

fine lees



Hot Cool Climate

New Wave Australia

"Fail Better"

Why experimentation is key

Sulphites

From heaven or hell?

The Unfettered Wine Report

Design and illustration by Sophia Martin
Cover image: Millton Vineyards & Winery

Issue 05

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At the start of a New Year it's easy to be optimistic. And despite the challenges we know will be heading our way soon – as well as those we can't yet foresee – there are many reasons to remain hopeful about our industry and the world of wine. For it is often in the face of adversity and uncertainty that many take that final step (or receive that much-needed push) to do something truly great, unique and sometimes even ground-breaking.

Climate change is undoubtedly a key concern for all in the wine world – but it is nothing new, and many producers have been working for years to counteract these effects. For some it's about going back to basics and making sure they treat Mother Nature with the respect she deserves.

For others, it's about being creative – planting new grapes, exploring new sites and changing their viticultural and winemaking approach. Many of these producers quite literally go above and beyond to make wine that they can be proud of.

In an ultra-in-depth piece, Christina Rasmussen looks at what happens when you take heat-loving grapes and plant them somewhere cool. In a tour of the cool-climate pockets of some of the world's warmest regions, she delves into the wine growing and winemaking techniques that could help us combat the effects of global warming.

Experimentation is key in overcoming challenges and Gergely Barsi Szabo spoke to James Millton and Clemens Lageder to find out more about their experiments in the vineyard and winery, and why it's important to keep innovating year after year.

Heading Down Under, Richard Siddle reports on how Australia's alternative wine scene is hitting the mainstream and speaks to a few 'new wave' producers who are pushing the boundaries, each in their own unique way.

Finally, Christina Schneider gets to grips with sulphur in wine. From its history and legal limits, to the more nuanced arguments between conventional use and those following a 'low' or 'no' approach, this is a geeky must-read.

I hope you enjoy this bumper issue!

Cheers,

Elona Hosseling



Born into the world of wine, Elona grew up on a wine farm in South Africa. After graduating from the University of Stellenbosch with a degree in Viticulture and Oenology, she completed a couple of harvests before joining South Africa's WineLand magazine as a journalist. She has judged in various wine competitions, most recently for the IWC. A move to London meant a new adventure, and Elona joined Bibendum's marketing team and now heads up the brand communications.

HOT COOL climate

What happens when you take heat-loving grapes and plant them somewhere cool? Or when cool-climate regions start to get warmer? Christina Rasmussen takes us on a tour of cool-climate pockets around the world, and delves into the wine growing and winemaking techniques that could help us combat the effects of global warming.

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By Christina Rasmussen



The vineyards at Josef Chromy, Tasmania, Australia.

We are fortunate to live in a world where we have a vast array of grape varieties planted worldwide; indeed Jancis Robinson, Julia Harding and José Vouillamoz included 1,368 varieties in their *Wine Grapes* bible.

We have previous generations to thank for this omnipresence of grape varieties. Certain grapes that are particularly capable of expressing their site, enable us to gain a glimpse into specific mesoclimates. Today, lesser-known grape varieties are starting to find homes in the New World, on land previously unplanted to vinifera; such as Petit Manseng in Virginia and the Clare Valley, Rkatsiteli in the Finger Lakes and Virginia, and the likes of Catarratto and Fernão Pires in the Swartland.

Plantings of grapes away from their native homes for high-quality wine production are largely possible due to two factors: geology and specific mesoclimates.

In pursuit of peppery Syrah

Known for its ability to express terroir, Syrah is native to Southeast France, but has found several other homes further afield. It first appeared on Australian soils in the 1830s via James Busby, who travelled through France and Spain collecting plant material. Today, the Aussie phenomenon of 'Shiraz', which was adopted in the mid-nineteenth century, has become a global vinous success story.

Syrah/Shiraz is particularly interesting when grown in cool pockets due to higher production of rotundone, the compound (sesquiterpene ketone) that causes spice notes in wines (particularly white and black pepper), and which has become highly sought after by us pepper-wine fiends.

