

buried treasures?

old reds under screw cap



It all started with a deceptively simple question. “How long will it be until we see Grange under screw cap?” The words bounced off the historic walls of the chief winemaker’s office at Penfolds Magill Estate.

The response came without hesitation. “We are carrying out twenty-plus year trials on reds, and we are currently seven years in,” said Peter Gago. “As far as I’m concerned, the 1953 vintage is the best drinking Grange at the moment – and it’s still going under its original cork – so we need seals that will be reliable for fifty years. That necessitates at least a forty year trial before Grange can go under Stelvin – provided that trial is successful. Any closure, including a synthetic, must be trialed before it is adopted for use. We can go on a bit more confidently with Stelvin seals, but for long-term cellaring we need to have greater confidence in order to commit fully. That means we still have a while to wait. We



can be confident to bottle Rawson’s Retreat Merlot, which should be drunk within three years with a Stelvin that will last at least ten years. But what of St Henri, Bin 707, Grange, etc? It’s early days yet – a seven year trial is nothing.”

It doesn’t take long to become clear that this simple question may well prove to be one of the toughest of them all. When it comes to young red wines under screw cap the answer is already sitting on the shelves of most bottle shops. With medium-term cellaring there are a number of trials that point to a consistent result. But the question of old reds is far more elusive. As writer Chris Shanahan reported in 2002, “There remains one major question posed by winemakers: in the very long-term will red wine mature as well under a completely airtight seal as it does under cork?... No one can currently answer that question with absolute certainty. Only time and trial will tell.”

Must we still wait ten or twenty years before the long-term potential of screw caps on red wines is fully revealed? Are we really decades away from confidently bottling age-worthy reds in this format?

Just how much time and how many trials will it take to tell? We already have a building repertoire. Penfolds: seven years. Irvine: eight years. Henschke: eight years. Chateau Haut-Brion: ten years. But these trials are still decades away from long-term cellaring of Grange proportions. Must we still wait ten or twenty years before the long-term potential of screw caps on red wines is fully revealed? Are we really decades away from confidently bottling age-worthy reds in this format? Or could it be that the answers already exist, awaiting discovery like treasures buried in the depths of ancient cellars?

The first clue came just the day after I met with Peter Gago in December of 2002.

Yalumba Burgundy

Geoff Linton is enthusiastic about screw caps. As operations manager at Yalumba with almost thirty years of experience in their use, this comes as little surprise. In anticipation of my visit he scoured Yalumba's museum cellar in search of the bottle that just might contain the answer. "During the early 1970s, Yalumba bottled two litre magnums of shiraz labelled "Yalumba Burgundy" using a system of a cork with a stelcap over the top," he explained. "In 1975 and 1976, one-and-a-half litre magnums were produced using the Stelvin seal in the same format as those used today. Alas, the last sample was drunk three years ago. I recently spoke with the guy who drank it. He's an old-timer who worked in the cellar. His impression of the wine? 'Marvellous, matured beautifully, delightful.'"

Linton cautions that this wine in itself may not provide strong evidence that red wine can see out the distance under screw cap. "These wines were from the commercial range of reds – they were not big and tannic wines – lighter, probably not dissimilar to the cask wines of today. Fruity, with little tannin addition and only ten to twenty percent oaked. The acid was tight, fruit was less ripe and alcohol low, maybe 12.5-13%. At the time, the seal was more for curiosity value on the red wines... It was a damn good seal for reds that weren't intended to sit around for a long time. Nonetheless, tastings of museum stocks of Stelvin have shown how well the wines develop with the closure."

Peter Wall was the director of Yalumba for many years, and played a critical role in driving the development of Stelvin in Australia. "In 1970 I visited Le Bouchage Mecanique at Chalon-sur-Saône

and tasted there Bordeaux reds closed with Stelvin which were two or three years under the closure," he recalls. "As the years have rolled on I have tasted

"The point I make is that reds under Stelvin have been studied for over thirty years."

Peter Wall

quite a few reds under Stelvin. They all looked fine to me. Twenty years ago Yalumba bottled Galway Shiraz 'pints' (375 mL) under Stelvin. Occasionally one of these pints surfaces and surprises the lucky finder with the quality of the wine. The point I make is that reds under Stelvin have been studied for over thirty years."

The ACI Stelvin Project

Before I left Yalumba I was to be given the clue that would eventually lead to what is perhaps the most convincing anecdotal evidence for long-term ageing of red wines under screw cap. A clue that would point right back to the beginning of the research of screw caps in Australia in 1973. The report that Geoff Linton dug out, dated 1976, was titled simply, "The Stelvin wine closure." But the study that it described was far from simple.



Scene 1: 1973

An investigation begins. Australian Consolidated Industries (ACI) in partnership with the Australian Wine Research Institute (AWRI) and seven Australian wine companies launches a sizeable study into the influence of closures on the quality of bottled commercial wine. Four seals: three screw caps, one cork. Almost 3000 bottles. The "ACI Stelvin Project" is born.



