

Max allen writes about wine:

## “GRAPES OF WRATH”

Australia’s renowned red wines result from a happy union of the right soil and the right climate. But, asks Max Allen, what happens when things start to heat up?

(First published in Australia in G MAGAZINE, January 2007)

THE Hill of Grace vineyard lies in a quiet, out-of-the-way corner of Eden Valley, the hilly region to the east of the Barossa wine zone in South Australia.

The vineyard produces what many consider to be Australia’s greatest red: the Henschke Hill of Grace Shiraz, a wine so revered that the latest vintage will cost you close to \$400 a bottle, while classic older vintages such as 1990 can set you back almost twice that much.

The quality of this wine is due to a unique combination of factors: the vineyard site’s deep sandy loam soils; the extreme old age of the vines (some planted as far back as the 1860s); and the climate - crucially, it’s cooler here than down on the Barossa Valley floor.

Viticulturist Prue Henschke is doing her best to protect her priceless inheritance and pass it on to her children in even better condition. She has adopted organic practices in the vineyard - mulching under the vines, and planting native grasses between the rows to retain precious moisture. And she’s painstakingly replanting the vineyard using cuttings taken from the best of the old vines.

But there’s one thing she has no control over whatsoever, and that’s the climate.

According to a growing body of evidence, in 50 years time - perhaps as soon as 30, or even in just one generation - the Hill of Grace vineyard may well be too hot to produce a wine worthy of its \$400 price tag.

The inescapable fact is that grapes ripen earlier in warmer climates, and early-ripened grapes simply don’t get a chance to develop the extraordinary, subtle complexities of flavour that have built the reputation of the Hill of Grace shiraz over the last 50 years.

'Scary, isn't it?' says Henschke. 'This is a mammoth issue for us. The oldest vines at Hill of Grace have survived for 146 years, but now they're threatened by this man-made change. And I think, well, Hill of Grace is just nine hectares of the whole of Australia. I wonder how many other irreplaceable sites will be affected as things get warmer?'

It's a question many others in the Australian wine industry are asking. Over the last twelve months, climate change has jumped the queue of concern among grape growers and winemakers - as it has for the rest of us - taking precedence, even, over the well-publicised grape and wine glut.

A recent report from the University of Melbourne and CSIRO unequivocally predicts that 'climate change will dramatically alter the growing season for Australian grapes and affect the wine styles produced'. It's a prediction that has resonated with grape growers suffering unprecedented drought conditions.

#### AN INCONVENIENT TRUTH

'God bless Al Gore,' says Dr Richard Smart, the internationally renowned Tasmania-based viticultural consultant who dubs himself 'the flying vine-doctor'. 'Now, finally, we're starting to see the industry talking about global warming.'

Smart has been talking about it for almost two decades; he gave his first paper on climate change and its possible impact on the New Zealand industry in 1988.

'In a lot of ways, you see, the wine industry is the canary in the mine of agriculture,' says Smart, 'Because wine is based on such a tight interaction between temperature and grape variety, even small changes in temperature can have immediate effects on wine style and quality. And it's the temperature requirements of certain grape vine varieties that have determined where the wine regions are.'

One way of measuring the climate of each of Australia's 60-plus wine regions is by referring to its mean January temperature (MJT). And there is a direct relationship between MJT and wine quality and style.

Coonawarra, for example, is considered cool, with an MJT of 19.1°C, and it's the region's long, cool growing season that is the key to its elegant cabernet and spicy shiraz.

The Barossa Valley is warmer with an MJT of 21.2°C - a climate perfectly suited to producing riper, bolder wines, particularly full-bodied shiraz. And the Riverland, further inland, along the River Murray towards the Victorian border, is hot, with an MJT of 22.8°C: here, the climate is best for ripening large crops of grapes, but the short growing season produces grapes that seldom hit the same quality high notes as those grown in cooler parts of the country.

'You can see that implications of just a 1°C or 2°C change on these regions are bloody enormous.' says Smart. 'Coonawarra will become like the Barossa, and the Barossa will become like the Riverland.'

#### GLASS HALF EMPTY, GLASS HALF FULL

There's more to climate change, of course, than just a change in climate.

'I don't think we can take the implications of, say, a warmer Barossa Valley in isolation,' says Jim Fortune, CEO of the Grape Wine Research and Development Council. 'Think, for example, about what'll happen - probably quite soon - when we all have to start paying much more for energy, or shipping costs. That'll have more of a direct impact on the industry than longer-term changes in the vineyard.'

And then there's perhaps the biggest concern of all: the current, deep, debilitating drought, itself possibly exacerbated by climate change.

'We haven't had decent winter rains since 1998,' says fourth generation Hunter Valley winery owner, Bruce Tyrrell. 'We thought we were lucky at Tyrrells, because not many of our vineyards here rely on irrigation. But recently, even our dryland vineyards have been suffering. I've even got one patch of 70 year old vines that have managed to survive until now without too much trouble - but some of those old plants are beginning to die.'

While this all sounds like an emerging nightmare, not everyone in the industry is completely negative about the prospects for wine in a warmer Australia.

Leading wine writer, James Halliday, in his new Wine Atlas of Australia (Hardie Grant Books), suggests that climate change 'may not be bad news for the southern hemisphere wine regions', which, he points out, will probably suffer less extreme temperature increase than their northern hemisphere counterparts.