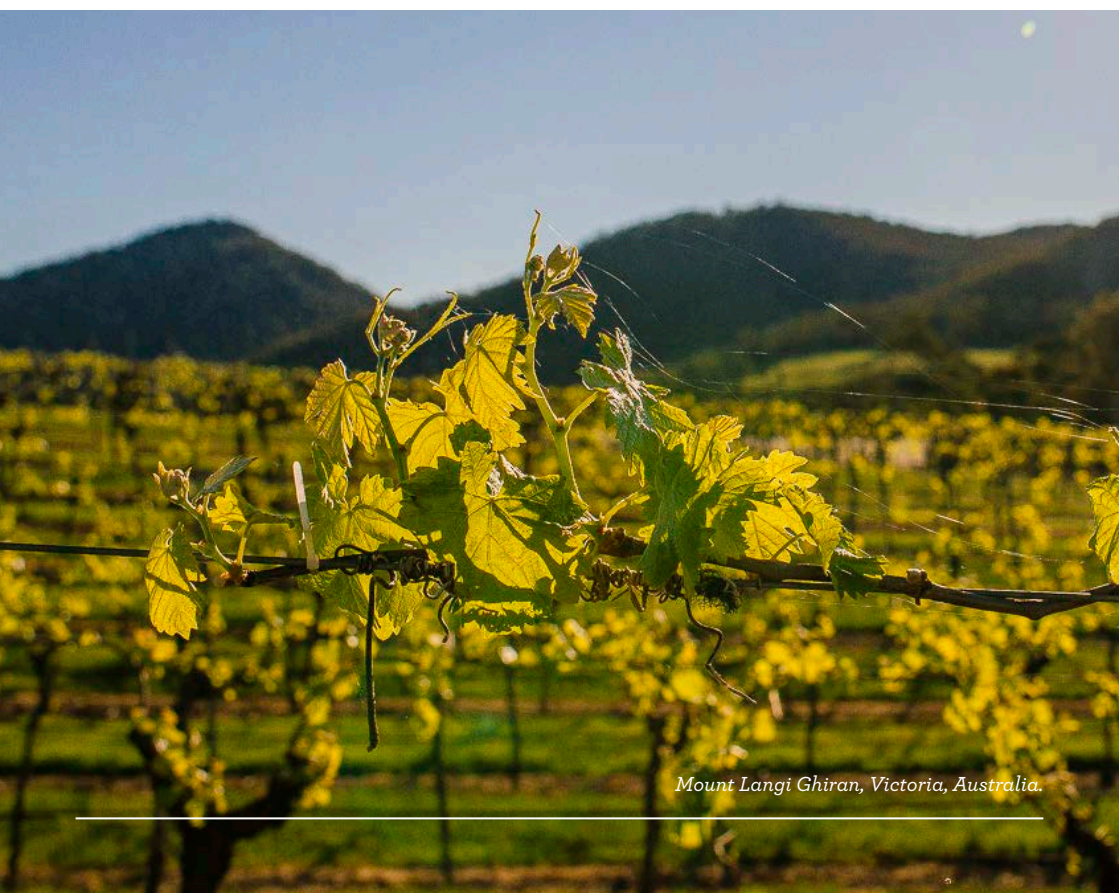
We owe immense gratitude to the Australian Wine Research Institute (AWRI), whose extensive work on rotundone means that we are able to understand more about the cause of this desirable characteristic.

Cool climate: when the 'hot spots' are cold

Damien Sheehan, viticulturist of Mount Langi Ghiran in Victoria, says, "When sampling fruit from the vineyards in the lead up to harvest we always knew that there were 'hot spots' where we would seek out peppery berries, however we hadn't applied a scientific lens over that experience. Now, through our work with the AWRI, we know that those areas of the vineyard that experience the coolest conditions over the course of a growing season are the most likely to produce rotundone, with factors such as aspect, exposure, row orientation and canopy architecture all playing a role."

He continues, "Tasting a truly peppery berry is one of life's great pleasures, it is utterly seductive – the combination of ripe fruit and that sudden explosion of pepper in the mouth is unforgettable. That's why we all knew where we should be looking."

We also know that rotundone increases during later stages of ripening. This lends support to the notion that Syrah/Shiraz produces more pepper notes in cooler patches of land. It leaves us wondering; could this be the case for other spicy varieties too?



Mount Langi Ghiran, Victoria, Australia.

How cool is cool?

At 18.4°C, Mount Langi Ghiran's MJT (mean January temperature; mid-summer in the southern hemisphere) is lower than the surrounding district's at 20.2°C, and the Barossa with 21.6°C, which is due to a number of factors.

The vineyard sits on the Great Dividing Range, which gives it an elevated position above the basalt plains, meaning more prevalent winds that contribute to cooling. It also attracts more cloud formation, which reduces the overall hours of sunshine in a season, while the shape of the range acts like a funnel for the 'cold southwesterlies' that blow in directly from the cold Southern Ocean (150kms away). Finally, the position of mountains to the east and west means direct light and heat is restricted, accentuating diurnal variation.

Conscientious winemaking includes some whole bunch pressing (it has been demonstrated that rotundone can be created by stems), pigeage and subtle oak use. These techniques, combined with geographical factors, give the Cliff Edge Shiraz 2016 a pretty, lilac and violet laced nose with a white pepper, spicy, lifted edge. On the palate it is simultaneously poised and dense, with bramble, peppercorn, graphite and moreish crunch.

Pepper-driven Syrah from Cabernet country

California saw the introduction of Syrah at a later stage, during the 1970s. Today, we see vast differences in expressions of Cali Syrah, with direct correlation to vineyard temperatures. In particular, the Sonoma Coast, and the Los Carneros

AVA (the latter of which spans both Sonoma and Napa) are renowned for the production of pepper-driven Syrah, with riper styles seen in Paso Robles and further inland. The Petaluma Gap was granted AVA status this year due to the cold air that pours in from the coastal mountain opening that stretches east from the Pacific. In Los Carneros, it is possible to create more restrained Syrah due to the morning fogs and cool ocean winds that flood into the Los Carneros AVA from the San Pablo Bay.

Anthony Truchard, from Truchard Vineyards in Los Carneros, says, "Temperatures sit around 5-10 degrees cooler in the peak of the summer. Night-time temperatures are approximately the same, but we just don't get so warm in the afternoons." What's more, Truchard has found important soils for the variety.

"We are one of the few vineyards in Carneros that have volcanic, rocky soils. Carneros is predominantly made up of clay and marine sediment soils, where Syrah does not thrive. We tried planting there in the past, but we were not happy with the results."

The Truchard Syrah has a bold, black pepper nose with pure bramble flavours and black cherry flesh, with a subtle earthy edge, and a smoky, lifted, mineral vein. Speaking of pepper, Anthony believes there is a correlation between their cool pocket vineyards and the aromas in the wine. "I definitely believe there is a connection. We see it in cool vintages, when the vines produce more white pepper aromatics and less fruit."



