

It has been said that the principal challenges facing winemakers in the years ahead will be: longevity, acidity management and alcohol levels. In no more than 1,000 words, please explain whether you agree or disagree with this notion. You should give reasons for your answer, using examples, references and details.

The control of alcohol and acidity levels by winemakers is increasingly a global issue. They impact both the balance of the wines, their flavor profile and structure. Brought about by a warmer climate, shortened hang times and a trend to favor phenolic ripeness over sugar ripeness, more and more innovative ways are required to handle them. Longevity per se is not such a burning issue. Rather typicity and the ability to make wines offering a sense of place is the topic to control above others if winemakers want to ensure a consistent consumer base in the future.

The fact that alcohol levels in wine have been increasing in the last decades is a proven fact and one that winemakers are more and more seriously taking into account.

In Australia, red wines have registered an increase from 12,3% to 13,9% alcohol average levels between 1984 and 2004 while in Napa, between 1971 and 2001, alcohol levels have risen from 12,5% to 14,8% (*Gregory V. Jones, Past and Future Impacts of Climate Change on Wine Quality, 2006*). If winemakers are to offer a healthy product to customers and consumers alike – which they might as well do considering that the disability adjusted years lost (DALYS) attributable to alcohol consumption in the world in 2002 was a staggering 4,4% (60<sup>th</sup> World Health Assembly data), they will have to adapt in increasingly innovative ways. They will first have to intervene both in the vineyards and the cellar. The winemaker can intervene on canopy management. Following the Australian Wine Research Institute recommendations, and provided excessive bunch exposure is avoided, reduction in leaf area after fruit set allows better sugar synchronization and phenolic ripening, assuring a lower alcohol in wine without affecting flavor profile. Will Drayton, a viticulturist at Treasury Wine Estates in Napa Valley changed the orientation of the vine rows to northeast by southwest so that the sun doesn't pound on the grapes. He also inserted "cross arms," wires that encourage branches to bend over the grapes, protecting them, thus avoiding shriveled grapes and leveling alcohol levels.

Others will look for new areas to plant vineyards. Australian winemaker Nick Glaetzer has moved his shiraz operation to the southern state of Tasmania — a region that is about 38 percent cooler than in the traditional grape-growing region Barossa Valley in southern Australia. The shiraz produced in Tasmanian is less alcoholic — about 15-20 percent lower than the shiraz produced in the Barossa. Intervention in the cellar to reduce alcohol levels is also possible using yeast strains giving lower alcohol levels Reverse osmosis or spinning cone techniques are other ways to mitigate high alcohol even if for biodynamists like Nicolas Joly of La Coulée de Serrant, these methods are extreme and should be avoided because they do not respect the wine.

High alcohol levels are closely linked to acidity levels, which have a direct impact on the wine's ability to age over time.

The matching of sugar ripeness and phenolic ripeness is increasingly difficult, partly due to climate change and its effects on the grapes. Many winemakers tend to favor phenolic ripeness over sugar ripeness, thus harvesting grapes with lower acidity levels and very ripe or overripe tannins. This leads to enhanced risk of *Brettanomyces* development and microbial spoilage of the wines. This makes acidification a common practice in warm climates, and even not as warm like Central Otago in New Zealand's southern island. Even if this helps assure consistency to the wines, it also results in an increased degree of uniformity. Besides, dealing with alcoholic wines pose other technical problems. In highly alcoholic wines, potassium is less soluble and

can combine with tartaric acid, making that the acidity of the wine is reduced even further. High potassium levels in the grape juice cause high pH, which adversely affects wine quality. Overripe tannins cause the stability of must and aromatics to become more fragile, making that the wine can lose its expected aromatic profile.

Wines with more alcohol and less acidity, often coupled in red wines with overripe tannins, make that they will not have the ability to age as they usually did in the past. Up to what extent is this a real issue? In a society more concerned about instant gratification (cf philosopher Raphaël Enthoven who, among many others, supports this view), constantly zapping from one product to another, looking for every day novelty (85% of the wines are bought and drunk within two hours in the US) and with an ever expanding sweet tooth (cocoa prices have never been so high), winemakers should not be really worried about longevity. Chief Financial Officers of publicly traded companies and speculators could be to some extent. What winemakers should be concerned about on top of any other consideration is typicity and the ability of the vineyards to translate a certain sense of place. For instance, Benjamin Lewin MW mentions in his book *In Search of Pinot Noir* that he compared Burgundies of 2003 – most of which were overcooked – with Châteauneuf-du-Pape. In blind tastings, the difference was not obvious. He also states that Pinot Noir is particularly delicate and that too much alcohol will change its overall structure and finesse. This is the kind of situations winemakers should combat and be aware of.

While alcohol levels and acidity management are issues of real concern. Alcohol level is a health issue and also impacts on the flavor profile of the wine. Acidity plays a role in the overall balance of the wine and assures tasting pleasure. Besides, their control both in the vineyard and the winery are often costly and not always completely satisfactory. As stated longevity per se should not be a real problem. Rather typicity as such and the ability of a wine to give a certain sense of place is the real issue, since it is this one who will attract the end consumer and assure that future generations of wine drinkers will enjoy the magic beverage.