Quoting eminent viticultural advisor Dr John Gladstones, Halliday suggests that 'global warming at the lower end of the scale (1°C) by the middle of the century would favour a shift to warmer climates' because higher levels of atmospheric carbon dioxide might 'increase the absolute intensity of fruit flavour and colour' in the grapes.

Jim Fortune is also putting his faith in the vineyards. 'We have more than 150 years of history growing grape vines in Australia,' he says. 'We're lucky in the sense that we're working a species with a very broad adaptive range. Look at what Australia has done with chardonnay: nobody in Europe, where chardonnay was traditionally grown in relatively cool areas, could have predicted how well it's adapted to warm regions here.'

And Richard Smart, echoing Halliday, is also optimistic. 'I don't think it's a crisis,' he says. 'I'd say it was an opportunity for the industry because the southern hemisphere producers are going to be affected least, while much of our competition in Europe - particularly Spain and Portugal - will be the producers who will be affected most.'

#### SHOCKED INTO ACTION

Prue Henschke sees the threat of climate change as an opportunity for the wine industry to take a leadership role in the community: 'We can't just wait for the government to address the issue. I think we can help change attitudes by being a good example ourselves.'

A number of Australian wine producers have already started.

The large Barossa-based wine company, Yalumba, has been developing its environmental policy for nine years, and in 1999 was the first wine producer - and one of the first agricultural companies in the country - to join the federal government's Greenhouse Challenge Program. The winemaker has done such a good job of cutting its carbon emissions that it was named the first 'leader' of the program by environment minister, Senator Ian Campbell, in October.

Cullen Wines, in WA's Margaret River region, has gone even further and claims to be the first carbon-neutral vineyard and winery in the country. Winemaker Vanya Cullen calculates her company's annual carbon dioxide emissions and pays an organization called Men of the Trees to plant an equivalent number of trees to offset the winery's greenhouse impact.

But even if the entire wine industry - or, indeed, the entire country - became carbon neutral overnight, the climate will still continue to get warmer. And as the CSIRO report bluntly warns: 'Grape growers will need to adapt'.

Adelaide law firm Finlaysons specialises in the wine industry, and conducts an annual roadshow of seminars focussing on critical issues facing small and medium-sized business in the wine sector. The major issue this year was climate change, and one of the speakers was Finlaysons environmental partner, Fraser Bell.

'My advice during the roadshow was for people to start thinking regionally rather than personally,' says Bell. 'I suggested people find a region in the world that's like theirs is predicted to be in 20 years time, and to go and visit and find out what grapes are planted, what the strengths and weaknesses are and plan accordingly.'

Some in the industry have been anticipating this for a while. Chalmers Nurseries near Mildura supplies grape vine cuttings to the industry, and has chosen to specialise in so-called 'alternative' varieties - which means anything, essentially, except the 'classic', well-known cultivars such as cabernet, sauvignon blanc and shiraz.

'We've particularly been focussing on grapes from southern Italy, from places like Campania and Sicily,' says Rod Capon, operations manager at Chalmers. 'If and when climate change happens, the industry will need vine varieties that can grow well in a hot climate, that need less water and still ripen grapes with good flavour, that hold good acidity. This means white grapes like fiano and greco, and red grapes like nero d'avola.'

All of which sounds fine on paper, but could be difficult in reality.

'The problem,' says Yalumba's chief winemaker, Brian Walsh, 'is that while these obscure, strange-sounding grapes might be more appropriate, they could be very hard to sell to essentially conservative wine drinkers. But it's a challenge we're prepared to have a crack at. We're going to have to do something to mitigate the effect of a 2°C rise, because we really don't want to sell up and leave the Barossa.'

## SHOULD I STAY OR SHOULD I GO?

According to Richard Smart, staying put simply won't be an option for some. Smart points to the huge vineyards along the River Murray

around Mildura and Renmark, either side of the South Australian/Victorian border, an area often referred to as the engine room of the industry because it supplies the majority of its wine.

'It's particularly here in the hot regions of Australia where we're going to have real problems,' says Smart. 'Some of those regions already have an MJT of 24.5°C. You add 2°C on top of that and it goes over 26. Now the fact of the matter is that there's nowhere around the world where wine grapes are grown that has an MJT of 26. You can only grow table grapes or raisins at that kind of temperature. The mind boggles.'

The answer is to move. 'If you look at a map of the MJT along the River Murray, the coolest parts of the river are west, near the mouth or obviously east and south towards the mountains. Now, in terms of the industry relocating, as some parts of the industry may choose to do in response to this, I don't think they'll go towards South Australia because of salinity, so they'll head south, down around Echuca, where it's cooler. I would be picking that as an area of big growth.'

Prue Henschke doesn't intend to move. Instead, she's adapting to anticipated changes. This adaptation started in the early 80s, when she established another vineyard at Lenswood, in the much cooler Adelaide Hills - a far-sighted move that could well pay off handsomely in the near future.

More recently, Henschke has also been planting late-ripening, heat-loving red grape varieties such as grenache and mourvedre at her other Eden Valley vineyards, something she wouldn't have dreamed of doing ten years ago because she wouldn't have expected them to ripen sufficiently.

At Hill of Grace, though, it's a different story.

'We've done all we can do,' says Prue Henschke. 'Now we just have to wait and see how long those old vines can survive.'

© Max Allen, 2006

[www.Maxallen.com.au](http://www.Maxallen.com.au)