The Bodegas Bhilar team, Rioja Alavesa, Spain.

Bare-faced Graciano

The notion of pepper wine takes us on a journey far from California, to a cool part of Rioja: Rioja Alavesa. Here, the climate is both Atlantic and Mediterranean, with cool winds from the Bay of Biscay in the North. An outstanding, defiantly expressive 100% Graciano is produced in concrete vats by Bodegas Bhilar, mournfully named Lágrimas de Graciano. Find this wine, and you will want to find the variety Graciano, sweep it up into your arms, hold it close and kiss away its tears. It is magnificent; a fresh, breezy wine that laps across the palate leaving crunchy spice and white pepper behind, with a finish that continues forever.

What's more, where Graciano does not usually produce as much rotundone as Syrah, the pepper presence in this wine is overt. Could this be linked to the cooler temperatures? This is likely. Graciano is traditionally grown in Rioja Baja, where perhaps the pepper expression is diluted by a warmer climate.

Melanie Hickman of Bhilar says, "This is the only Graciano in the market with no oak treatment, that we are aware of. You can more easily find these pepper notes in the wine as it is not masked by oak flavour. You get the true essence of the grape; its pure character with no make-up."

Graciano? Gracias, no

Historically, and today, the grape variety has been used as a blending grape to help give ageing potential, as it provides acidity to balance Tempranillo, as well as providing colour and spice. However, it is lower yielding, and so in the past, many of the vineyards were replaced, making it harder to find today.



Moli dels Capellans, Conca de Barbera, Spain.

Melanie explains, "David (Sampedro Gill, winemaker) is from a vine-growing family and his grandfather used to say Graciano stands for 'Gracias, no,' because it has lower yields than other varieties."

Getting high in Spain

When asked about global warming, she emphasises the importance of elevation. Their village sits at just under 600 metres, and many of the surrounding vineyards fall within this range of elevation, helping to keep them cool. "For us, the future is up," she says.

The importance of elevation is also seen in the DO of Conca de Barbera, which sits wedged between Costes del Segre, Tarragona and Montsant. Here, its indigenous variety of Trepat produces interesting, juicy-but-serious wines at Moli dels Capellans, with just 12% ABV in this refreshing, blackcurrant juice-meets-mineral rock wine. The production of this style is made possible predominantly by elevation (the vineyards sit at 485 metres), but also coastal breezes.

From old vines (1974 plantings) with lower yields, Sergi Montalà and Jordi Masdeu started the project to show the potential of high quality wines from the varieties that are capable of expressing their terroir. The clay-calcareous soils produce this pretty style, aided by the winemakers with 40% carbonic maceration and low temperatures.

High elevation
Argentina

High elevation wine production cannot be discussed without mentioning Argentina, home to the world’s highest vineyards. Argentinean Malbec has become a global phenomenon, with its spiritual home in Mendoza. And in Catena’s Malbec Argentino we find freshness and alluring savoury, textural, graphite characteristics that speak of cooler climes.

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Laura Catena, of Bodegas Catena Zapata, explains, “In Mendoza, climate can change dramatically in a short distance. For example, in a one hour drive you can go from the equivalent of the Languedoc to Champagne. For every 100m of elevation the average temperature usually goes down by one degree Celcius. However, in a vineyard at the same elevation and latitude, the microclimate of the vine can also vary according to the soil. If there are surface stones, the microclimate will be warmer and there will be less day-night temperature difference because the stones retain the day’s heat. But if the soils are made of clay, the microclimate is cooler by 1-2 degrees, which is a significant difference.”

The vineyards that produce Catena’s Malbec Argentino are found in the Uco Valley, a cool climate mountain region. The Adrianna Vineyard is in Gualtallary, a region at 5,000 feet elevation that was discovered by Laura’s father, Nicolas Catena. When he planted there in 1992 most people thought that grapes would never ripen at such a high elevation, however, the sun allows the Malbec grapes to ripen beautifully.

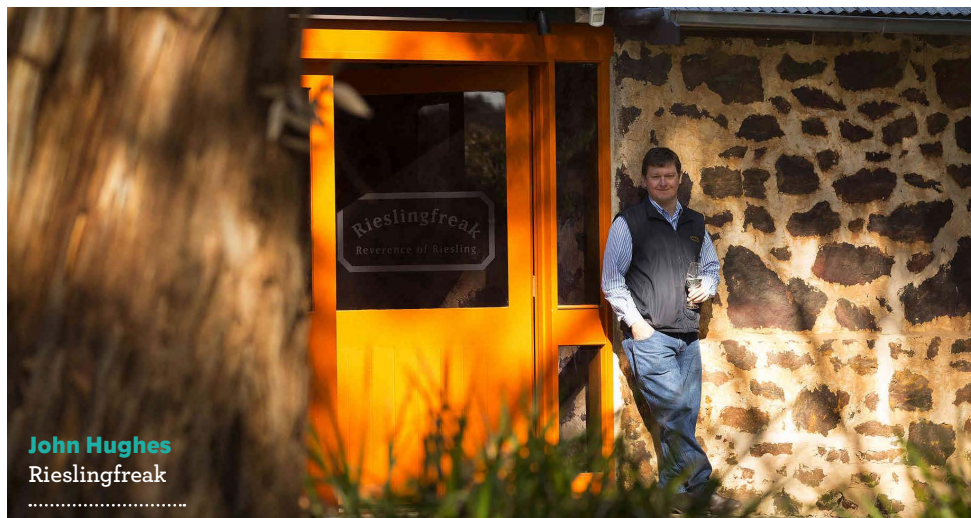
Laura also believes the textural characteristics are nursed into the wine using indigenous yeasts, and is undergoing studies to look at what site, climate and yeasts contribute to their wines.



