

A TASMANIAN SCIENTIST IS SET TO POP THE CORK ON THE SPARKLING WINE INDUSTRY AND CHANGE THE WORLD OF WINE AS WE KNOW IT.

Words **Fiona Stocker**

# The Science of sparkling

Sparkling wine is a multi-million dollar industry. Technically precise, great fizz requires not only great grapes but also considerable time, effort and money. But one woman's work in Tasmania has the potential to upend the industry.

One of Sparkling's greatest irony is that its production is such a scientific affair. Nobody knows that better than wine scientist Dr Fiona Kerslake of the Tasmanian Institute of Agriculture. For the past few years she's been toiling in the vineyards and labs of northern Tasmania on behalf of its wine industry.

Fiona's work is all about 'treatments and methods' and it's hard not to imagine her running a kind of 'Hogwarts for Wines'. She began her investigations in 2005 with a PhD on Pinot Noir viticulture in a converted apple shed at Tamar Ridge Winery.

Phenolics are the holy grail, it transpires. "They're the things in a Sparkling wine that give you all the flavour, texture and mouthfeel properties," she tells me at her office in Launceston.

## MACHO MATURATION

Her work has led to a project analysing the phenolics and pinning down what happens during the maturation of Sparkling wine. It's long been understood that something magical happens in the bottle by the 18-month mark. Fiona is looking into exactly what that is, *and* whether it can be brought forward. She and PhD student Gail Gnoinski have developed methods which may change winemaking practices, and speed the rate of maturation. It's a massive game changer!

"We mechanically damage some of the yeast added at the beginning of the secondary fermentation, so that the yeast start releasing their contents into the wine immediately," Fiona explains. "These compounds, such as proteins and lipids, are usually released over a much longer period as the wine ages on lees and are known to increase the quality of Sparkling wines."

The wines used in the trials have, so far, been tasted at six and 12 months. "We're about to do our 18-month tasting, which is the magic time," says Fiona. "But even at six months, we could see there was a reduction in maturation time, and at 12 months it was ever greater."

## A MONUMENTAL MOMENT IN WINE

Fiona's work has incredible potential to change the wine market the world over. It may be possible for producers to fulfil demand for their Sparkling wine more quickly, getting wines out of the door and into the glass earlier, with less time required on lees – and quality assured or even improved.



Dr Fiona Kerslake at work in the lab

And if the method could be replicated to still wine, makers of top shelf wines that are usually aged for many years on lees to bring complexity, and value, could effectively allow for that maturation to be compressed. In short, a vintage matured for five years could have the characteristics of one matured for 10.

The doctor, it seems, is playing with time itself.

## REMOVING SUBJECTIVITY

Little wonder that winemakers are looking over Fiona's shoulder – sometimes literally. Last year's vintage saw her conducting tests at Josef Chromy Wines, turning her scientific mind to a project determining the nature and quality of free-run juice by measuring phenolics in grape juice as it comes out of the press, in real time.

"Around the first two thirds of a press load is the highest quality," Fiona explains, "and the last third is of lesser quality."

To determine the point at which that incremental change happens, a winemaker traditionally stands at the press and tastes the juice. The methods under development will replace that judgement call with 'a number' – a technical and highly accurate reading. Out at Josef Chromy winery in the middle of the night during vintage, it seems the work so far made a favourable impression on winemakers Jeremy Dineen and Ockie Myburgh, who stood behind Fiona watching the readouts on the computer screen, as their grapes were pressed in the winery.

## SPARKLING SUCCESS

With funding for projects from Wine Australia and support from Hill-Smith Family Vineyards (producers of Jansz), Andrew Pirie's Apogee Tasmania and Josef Chromy Wines, it seems the big names in the industry are backing Fiona to upturn the Sparkling wine world. The eyes of the world are on her results and we should be chuffed that it could all happen here first, in our own Sparkling part of the world, Tasmania.