about my picking crew not getting anything other than clean grapes in the lug and I am confident enough in their work and our pre-harvest routine that I don't feel that I need to sort pre-destemming at the winery. However, if one normally gets a lot of extra material coming in with the grapes, removing this before destemming would obviously be a good idea.

We pick into lugs and as 40 or 50 get filled we transfer the fruit into ½ ton bins in the field and bring these to the crush area by trailer two at a time. This system allows me to get the fruit out of the vineyard quickly, get accurate weights of the bins and if needed make adjustments concerning picking, the lugs stay in service until the end of the day and I keep my pickers focused on picking. An added benefit is that we get by with a minimum of lugs because they are reused throughout the day and there are not as many to clean at the end of the day.

Our sorting process began with each bin being lifted by a forklift fitted with a rotating head and emptied into a vibrating hopper which in turn feeds a steady flow of grapes into the destemmer. If you need to sort bunches before destemming a sorting table could replace the vibrating hopper to evenly feed the grapes into the destemmer. This even flow of grapes into the destemmer turns out to be very important and has a huge effect on how well the machine will work. I found that the ebb and flow caused by dumping lugs into the destemmer, no matter how good the machine and how evenly one tries to empty the lug, greatly reduces its ability to work properly. The starting and stopping of grapes is when it throws the most stem bits in with the grapes and grapes in with the stems.

I have also become a believer in using separate machines for destemming and crushing because it's the time in between these two operations where one can most influence the quality of the end product.

There are many types of destemmer on the market but I would look for one that has a variable rotation speed, an easy method of adjusting the destemming shaft finger distance from the screen and the ability to change screen hole size according to the variety, grape size and condition of the grapes being processed. Getting these adjustments correct takes some trial and error but when it's set right it really works great. My experience leads me to believe that these two operations, constant flow and a relatively adjustable destemmer, are the key to having a clean separation of stem from grape and this alone means there would be significantly less green stuff going into the wine. However, it's at this point when we had whole, uncrushed berries that we had the opportunity to really start the sorting process.

After destemming, the whole grapes fell onto an inclined conveyor that lifted the grapes onto a vibrating mechanical sorting machine. There are several sorting machines on the market that work on different principals that could fit into this spot. Ours is a Le Trieur. This machine proved its weight in gold at removing dried grape mummies, bits of stems, seeds from broken grapes and even small bugs. This particular machine works by vibrating the grapes across a large slotted screen allowing small material and any juice to fall in to a catch basin. It too has an adjustment for vibrating speed from woggly slow to shake the beeezes out of it fast. Somewhere in the middle ended up working best. It also served to dose the grapes evenly on to the conveyor of a 12-foot sorting table. At various time throughout harvest I had from 2 to 6 people working this table to look over the grapes and manually pick out anything that looked bad before the grapes fell through a crusher at the end of the table into a bin or dropped into a hopper with a feed screw and a progressive cavity must pump.

What I have learned from going through this process, not something I had completely realized before, is how much unwanted non-grape material comes along with the fruit into the fermenter and how much we could improve our wine by keeping most of it out.

Throughout the harvest we averaged 25-30 minutes a ton in processing time, probably in line with what I had done before, but the result was the grapes and only the grapes on their way to be made into wine. To achieve these results obviously comes at a steep financial cost, mostly in equipment plus some extra labor and may make one question whether it's worth it. I would suggest that adding any one piece of the sorting puzzle to ones existing crush line need not break the bank yet will reap rewards in the form of cleaner fruit and potentially higher quality wine.

Editor's note: I would like to express my deep gratitude to Nelson for sharing this information. Nelson is the vineyard manager of a new wine estate in Southeast Pennsylvania that is focusing on growing high quality vinifera wines. He also consults for other vineyards in the area.