Dr Laura Catena



Josef Chromy, Tasmania, Australia.



John Hughes
Rieslingfreak

Riesling takes a holiday Down Under

On Tasmania, production of Sekt made from Riesling is possible due to temperatures comparable to those of Champagne. Ocean influence combined with trailblazers such as Josef Chromy – who fled his war-torn Czech village in 1950 as a penniless 19-year-old after Nazi and Soviet occupation – allows us to experience Riesling through a different lens.

Here, the Pepik Sekt comes from a single vineyard in Relbia, planted on black soils, with cracking vertosol over a Jurassic dolerite base. The marginally higher altitude produces cooler nights, which Jeremy Dineen, head winemaker, says, “Allows for retention of crisp, natural acidity, which is essential for sparkling grapes and gives structure, length and longevity to Riesling.” This is sparkling Riesling in its own unique Tasmanian flesh, with fresh minerality, zippy and beautifully

integral acid structure, wet earth, honeysuckle, pear skin and pip goodness.

Meanwhile, in South Australia, John Hughes’ Rieslingfreak was born. Here, Riesling is sourced from Clare Valley, Eden Valley and Polish Hill. While not strictly cool climate, Rieslingfreak No. 4 comes from two vineyards between Eden Valley and Flaxman’s Valley. Altitudes of 500m cool the sites significantly, and the resulting wine is tight, crunchy, pure and structured, with green apple zest, lemon pith and a hard, stony core.

John notes, “Global warming has definitely been noticed. When we first purchased the family property in the Clare Valley in 1984, we were harvesting Riesling around 20 to 24 April. Nowadays we are harvesting Riesling in the last two weeks of February. We normally harvest Eden Valley three weeks after Clare, but the 2018 vintage saw us harvest Eden Valley one day before Clare!”

Tackling the effects of climate change in northern Italy

While global warming threatens, it is allowing winemakers to view their vines and wines in new lights. With challenge comes opportunity...

Alois Lageder’s ‘Comet’ series features limited edition wines resulting from experiments in the vineyards and the cellar, looking at rarer varieties and creative winemaking techniques.



Clemens Lageder

The aim is to bring tension, freshness and precision to the wine in years when they have little acidity. Although Alto Adige in Italy is known for its cool, alpine climate, it is often very warm. Bolzano for example is often warmer than Rome. After noticing rising temperatures and reduced acid for some years now, the team has been working on ways to get more freshness into the wines. This includes research and plantings of higher-acid grape varieties in the 1980s, as well as adapting winemaking techniques.

The comet PIPO XV is just one component of the Lageder PORER Pinot Grigio, which is made up of separately-vinified wines, made using different techniques: one part is pressed immediately after arrival at the estate, another is kept on skins for 15 hours, and the third (the PIPO XV) is kept in contact with stems and skins for about eight months, giving it a pink hue.

Clemens Lageder says, "Wine for us is always an interplay of different components... This is why we call it Pink Porer or PIPO. In 2018 it became not only part of the PORER Pinot Grigio, but we turned the component into a wine in its own right, a comet called PIPO XV."

The wine is outstanding. Pinot Grigio, given its own skin to reside in, is able to produce wine of extreme fruit purity. The PIPO XV sings; it gives us peaches, apricot flesh, rock salt, crunch, minerality and rose petals, all in one bundle of pretty, golden-peach-bronze clad clothing. It is an elegant vinous being, clad in a silk gown.



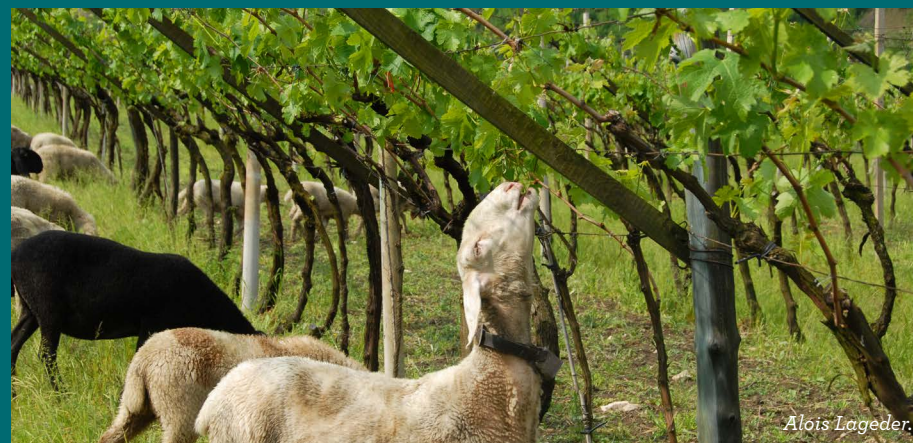
Harvest time at Alois Lageder, Alto Adige, Italy.

From Tasmanian Sekt to Californian Syrah, these wines give us deep insight into where they come from. They wave their regional flags, while embracing their origins. They stand to speak of the human hand's capacity to contribute to terroir; to guide grape and soil to create the most authentic results possible.

