

Della Toffola press trial

During the 2003 vintage, a trial was carried out by Australian Winemakers with support from Provisor Pty. Ltd. at the Hickinbotham Roseworthy Wine Science Laboratory, in Adelaide, to compare the performance of a Della Toffola central membrane press with a conventional side membrane press. The trial was conducted following a protocol developed by Scorpex Wine Services.

Hand-harvested Colombard grapes from a vineyard in the South Australian Riverland were used in the trial. The grapes were divided into 12 lots of approximately half a tonne. These lots were selected at random and combined to produce six one-tonne batches of grapes. Each press was fed with three of these one tonne batches of fruit, after destemming and roller crushing of the grapes was carried out. This method ensured that the feed material was as consistent as possible and that three replicates were available for all trial results.

Both presses were designed to have a capacity of just over one tonne of crushed grapes. The cycles used in the trial were selected to be as comparable as possible, given the differences in configuration of the presses. The first cycle involved soft pressing to recover free run and light pressings. A medium press cycle was then carried out, followed by a heavy pressing stage.

The following parameters were assessed during the trial:

1. Juice yield at each press stage and in total.
2. Juice phenol level, as indicated by absorbance at 280nm.
3. Juice brown colour, as indicated by absorbance at 420nm.

The following outcomes were obtained from the trial:

1. The total yield per tonne from the Della Toffola press was higher than from the side membrane press. The increased yield averaged 37 litres per tonne or 5.7%.
2. Juice extraction from the Della Toffola press occurred more rapidly than from the side membrane press. 99% of the total yield was extracted from the Della Toffola press in the first two cycles, indicating that pressing was essentially complete at this stage. On average, the Della Toffola press extracted 12.2% more juice per tonne at the completion of the second press cycle than had been extracted from the side membrane press at the same stage. After the first two press cycles, 30 litres per tonne or 5% more juice had been extracted by the Della Toffola press than could be obtained from all three cycles of the side membrane press.



With the Della Toffola press used for the trial at the Hickinbotham Roseworthy Wine Science Laboratory, University of Adelaide, are (from left) university student Shigeyuki Kusunoki; Chris Day, winemaker, Provisor Pty. Ltd.; Ray Simpson, sales and marketing, Australian Winemakers; Stephen Clarke, manager, wine science laboratory; and Trevor Wilson, technical and projects manager, Australian Winemakers.

3. The level of phenols, as represented by absorbance at 280 nanometres, was lower in the juice extracted by the Della Toffola press than in the juice extracted using the side membrane press. This effect was noted in the phenol levels of each juice fraction as well as in the combined fractions at the completion of pressing.
4. The brown colour, as indicated by absorbance at 420 nm, was lower in the juice extracted by the Della Toffola press than in the juice extracted using the side membrane press. Again, this effect was noted in each juice fraction and also in the combined fractions at the completion of pressing.

A fuller report from this trial will be published in a later issue of *The Australian and New Zealand Grapegrower and Winemaker*.

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