“There was equal weight to white and red wine in the trial, but the emphasis was on white wine at the time,” recalls wine industry expert Dr Bryce Rankine, who supervised the project.

The red wines that were used were the 1973 McWilliams Private Bin 35 Claret (Riverina shiraz), 1972 Penfolds Bin 333 Dry Red (Hunter and Barossa

“The results of this investigation indicate that the metal closure with 358 wad performed well on the wines tested in comparison to cork... [providing] the necessary technical and scientific backing to this novel wine closure idea.”

shiraz), 1971 Seppelts Moyston (shiraz, malbec and cabernet blend), 1972 Brown Brothers Milawa Dry Red (shiraz), 1974 Chateau Tahbilk Dry Red and 1973 Sutherland Smith & Sons All Saints Hermitage.

“We used the very best equipment, the very best facilities and the finest tasters in the industry at the time,” outlines Rankine. David Leyland worked with ACI (which made the bottles and closures) during the trials. He adds, “The judges in the original tastings were the leading technical guys in the three big wine companies at the time.” Don Ditter (Penfolds Wines), Bruce Tyson (McWilliams Wines), Peter Weste (Gilbeys Australia) and Bryce Rankine formed a panel that evaluated the wines at approximately six-monthly intervals. Tastings were conducted under controlled and replicated tasting conditions which enabled the results to be statistically analysed to assess their validity.

Tony Arduca was involved in the bottling process during the trials. “The backing materials were more primitive then,” he points out. David Leyland clarifies, “The PVDC and tin are the same today as they were then, but the backing materials are different. In all of the early trials the backing wad was craft paper and cork... The only other difference between the original trial and current usage of screw caps is that we used a headspace identical to that used in the corked wines in the trial (probably about fifteen millimetres), which is smaller than the current thirty millimetre headspace.”

The wadding materials consisted of two specially developed liners from Le Bouchage Mecanique in France (unromantically labelled “358” and “323”) and a “celloseal” foamed polyethylene wadding manufactured by ACI. The metal closure with 358 wad was the predecessor of the current Stelvin liner. The celloseal did not contain the impermeable tin foil layer that acts as a vital oxygen barrier in all modern screw caps. This proved to have a significant influence on its performance.

Scene 2: 1976

The first results are published. "For white wines a significant difference in quality of the wine occurred in relation to the closure used," the ACI report read.

"The tasters showed a high degree of reproducibility between duplicate blind tastings."

"For the white wines over the period of the experiment, Stelvin with 358 wad consistently resulted in the highest quality compared with the other closures, including cork." The report went on, "For the red wines 358, 323 and cork resulted in markedly better quality than the celloseal wad. The tastings after eighteen

months of storage showed that 358 and 323 closures were marginally superior to cork from the view point of wine quality and greatly superior to the celloseal." (This result for the celloseal wad is not surprising, given the absence of the oxygen barrier in this sample.)

The report concluded, "The results of this investigation indicate that the metal closure with 358 wad performed well on the wines tested in comparison to cork and the other two wadding materials, justifying its use as a commercial closure for table wines...

Furthermore, the project would provide the necessary technical and scientific backing to this novel wine closure idea, which in time to come is sure to prove itself an historical milestone in the Australian wine industry."

Keith Mugford, now winemaker at Moss Wood, was one for whom this trial made quite an impact. "1976 was my first year at Roseworthy," he reflects. "We were dealing with the release of the Stelvin trial with Bryce Rankine and tasted all of the wines involved. The Stelvins maintained the fruit freshness with no taint. As far as the reds were concerned, there was no

question in my mind at the time that they would work."

Scene 3: 1980

The evidence intensifies. The Stelvin closure has become widely used in the wine industry, particu-

larly on white wines, thanks in part to the results from this trial. With plenty of stock left in 1976, Bryce Rankine and David Leyland decided to continue and expand the trial. Three more red wines were added, 1975 Yalumba Galway Claret, 1975 Stonyfell Cabernet Shiraz and a McWilliams Reserve Claret. A Stelvin 357

closure was also included, with an expanded polyethylene wad in place of cork. Tastings were conducted in 1976, 1977 and 1979.

"As expected, white wines showed greater difference than red wines, which was consistent with the results reported previously," read an *Australian Grapegrower and Winemaker* report in April 1980. "For the red wines, differences between 358 and 323 were not significant but both performed significantly better than cork, except for 1977 where the difference was not significant. The results obtained in this study confirm the superiority of the Stelvin 358 and 323 closures over cork under the conditions used in the comparison. The 358 and 357 closures were likewise shown to be superior to cork." Indeed, "cork was significantly poorer than the other two closures in all tests." This led the report to conclude that "these results point to the suitability of certain

"Cork was significantly poorer than the other two closures in all tests."

"The Stelvins maintained the fruit freshness with no taint. As far as the reds were concerned, there was no question in my mind at the time that they would work."
Keith Mugford

of these closures as replacements for the traditional bark cork, where the wine stored under these conditions matured better than under cork." Rankine sums it up: "The use of Stelvin on white wines was clearly established."