Growers united by love for indigenous grape varieties and the possibilities of cooler climates in otherwise warm pockets, climb higher and higher to bring us their fresh examples of Graciano and Trepato. Rare comets shoot across the sky and may only appear once, but stand for underlying issues of a warming planet. They introduce us to new ways of thinking; to redefine our preconceptions; to welcome contemplation.



Christina is a wine writer and consultant based in London. She travels the world looking for winemakers that champion unique vineyard sites and produce authentic, minimal intervention wines, conveying their stories to various publications, predominantly The Buyer and Sprudge Wine. She has a particular interest in lesser-known grape varieties and ampelography.



Alois Lageder.

NEW WAVE AUSTRALIA

Following a trip and tasting tour Down Under, Richard Siddle reports on how Australia's alternative wine scene is hitting the mainstream.

By Richard Siddle



The Some Young Punks range.

Australians are world famous for being laid back. In fact, they are pretty proud of it. Things happen for a reason Down Under – and in their own time. But then it's also hard to be rushing around chasing your own tail when it's so hot for much of the year.

Which is a pretty good way to understand and appreciate the big changes taking place in the premium Australian wine scene. You don't need to travel to the other side of the world to know Australian wines at the top end are changing, and changing fast.

Gone – or at least going – are the big, rich, fruit bomb, oak-laden wines that arguably helped Australia make its name in its initial heyday of the 1980s and 1990s. Instead we are seeing the lighter, brighter, fresher, fruit-forward, acid-driven wines that are so common throughout the world, and the ones consumers are increasingly turning to on a night out.

Less is more

Australia has collectively woken up to the kind of wines that are best suited to the climate where they are being made. Sipping a light, refreshing, fruity wine simply makes sense when you have the sun beating down on you for most of the year. And it's what goes best with a largely Asian-inspired cuisine.

This is not a fad, but a nationwide revolution taking place in the mid to premium end of the Australian wine industry. It crucially covers the growing number of producers who are returning to the minimum intervention winemaking practices that earlier generations used to follow. The way to make wine before the emphasis switched to what you put into them to keep them stable and clean, rather than producing what the vines naturally allowed you to make.

Winemakers are looking to pick earlier, and do everything they can to maintain acidity, ripeness, texture and flavour in the grapes. By holding on to their skins, using open and natural ferments and yeasts, gently basket pressing the grapes and then ageing them in large wood neutral formats puts the focus on lightness, elegance and drinkability.

About the dirt

It essentially comes down to two key factors: firstly, a better understanding of the soils and geology of where producers are growing vines; and secondly a wider knowledge of what grape varieties are best suited to which regions and soil types.

Mike Bennie, the influential Australian independent wine merchant, writer and critic, says this so-called alternative way to make wine is helping Australia get away from the “homogenised” wines that had lost favour both domestically and around the world.

“What the alternative wine scene is doing is re-focusing people’s view on what wine to make here,” he claims. “It is helping to change the conversation about wine. Big, rich, fuller-flavoured wines just don’t fit into what Australia is all about.”

More than Shiraz

Central to this change in winemaking styles has been the introduction, or at least wider use, of non-traditional Australian grape varieties, particularly from Italy, Greece and across the Mediterranean. As Colin McBryde of Adelina Wines and part of Some Young Punks explains: “There is definitely an avid interest by a lot of the grape growing and winemaking community to look to varieties that can grow well under what is becoming more stringent conditions.”

But this is not an overnight phenomenon in Australia. These varieties have been used in the country for decades, albeit only in small pockets, and usually by growers whose families emigrated from those countries.

The difference now is that producers across the country are latching on to how well the likes of Sangiovese and Tempranillo are suited to the growing conditions in their respective regions.

It is encouraging younger winemakers to move and go to different areas of the country to make their wine. The fact these varieties have not been tried in most areas of the country is creating a ‘give it a go’ culture among a new breed of winemakers. Canberra, for example, is fast being seen as having the ideal hot-day and cold-night growing conditions for more alternative varieties, like Assyrtiko and Aglianico, and attracting a new type of winemaker as a result.

Colin McBryde
Some Young Punks





Col McBryde

Working together

Helping to drive these changes are winemakers who are coming together to share ideas and experiences and help give a real voice to this new wave, alternative scene. Groups like the Artisans of Barossa, the Basket Range in the Adelaide Hills and the Young Guns in Margaret River.

Col of Some Young Punks says working with varieties like Nero D'Avola and Sangiovese "has helped create a great buoyancy of new wines, brands, and a whole new realm of people to share and disseminate information with. We're not trying to emulate these varieties in their native place, merely draw inspiration and make something that hopefully resembles varietal typicity, but with an Australian style, and diligent respect to where the fruit was grown," he adds.

Peter Schell of Spinifex Wines says he works with Mediterranean varieties like Mataro and Grenache Gris because they have done so well in the Barossa region for some 150 years. "That's what attracted me here," he says. Now he is looking at different grapes like Vermentino because it is "so heat resistant and holds onto its acidity and freshness. Vermentino is such a sustainable grape to grow here," he says. "But it will take us 20 years to determine the best way to work with these varieties. It is also making us re-assess the varieties we already have here and how we are handling them."



Peter Schell
Spinifex Wines

An alternative future

Peter believes the changes taking place are down to a combination of factors including climate change, but also a willingness among winemakers to "control flavours" in their wine through viticultural techniques, pruning, irrigation and when they are picking their grapes. "We are, for example, picking three weeks earlier than we used to and doing more punch downs in the winery."



