phenolic composition of two clones of Pinot Noir grown at Wagga Wagga, NSW and Whitlands, Vic. under two different forms of canopy management.

Factors influencing malolactic fermentation - A case study

H.N. Jin And R.L. Hooper
Centre for Grape and Wine Research, Charles Sturt University, PO Box 588 Wagga Wagga, NSW 2678

A Pinot Noir sparkling wine base made at Charles Sturt University was inoculated with an active *Leuconostoc oenos* starter culture at approximately 1×10^7 cells per mL. Initial composition of the wine was pH 3.05–3.10, total SO_2 37 mg/L, alcohol 10.5% v/v, L-malic acid 5.3 g/L and residual sugar 1.1 g/L. Four weeks later there was no reduction in the concentration of L-malic acid. To examine the cause of the failure of malolactic fermentation (MLF), a sample of the wine was evenly divided into four parts in sterile wine bottles and reinoculated with a fresh *Leuconostoc oenos* starter culture. Part 1 was maintained as a control. The pH of part 2 was adjusted with calcium carbonate at 0.3 g per 150 mL, and part 3 was altered by adding nutrients (0.04 g of a commercial preparation per 150 mL). Part 4 was altered with respect to both pH and nutrients, as described above. The pH and concentration of L-malic acid, L-lactic acid, acetic acid, D-glucose and D-fructose of the wines were monitored throughout malolactic fermentation which was conducted at 25°C. Samples were taken before and after MLF for viable cell counts.

The growth of the population of the bacteria indicated that the pH- and nutrient- adjusted treatments completed MLF more rapidly than the control, with the latter not showing a reduction in L-malic acid until 10 days after the pH-adjusted samples. The control sample accumulated a high level of acetic acid over the course of the MLF, which may have occurred due to the metabolism of a proportion of the L-malic acid.

Results of the study indicate that increasing the pH of the wine to 3.4–3.5 tends to facilitate the initiation of MLF by providing additional nutrients, although the particular nutritional requirement for malolactic bacteria in a low pH environment is yet to be identified. The delay of MLF in a low pH wine may facilitate an increase in the production of acetic acid unless some particular nutrient(s) is provided.

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A survey of sodium and chloride concentration in Padthaway Shiraz and Chardonnay grapes irrigated by drippers and overhead sprinklers

R.S. Johnstone[1,2], D. Hansen[1] and R.R. Walker[2]
[1]The Australian Wine Research Institute, PO Box 197, Glen Osmond, SA 5064;
[2] CSIRO Division of Horticulture, Merbein, Vic. 3505

Grape berries, laminae and petiole samples were harvested from Chardonnay and Shiraz vines grown in adjacent blocks at Padthaway. For each variety, one block was irrigated by dripper and the other by overhead sprinkler.

The berry samples were divided into two subsamples, one sample being pressed at 400 kPa and the other crushed, fermented with the skins and pressed. The sodium and chloride concentration was determined in the free-run juice, wine, laminae and petioles.

The free run juice and wine sourced from the vines irrigated by overhead sprinkler had a sodium and chloride concentration double that sourced from vines irrigated by dripper. For Shiraz, the concentration of sodium and chloride of the laminae and petioles of the vines irrigated by overhead sprinkler was significantly higher than from the vines irrigated by dripper. However, in this survey, the sodium and chloride concentration of laminae and petioles harvested from Chardonnay were not significantly different for both irrigation treatments.

The chloride concentration in the wine was over double that of the free run juice for both varieties and both irrigation application methods.

Spread of leafroll virus in New Zealand vineyards

D. Jordan and C. Petersen
HortResearch, Ruakura Research Centre, Private Bag 3123, Hamilton, New Zealand

Until the mid 1980s, grapevine leafroll virus was spread only via infected propagation material. Now leafroll has spread between vines in many New Zealand vineyards. Visual symptoms in three vineyards were used to map the spread of this disease. These records showed that spread has been slow with only one or two vines next to infected vines becoming infected each year. Also, the spread is predominantly down the row rather than across into adjacent rows. Mealy bugs (*Pseudococcus* spp.) are being tested as possible vectors of leafroll spread.