The credibility of these trials was widely acknowledged at the time. A report in the *Wine and Spirit Buying Guide* in January 1980 described the tests as "exhaustive and conclusive," rightfully naming Bryce Rankine "one of Australia's principal wine research scientists" and adding that "involving the AWRI provided credibility to the authenticity of the tests."

Scene 4: 2002

A search begins. Is it possible that some of the wines from this test still remain in existence? The report given to me at Yalumba sparked the beginning of something of a treasure hunt; a detective search that led to the depths of cellars across Australia, to the ACI (now Auscap) bottling plant in Melbourne and in pursuit of winemakers who have long been retired. Piecing together the parts of a puzzle that have been scattered for twenty years, this search sought clues that might point to the whereabouts of a historical treasure that has been buried for two decades. A treasure that might unlock the secrets of the long-term ageing of red wine under screw cap. A treasure with – perhaps – the potential to carry us twenty years forward in our research process.

The first point of contact was with each of the wineries involved. Perhaps some of the wines had made it into their cellars? Regrettably, not even one. A little more success with the winemakers of the time. Their vivid recollection of the trial is evidence in itself of its significance. But still no success in locating any bottles.

It was Rankine himself, now retired in Adelaide, who was able to point to the 'X' that marked the spot on the treasure map of lost bottles. "When the work was over we were unsure of what to do with the leftover bottles, so we distributed them to the ACI employees involved," he explained. "This led to

tastings of the red wines some time after the experiment concluded. They described them as 'excellent'."

David Leyland was foremost among these employees. He still works with ACI to this day. "Bryce Rankine contacted me six months ago and he also contacted all the wineries involved in the trial, but had no success in locating any remaining wines," says Leyland. "I worked in that area of ACI until the late 1970s. The group that took it over distributed the wines and discontinued the trials. There would have been, maybe, 100 dozen or so, whatever was left over. I was annoyed about this unofficial distribution. I argued vigorously at the time that the wine should be retained, that it would be good to have in twenty-five to thirty years time."

"I also retained some from the original bottling of the bulk wine that was purchased at the commencement of the trial," Leyland continues. "These were odd bits and pieces only, bottles in excess of those scheduled for the trial. I have drunk some of these recently, although I doubt there was a red amongst them. I bring them out for the ACI staff and we drink them out of interest." As far as the white wines were concerned, he comments that, "In recent years I

"All of the corked samples were badly oxidised, a reflection of the cellar conditions... The corks went to cheese, soft and rotten and the wine went to vinegar years ago. You couldn't drink the corked control, but the Stelcap wine was pretty good, still drinkable with no sign of oxidation."

David Leyland

haven't been so impressed with the whites," although this is to be expected given that they represent "trial variants that were failures. I have three dozen or so whites remaining. There are less than half-a-dozen Stelvins, if any. Two years ago I took some of the bottles to New Zealand and opened them at a tasting session. One was a 1973. Now, they were never classic wines to start with, but they were OK and still drinkable at thirty years of age even though they were not cellared in anywhere near ideal conditions."

And then the news that I had been waiting for. The verdict on what may rank among the oldest red wines under screw cap that have ever been consumed. "Over the last ten years I've had the odd one or two red wines under screw cap from the trial. From my own tastings the red wines were drinking very well up until then – when we ran out. All of the corked samples were badly oxidised, a reflection of the cellar conditions – they were not cellared under controlled conditions. The corks went to cheese, soft and rotten and the wine went to vinegar years ago. You couldn't drink the corked control, but the Stelcap wine was pretty good, still drinkable with no sign of oxidation."

The significance of such anecdotal evidence should not be over-estimated. Nonetheless, it does demonstrate that red wine is quite capable of ageing very well under screw cap for decades without any nasty surprises. Leyland qualified his comments by adding, "They didn't become absolutely fantastic wines – it was never outstanding wine for a start – it was run of the mill, middle-value, quaffing-type wine, only two to three dollar bottles at the time." But then this: "The very best of the reds, right from bottling, was the Brown Brothers Dry Red. If I had one even today I'd be confident that it would still be quite good."

Bryce Rankine is even more certain. In his book *Making Good Wine* he states that the trials "produced unequivocal results – the range of wines examined (white and red) retained their quality with a Stelvin closure significantly better than with a cork."

But, just quietly, Rankine makes it clear that he is even more confident than this. "The problem is not a technical one, but one of consumer acceptance. It took over twenty years for consumers to accept the original tests. I myself have very little doubt that screw caps in red wines will take off in the same way as they have in white wines. Watch the show results. My guess is that the Stelvin closure results will be superior to those of cork." A strong statement from one of Australia's foremost wine research scientists.

"The trials produced unequivocal results – the range of wines examined (white and red) retained their quality with a Stelvin closure significantly better than with a cork... I myself have very little doubt that screw caps in red wines will take off in the same way as they have in white wines. Watch the show results. My guess is that the Stelvin closure results will be superior to those of cork."

Dr Bryce Rankine



Best's Great Western Cellar