John Hughes
Rieslingfreak

John Hughes is so confident of using alternative varieties that he has built his whole business, Rieslingfreak, around that one variety that he makes and sources from the Clare and Eden Valleys and Polish Hill River. “I would not work with any other variety,” he says, although thinks “Gruner Veltiner will have a good chance of being the next popular variety in Australia”.

These winemakers often don’t own any vines themselves, but are seeking out growers that have the grapes they are looking for. It is, in turn, giving those growers a new lease of life. Since the great wine glut in Australia in the late 2000s many growers have struggled to make ends meet, forced to take whatever price the bulk market would allow for their grapes. Now younger winemakers keen to make wine differently are offering them a separate, more premium market for them to work with.

It would be a mistake to think it was only at the fringes of the main Australian wine industry where minimum intervention winemaking and alternative wines are coming

through. Some of the country’s biggest and most prestigious names have been making wine in this way for decades, it’s only now there is so much more emphasis on how a wine is made that it is coming to the fore.

Richard is an award-winning business journalist. Former editor of Harpers Wine & Spirit he now runs his own website (The-Buyer.net), looking at trends and analysis of the premium On Trade. He also produces a fortnightly insights newsletter on the global wine industry called Grapevine for the London Wine Fair.

You can follow him at @richardsiddle.

“ **FAIL** Better ”



By Gergely Barsi Szabo

How did thousands of years of trial and error lead to our fantastic wine culture?

Gergely Barsi Szabo sought out those winemakers who are constantly experimenting to try and find some answers.

The less predictable experimental wines seem to be gaining ground. It is not just the flavour, but the intellectual adventure that makes these wines exciting for consumers. But can these wines be a commercial success? Can these experiments be sustainable for the winemaker?

Early experimentation

Humankind has been in constant search for better booze. According to some historians, one of the first successes of the early technological development was the knowledge of fermentation. While others were preoccupied with building pyramids and other completely unnecessary and insignificant projects, there were always a few blokes around who knew what really mattered: better wine and a better brew.

From ill-stored berries that started fermenting accidentally, it took millennia to get to today's wine culture. The journey to all top end wines we are enjoying today, lead through a hell of a

lot of trial and error. One thing is certain: it all happened way earlier than we think.

There's evidence that folks were using 300L clay pots to make pure grape wine roughly 8,000 years ago. Just so we can truly appreciate what this means – 8,000 years ago, polished rock was still a big deal, it was about 2,500 years before the wheel was invented (no risk of drunk driving yet!), and it was a good 1,800 years before the first metal weapons and tools were being made...

If it wasn't for the experimental mindset of winemakers, we'd still be waiting for piled up berries to rot in the right way. The daring experiments for thousands of years have resulted in better wines and less risk by the winemaker.

The kiwi biodynamic torch-bearer, James Millton's (of Millton Vineyards and Winery) career path pretty much reflects mankind's way through the agricultural revolution, which resulted in the domestication of crops and grapevines.

James says, "I have worked over 40 vintages, 35 of these on my own account. When I was seven I enjoyed growing vegetables, when I was 14 I enjoyed fermenting fruits, and by 21 I was in Europe learning my trade from the masters. At 28 years old I was given the opportunity to do what I had always wanted to do, and that was to grow wine, not as a winemaker but an artisan winegrower."

The importance of experimenting – year in, year out – is of utmost importance to make better wines. It is not just about flavours and aromas getting better or more pronounced. The experimenting winemaker tries to answer challenges that arise through changing conditions.

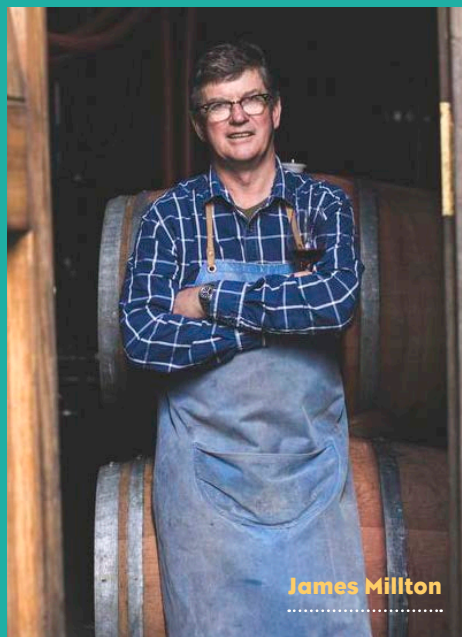
Clemens Lageder, sixth generation winemaker at Alois Lageder in Alto Adige, says, "We had different conditions 100 or 200 years ago and for sure will have different ones in the next 100 years. Therefore we always need to question ourselves and nature, accepting mistakes and learning from them." Lageder's approach to fighting climate change is not to conquer new, higher altitude territories, but to make the most of the vineyards that they have and prepare for the challenges of the future.

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The journey to all top end wines we are enjoying today, lead through a hell of a lot of trial and error. One thing is certain: it all happened way earlier than we think.



Alois and Clemens Lageder.



James Millton

Managing time and money

There are two main challenges an experimenting winemaker has to face: time and money. Each year they have one shot; if something goes wrong or a certain theory does not work out, they can only try again in 12 months' time. However, even a failed experiment can give us a lot to learn. Every experiment leaves an impression and influences our daily work. "Ever tried. Ever failed. No matter. Try again. Fail again. Fail better," Clemens quotes Samuel Beckett.

