

The time of fruiting zone leaf removal in Chardonnay and Pinot Noir and the impact on fruit for sparkling wine production and base wine composition.

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Poster Abstract

Important components of high quality sparkling wines are the delicate mouthfeel, flavour and aroma, which are affected by phenolics. The phenolic composition of fruit has been shown in table wines to be influenced by the exposure of bunches, predominantly through the removal of leaves in the fruiting zone. Whilst phenolics are beneficial to sparkling wines, it is a matter of quality over quantity as different phenolics impart different characteristics in the wines. To investigate the winemaker's notion that 'dappled' sunlight is beneficial for sparkling wines, the impact of timing of leaf removal in the fruiting zone on Chardonnay and Pinot Noir fruit and base wine phenolic composition was examined.

Mature and lateral leaves up to and including the 4th node were removed at two different times in the 2010 season (pea sized berries and 50 % veraison) and at three different times in the 2011 season (pre-flowering, pea sized berries and 50 % veraison). The trial was repeated in the Tamar Valley (north) and the Coal River Valley (south) in Tasmania. Fruit composition was analysed and base wines were made using a standard small scale (12 kg ferments) protocol.

Few treatment effects were observed in the Chardonnay and Pinot Noir fruit composition, however the spectral fingerprint of the base wines indicated peaks at wavelengths other than those for the traditional total phenolic measure (280 nm). Using principal component analysis (PCA), peaks and troughs at 265 nm, 300 nm and 330 nm separated samples, with little separation between treatments at the traditional 280 nm wavelength which represents total phenolics. These findings suggest an influence on phenolic composition of both Chardonnay and Pinot Noir fruit and base wines by leaf removal and that the measure of total phenolics is insufficient to evaluate these effects.