A Case Study: Campbell’s Rutherglen Wines

COLIN CAMPBELL
Campbell’s Rutherglen Wines, Rutherglen, Vic.

Introduction
1996 presented us with the worst case of stuck ferments that we have seen in 30 years of winemaking. Approximately two thirds of our white wines stuck at between 5–10 g/L sugar, and it was not limited to variety, vineyard or grower.

The following is a case history of one of those wines and how the problem was overcome.

Case study wine
1996 Sauvignon Blanc – Rutherglen fruit
Picked 29 March 1996, 12.5°Be, pH 3.3

Picking
• Mechanically harvested, early morning – PMS added to trailers

Crushing
• Within 1 hour of picking
• Cingano roller crusher – destemmed
• Must chilled to 5°C
• Wilmes bladder press to 0.2 Bar
• Drainings and pressings together

Settling
• Chilled to 0°C
• 30 mg/L Enzyme added
After 48 hours
• Racked and D.E. filtered – warmed to 15°C

Yeast
• Lalvin EC1118 @ 200 ppm cultured in 200 L of warmed juice
• Yeast culture added to juice when approx 7°Bé
• 200 ppm DAP added to tank

Fermentation
• Temperature controlled between 10–12°C to achieve 0.5–1°Be drop per day
• Bentonite (0.8 g/L) was added at 8°Be
• When the sugar dropped to approximately 3.0°Be it was allowed to warm up, but was kept below 20°C.
• 28 April. Wine had reached 9 g/L and had settled with little sign of fermentation activity.

Frustration phase
During the next six weeks various things were attempted to try to remove those last few g/L of sugar:
• Heating and pumping over on a regular basis.
• Yeast hulls added at a rate of 100 ppm.
• Re-seeding using another active ferment.
• Re-seeding using a new culture at 150 mg/L, EC1118 yeast, cultured up in fresh juice and added to the stuck ferment.
• Many phone calls drawing on experience of other winemakers and experts.
Eventually, deciding that no progress was being made, it was decided to completely referment the stuck wines.

Action time
Thanks to Peter Leske at The Australian Wine Research Institute, Philip Shaw and Ian Long of Rosemount Estate, and Gary Baldwin of Wine Network Australia, a detailed method on how to address the problem was considered.

All figures are based on 1,000 L of stuck wine.

1. Culture
   0.5 kg EC 1118
   5 L water
   Mix at 40°C
   250 g sugar
   Leave stand for 15 minutes

2. Propagation mixture
   40 L water
   8 kg sugar
   Heat to 30°C
   80 g DAP
   0.5 g Ceravit

3. Add 2.5 L Ex propagator to the culture. Wait 5 minutes.
4. Add 8 L Ex propagator to the culture. Wait 5 minutes.
5. Add culture to propagation tank. A gitate and aerate. Hold temperature at 25–28°C.
6. When Baume drops to 3
   Add equal volume of problem wine
   A dd 25 ppm D.A.P.
   A gitate and aerate
7. When Baume drops to half of the start Baume
   Add equal volume of problem wine
   A dd 25 ppm D.A.P.
   A gitate and aerate
8. Repeat step 6 again (Culture now total 100 L)
9. Monitor yeast cell count and sugar level (Use Clinitest)
10. A dd 100 L at a time to the culture until complete; agitate

Observations
1. A dd the stuck wine in small quantities to the culture.
2. We were able to make 2 additions per day.
3. Exercise took 10 days to complete.

Conclusions
Stuck fermentations can be overcome but it is important to recognise early and act—do not try short cuts, be patient and follow the procedure through carefully and good results will follow.

The wines recovered very quickly from this trauma—we did not recover quite as quickly.