Beyond the problem of one shot a year, obviously there is the problem of financial risk-taking. Like the early societies thousands of years ago, an agricultural experiment could only continue as long as it was not

risking the food supply that is the daily survival of the village. And things have not changed that much in terms of mathematics and economy – even the production of a single 220L barrel of fermenting grape juice can cost thousands of pounds.

If you're a massive winemaking conglomerate with a research and development budget, you can build the cost of your research into the prices of your regular releases. But if you're a smaller, family-run business, you have to find an alternative way. Basically, you have to get your consumers to finance your experiments in a much more direct way.

James Millton looks at this as an opportunity to share the intellectual adventure of making something new with his consumers. When buying these wines, you don't just buy a commodity, you buy the experience of a one off, a state of mind, and a way of thinking about a vintage.

James sums up the experimental wines economy: "It should be a market not based on price point and commodity, but one that enhances the inspiration of all things surrounding food and wine. In our situation we make several skin fermented white wines under the label Libiamo... This 'experiment' was started six years ago with immediate success. These wines have nothing added to them, aside from a little SO₂ at bottling to help the wine in their travels across the equator. Not only is this 'experiment' exciting, but it also covers all the costs, as well as opening many doors within us when working with our head, heart and hands. And most importantly, it opens the doors into a culinary wonderland of kitchens and grazing tables around the world."

Experimental success

Obviously, the goal of experimenting is usually long term, and costs and revenue should be accounted for accordingly. The ultimate goal is to introduce the results of experiments into the daily practices of future production, thus making better and more sustainable wines. The Lageder family's Comet series follows this path. Each year they 'freestyle' with a couple of barrels and learn from the results.

Clemens says, "Comets flash by, leave a trail, and burn out. Some last for years, others just a few seconds. Our Comets are all about the joy of experimenting, a desire to innovate and getting to know our limits in order to learn from them." The real gain is the long-term conclusion, but they are also fantastic collectors' items. Not to keep, but to enjoy as a chance to have a glimpse into the winemaker's way of thinking.

Buying and drinking these wines ensures that the consumer is drinking something unique. As parts of the wine trade become more industrialised, more uniformed and altogether safer, the risk-taking of small wine businesses deserves a lot of respect. The rise in popularity of small batch, experimental wines means that there's plenty of people out there who want to share the joys of exploration and want to witness the process of how an idea can result in a brilliant glass of wine.

Those massive clay pots dating back to 6,000 BC in Georgia mean a properly developed wine culture that must have been a result of centuries of experimenting. When you think of the great achievements of humankind, think of wine first.



Originally a sommelier – and a journalist in a previous life –

Gergely joined Bibendum after years spent at Gordon Ramsay group and a year detour at Sager and Wilde. He is now part of the Bibendum Fine Wine Sales team and a Business Development Executive. As a side project, G makes wine in his native Hungary, a dry Furmint from Tokaj to be precise. Follow him @gergelywine.



SULPHITES

– a saving grace or
the stench of hell?

By Christina Schneider

Let me start by saying I'm annoyed. Annoyed by almost everything I read while researching this article. It felt a bit like reading the news on Brexit. All you get is politics and propaganda, but very little nuance and actual facts – no matter which camp you're talking to. So, for the sake of transparency, let me get a few things out of the way first:

- I do enjoy well-made wines with little or no sulphur added and I believe that there are great examples out there that can age well.
- I also enjoy sweet wines or 'matchstick' white Burgundies with lots of sulphur.
- I believe using little or no sulphur can make a wine more interesting, more alive and is not just some dogmatic hippy nonsense.
- I am convinced that people who say that wines with added sulphur give them headaches are the same people who ask you for Grey Goose because they are gluten intolerant (in case you're not a spirits nerd, Grey Goose is made from grapes instead of grain, which is completely irrelevant since no distillate contains gluten).

In short, I like good wine and I don't like narrow-mindedness. Now that we've got that out of the way, let's look at some history around sulphur in wine.

Stepping back in time

The idea of adding things to wine to keep it from spoiling or to make already-spoiled wine palatable, is almost as old as wine itself, which makes sense when you consider that its origins lie in southeast Europe and the Middle East, where the climate was less than ideal for the long-term storage of wine.

Thousands of years ago, people would rely on additives such as lead, pitch made from resin, antiseptic herbs like laurel and rosemary, or marble dust to preserve wine, and would often add spices or honey to the rather unpalatable liquid. Back then, wine was drunk rather for its intoxicating properties than its taste. It was consumed at social gatherings and as part of religious ceremonies, but was also widely used to "purify" the even more dreadful tasting drinking water.

Now we know that the ancient Greeks used to fumigate their houses and ships with laurel, rosemary and sulphur to cleanse and protect them from vermin, as far back as 800 BC. It is quite likely that somewhere around that time, they discovered that wine and food stored in freshly fumigated rooms would keep fresh for longer. A Roman document from the first century AD mentions the burning of sulphur inside wine vessels to keep the wine from turning to vinegar, but it was the Germans who first regulated the use of it in wine in a royal decree in 1487. Of course, even at that time, although people knew that it worked, they had no idea of the how or why.

So in order to get really in-depth with this, let me explain it in a way that even I understand...

Getting to grips with sulphur

Sulphur dioxide, or SO₂, has antiseptic, antimicrobial, antifungal and antioxidant properties, which means it can protect the must and the wine from oxidation and bacterial infection, and helps to protect and stabilise the wine.

