Getting the Best Out of Our Grapes

Clem Joyce, January 2021

I have been making wine for a long time now and continue to amaze myself with the small discoveries I make that tend to improve my wines. Improvements in flavour and nutrients are brought to light in this article.

I test every grape must at the start for the basic specs of sugar, acid and yeast available nutrients (YAN). This allows me to create a successful plan for best results.

Let's start with white wines. I've been making Chardonnay from Okanagan grapes, specifically the Naramata Bench, consecutively for about five years now and had the opportunity to try different yeasts and always intrigued with the varying results. Current commercial wine industry techniques are to press white and rosé grapes quickly after crushing or increasingly it seems, to do a whole berry pressing without crushing. After speaking with some industry professionals this process was highly recommended. I am guessing it is to reduce the tannin pick up from skins and retain freshness in aromas. I usually crush without destemming and press within an hour or two. Grapes are sulphited to about 30ppm and an enzyme like Lallzyme Cuveé Blanc is added to neutralize pectins, help bring out aromas and flavours as well as to help release juice from the pulp and settle the juice quickly. I usually take an early sample of juice to do some initial testing of specs, for a look into the future.

After pressing, the juice is settled with ice jugs for two days. (In retrospect, the settled juice could possibly be drawn off after 24 hours and with a little more turbidity. The two days settling does provide very compact lees. Some review may be in order). The temperature of the juice usually gets down to about 5-8°C (40 – 45F) with wrapping the drum of juice and changing ice jugs every 12 hours. The juice taken off is very clear with compact sediment. A 1000 lbs of grapes yields about 300 litres with about 20 litres of heavy particulate sediment. From here, the juice is tested for specs again and any necessary adjustments are made. Usually, the grapes from our source are near perfect for acid, sugar and potential alcohol.

To the juice, I usually make some early additions like Scottzyme Tannin FT Blanc Soft, Tannin Ft Blanc Citrus and OptiMum White. Approximately 10% of the total volume is separated to make

a yeast starter. I often try a variety of yeasts each year. Some include; Lallemand CY3079, DV10, D254, D47, QA23, Cross Evolution, Vitafirm Alba Frai, Christian Hansen Symphony and Melody.

Through critical tasting evaluations, the variations in mouthfeel, wine aroma and flavour intensity from the various yeast, mostly have been subtle with a few yeasts being standouts for various reasons. The CY3079 and Cross Evolution are a definite mouthfeel standout (definite heavy fermentation foaming) and subdued to moderate fruit, the D254 known for a subtle almond flavour, QA23 for increased fruit but the winners to me are the Symphony with big peachy/tropical fruit (although yeast is no longer available) and Melody, known for complex forward fruit and good mouthfeel. All my chardonnays undergo a co-inoculated malolactic fermentation to retain as much fruity character as possible.

My chardonnays are aged in neutral barrels with some oak additions in the form of chips, cubes or staves. All oak is French oak with sometimes small additions of Hungarian oak to some separate batches. I have not used any American oak additions. This method allows me to tailor the style I want, from light oak to more pronounced. I generally weigh out the oak in either form and add to the wine after fermentation, either while still in glass or directly to the barrel during aging. My does rate is normally 2 - 3 grams per litre. My barrels are smaller 60L – 70L and I put several passes through in a year. Each staying in cask for 2-4 months at a time.

A couple of years back, we were pressing our chardonnay grapes after crushing, the day was getting late, we were half done, and we decided to stop, and finish the pressing the next day. We added 4L ice jugs to chill over night and finished the pressing with about 24 hours skin contact. Both batches were kept separate. We used two different yeasts on each batch. The specs were taken from each pressing and some interesting revelations appeared.

I have been testing must YAN for about 15 years and find it a must do process. The YAN for the no-skin contact was 280mgN/L and the YAN for the 24 hours skin contact was 386mgN/L. Soaking on skins for an extra day leached a significant amount of nitrogen to the must. The sugar / acid specs were consistent for each batch. What a huge factor. What would make it even more significant would be revealed during a later tasting.

The critical tasting with a number of local club members involved samples of several years and different yeasts trials. While there were subtle differences between yeasts, varying amounts of oak additions had a bigger impact on flavour than yeast strains. The wine with one day skin contact had a definite increase in flavour and aroma, much more than the subtle differences of the yeasts. So, skin contact had a much bigger impact than any yeast strain variation. There was

little to no impact of tannin on the palate. I tend to finish my chardonnays with a pH of 3.40 – 3.55 which tends to make them quite round. A recent gold medal at the 2020 Chilliwack Competition seems to reinforce my technique is working.

A recent 2020 batch of Gewurztraminer from the Okanagan Valley has also revealed skin contact brings out substantial YAN to the juice must. Our household likes a little colour in our Gerwurz, so in recent years we have left the crushed must a while before pressing. We feel it brings out more character. We have gone from a few hours in past years to a full one day soak in 2020. This batch was crushed and destemmed. YAN in the First Run juice was about 225mgN/L. We make a second run by adding water and tartaric acid to the grapes that have been pressed. Iced jugs are added and changed every 12 hours to keep temperature in the 5 – 8°C range while soaking. After four days of soaking, the pressed and settled juice SG is about 1.060 which is raised to 1.090 with the addition of cane sugar. The juice YAN in this second run was 230mgN/L. This shows there can be a substantial amount of nutrients in skins and pulp that can be brought out with soaking. Testing is essential, so you know where you are with regards to nutrients and any additions that may need to be made. Excess tannin has not been an issue in the finished wines. We generally finish our Gerwurz with some slight residual sugar varying from dryish .5% RS to sometimes up to 1.0% or sweeter if wanted. I have yet to see the down side of this technique.

One can not assume the YAN will be in the 200 range or higher if soaked for a day. Our 2020 Pinot Gris also from the Okanagan, with one day soak on the skins only showed a YAN of 125mgN/L, so testing is very important.

Red grape musts should give us similar results with increasing YAN as the grapes soak. Further incremental testing of a must sample for YAN specs over the first four to five days would be an interesting process. Something I have not yet done nor ever read about. I suspect there is much more nutrients for the yeast in the must than is initially thought. If testing for YAN is only done once before the yeast is added, a sample taken as late as possible is best. The last thing a winemaker wants is a stuck fermentation, so testing and a plan is paramount.

I would be interested in hearing from other winemakers who may have come across a similar experience.

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