In the lead up to the 2013 harvest, we wanted to pass on some recent findings on antioxidant additions to Sauvignon blanc at harvest, and to advertise two workshops in July, one in Nelson that will feature international experts in the field of wine oxidation issues (see overleaf).

These findings build upon several years of research at the University of Auckland into the aroma characteristics of New Zealand Sauvignon blanc. Since last year, the postgraduate diploma students are taught at the Goldie winery on Waiheke Island, and as part of their training they form a Sauvignon blanc sensory panel. This allows wines from university trials to be profiled and relationships between aroma chemistry and wine sensory to be examined in greater detail.

The panel has confirmed that many NZ wines feature intense tropical and passion fruit characters linked to high levels of the varietal thiols, 3MH and 3MHA. Of these thiols, 3MHA is the most unstable in the wine, and degrades quickly over a year or so, as do many of the fruity esters, unless the wines are stored under refrigeration.

The levels of 3MH and 3MHA have been found to be higher following mechanical harvesting of the fruit. C6 compounds, such as hexanol, also increase to levels above their perception thresholds as a result of mechanical harvesting. These compounds may contribute as much to the green and grassy characters of many Sauvignon blanc wines as the methoxypyrazines usually associated with these aromas.
Antioxidant additions to Sauvignon blanc at harvest

Last year we circulated to the NZ industry several findings from 2010 and 2011 Sauvignon blanc harvesting trials. A major finding has been the impact of juice oxidation on the levels of the varietal thiols 3MH and 3MHA. Juices advanced in oxidation, with a higher 420 nm absorbance, tend to produce wines lower in 3MH and 3MHA.

To minimise losses due to oxidation, different sulfite additions were made to grapes coming off the mechanical harvester. This approach was found to consistently increase the 3MH and 3MHA content of the finished wines. A full report on this study is due out in the next issue of the American Journal of Enology and Viticulture.

A recommendation from this study was that winemakers consider SO₂ additions in the range of 60 to 120 mg/kg, depending upon the condition of the fruit and the distance of truck transport to the winery.

However, higher total sulfites are not always desirable in final wines. So in 2012 we conducted a further trial to see if supplementation with other antioxidants could allow fuller thiol production with moderate sulfite additions. In this trial, 30 ppm (mg/kg) of SO₂ was added to each juice lot, and to selected samples an addition was made of either 100 mg/kg of ascorbic acid (an allowed additive) or 100 mg/kg of glutathione (naturally present in the grape and under consideration internationally for wine use).

For wines from three different vineyard sites, an increase of 3MH and 3MHA was seen for both of the antioxidant additives, and to a similar extent. Consideration should be given to greater use of ascorbic acid at harvest alongside a moderate sulfite application, to achieve a high-thiol wine.

A workshop (W09) on “Impacts of harvesting and pre-fermentation decisions on Sauvignon Blanc aroma” is being convened by Paul Kilmartin from the University of Auckland, and will run Saturday 13th July as part of the Australian Wine Industry Technical Conference in Sydney (http://www.awitc.com.au/workshops/).

Juice and Wine Oxidation Workshop

Thursday, 25 July, 10 am to 12:30 pm

Paul Kilmartin and Bruno Fedrizzi from the Wine Science Programme of the University of Auckland will be joined by Prof Andy Waterhouse (UC Davis, California – left), and Dr Wessel Du Toit (University of Stellenbosch – right). Topics will include impacts upon juice and wine oxidation, and a consideration of the roles of different antioxidant compounds, including bottled wines and applications at harvest.

Location: The Vines, Petite Fleur at Seifried Estate, Nelson

There is no cost for the workshop, and morning tea will be provided from 9:30 am. Please email Paul Kilmartin if attending for catering purposes: p.kilmartin@auckland.ac.nz

In addition, bookings for lunch at the Petite Fleur restaurant can be made on (03) 544 1555 (cnr State HWY 60 and Redwood Rd, Appleby)