So you are probably thinking, if it is this magical fairy dust, why isn't everyone using it? Well, the truth is, pretty much everybody is at one point or another. But in order to understand this better, we must first differentiate between enzymatic oxidation and non-enzymatic oxidation.

Enzymatic oxidation occurs pre-fermentation to the grape must and gives the wine those cidery, bruised apple characteristics, whereas non-enzymatic oxidations happens to the wine after fermentation and is responsible for nutty, sherry-like notes. Why does this matter? Bear with me...

Before fermentation

SO₂ kills a lot of bad stuff, but it also kills a lot of good stuff. In conventional winemaking, it is often added pre-fermentation to avoid enzymatic oxidation. But also, to get rid of the natural yeast and bacteria on the grapes so that the must can then be inoculated with the chosen industrial yeast to result in a clean, safe, predictable fermentation, and resulting wine. There's nothing wrong with that and the vast majority of consumers want exactly that. It also makes a lot of sense economically to not let some wild yeast run off with your entire harvest to convert it into who knows what.

But, all of this wild, unpredictable stuff is part of what gives the wine its sense of place; it's part of the terroir, just like the soil, altitude or climate. Which is why most top producers allow at least some of their wines a spontaneous fermentation with ambient yeast – natural wine or not. In order to be able to do that and get a delicious wine at the end, a lot of work needs to go into the fermentation tank: the winery needs to be spiffy clean and free of any damaging bacteria or fungi; and the grapes need to be at perfect ripeness and totally free of rot and diseases (which means they will have to be hand harvested in most cases, ideally from a healthy soil and be farmed following organic or biodynamic principles – certified or not).

So, in short, if you want to make good wine without using sulphur pre-fermentation, you can't cut any corners and it won't be cheap. Conversely, that doesn't mean everyone who does use sulphur pre-fermentation is a crook who makes cheap wine from rotten grapes grown on pesticide-drenched soil. Especially in hot vintages, it can be very difficult to produce a white wine without that slight bruised apple character if you don't use sulphites, and some producers just don't want that in their wines. I'm saying white wine, since red wine has additional protection through its tannins and the cap that forms during fermentation. Also, going through malolactic fermentation helps to protect the wine from oxidation.

After fermentation

Since oxidation can also happen after fermentation (non-enzymatic), there is the option of adding SO₂ after fermentation to protect the finished wine. Not only does this protect the wine from oxidation, but also from infection. It can help avoid bottle variation, the formation of wild, stinky aromas, wine faults like mousiness, or frankly the wine turning into vinegar. This is the part that is done by almost every producer with almost every wine. What varies greatly though, is the added amount.

Legally in the EU, the total SO₂ level in a wine cannot exceed 210ppm (meaning parts per million, which is the same as one milligram per litre) for white wine, 160ppm for red wine and 400ppm for sweet wine; and if a wine contains more than 10ppm, the label has to state 'contains sulphites'.

Since SO₂ also occurs naturally during fermentation, a wine with no SO₂ added will usually contain between 10 and 50ppm, but up to 100ppm are possible. So 'contains sulphites' doesn't actually mean that sulphites have been added, which can be a bit misleading. And even a wine with SO₂ added (some producers, especially on the natural side of things, add as little as 10-20ppm) can end up having less total SO₂ than a wine with no sulphites added.

Going low just for show?

I don't want to get too hung up on sulphite levels, since even the maximum amounts don't cause bodily harm to anyone (unless you are part of the estimated 0.4% of the population who are indeed allergic to sulphites). There is actually zero medical evidence of sulphites causing headaches, in the amount they would be present in wine. The most likely culprit for that is probably the alcohol. I suggest if you

really want to find out if you have a problem with sulphites, eat a bag of dried apricots – spoiler alert, they contain up to 100 times more SO₂ than wine.

So please, if you want to go out there drinking only low/no sulphite wines, do it for the right reasons. Do it because you want to support people who take a risk. Do it because you think it makes more interesting wine. Do it because the label looks really cool on your Instagram (and own it). Do it because you love stinky, unpasteurised cheese that smells of your grandma's feet. Do it because even if you had that wine three times already, this one bottle might still surprise you.

Love it or hate it

Think of it this way: imagine the winemaker is your mum, you are obviously her cherished baby and sulphur is that ugly bicycle helmet. As long as you're at home and everything around you is safe, you don't need it. But when you leave home on your bike (or in a bottle) into a dangerous world outside of your mum's control, she might want you to wear it. Just to keep you safe. Chances are, you will never need it. If all goes well, you'll be fine. But what if a cab hits you (or you're badly stored, end up with a more porous cork, or are exposed to heat)? Then having that helmet (the SO₂) might be the only thing between you and a serious injury (spoilage). On the downside, that bloody ugly helmet will flatten your hair and ruin your chances of charming that hot bike messenger (or make you taste just a little less vibrant).

No matter what side of the fence you're on, go out there and mingle with the other camp, let someone talk you into drinking something you never drink and have the courage to love it!



Born where the Rhine and Mosel meet, **Christina** is a proper wine and spirits geek, with a particular love of Riesling (perhaps unsurprisingly). While starting out as a professional horse trainer – and taking a detour while studying maths – she's spent the last 18 years working in hospitality, running both bars and restaurants in Berlin, Paris and London, notably at Happiness Forgets and Som Saa.

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