Australian Wine

TOPIC

ORGANIC AND BIODYNAMIC WINE

Guide

AUSTRALIAN WINE DISCOVERED

AUSTRALIAN WINE DISCOVERED

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Australian Wine

ORGANIC AND BIODYNAMIC WINE

AUSTRALIAN WINE DISCOVERED

Crafted from grapes grown under vast and diverse climates, across landscapes millions of years in the making, every glass of Australian wine tells a story.

Like those who came before us, our modern growers and makers continue to be passionate, resilient and creative; constantly driven to explore new ways to perfect old techniques. Our community is connected by a mutual respect and shared love of crafting exceptional wine, while protecting the natural wonders for future generations to enjoy. Applying modern thinking to our ancient lands, we take playful experimentation very, very seriously.

So, if you're looking for the taste of adventure, let Australian wine be your compass. Because in every bottle of Australian wine, you'll experience the wonders of Australia – a reminder of the adventure and diversity that defines our culture and our land.

The Australian wine community is finding bold, creative and innovative ways to ensure our long-term environmental, social and economic viability, meeting consumer demands and protecting our diverse terroirs.

DID YOU KNOW?

- Australia has the largest amount of certified-organic agricultural land worldwide.

ORGANIC, BIODYNAMIC AND OTHER ENVIRONMENTAL FACTORS INFLUENCING VITICULTURE AND WINEMAKING IN AUSTRALIA

Consumers are increasingly interested in and concerned about the products they buy, as well as how and where they're produced. As a result, the Australian wine community is finding bold, creative and innovative ways to satisfy consumer interests, to ensure our long-term viability and leave a lighter footprint on our planet – from the vineyard to the winery and beyond.

Organic, biodynamic and other environmentally-friendly practices don't necessarily impact the flavour of wine (though there are those who may disagree). Rather than taste, this movement was largely born from an intention to support environmental and social change – and therefore the long-term viability of winemaking in Australia.

TODAY WE'LL COVER

- Organic and biodynamic viticulture and winemaking in Australia
- Other environmental considerations
- Producer case studies
- The rise in alternative varieties

ORGANIC VITICULTURE

Grapes are grown and processed using no synthetic or artificial additives, chemicals, herbicides, pesticides, fertilisers or genetically modified products and organisms.

CERTIFIED ORGANIC

The whole winemaking process – from growing the vines to bottling the wine – must be organic. Not all wines labelled 'organic' are certified.

BIODYNAMIC VITICULTURE

Biodynamic viticulture is a holistic approach based on organic farming principles with specific biodynamic preparations and practices. In addition, astrological and spiritual elements strongly inform practices and timing.

KEY DEFINITIONS

Organic

Organic viticulture is the production of grapes in an environmentally friendly way. This involves keeping a natural balance in the vineyard and the surrounding area, without the use of synthetic fertilisers, herbicides, insecticides or fungicides.

Certified organic

To ensure a product is genuinely organic, it can be 'certified organic' by an organic certifying body approved by Australia's Department of Agriculture and Water Resources, or the Bio-Dynamic Research Institute's DEMETER mark.

The Australian government endorses a number of certifying bodies, including the largest Australian certifier for organic and biodynamic produce: Australian Certified Organic (ACO). A strict standard, the ACO certification verifies and guarantees that a product complies with national production standards and that its provenance can be traced.

Under the ACO, the organic certification process takes three years and involves property testing, a written plan detailing the organic farming methods the wine producer will use and annual audits.

Since 1957, the Bio-Dynamic Research Institute has been involved in research and practical development of the Australian DEMETER Bio-Dynamic Method of Agriculture, demanding the highest quality application of the biodynamic method from farms and businesses, and encouraging community-based, sustainable, ecological activities.

Labelling

To make sure the wine you're buying or drinking is certified organic, look for a certification logo, such as ACO or NCO (National Association for Sustainable Agriculture Australia Certified Organic).

Biodynamics

Two factors distinguish this from other forms of organic farming: the use of herbal sprays and composting techniques, known as 'preparations'; and the timing of the operations on the land, which is strictly regulated by the cycles of the moon.

SUGGESTED DISCUSSION POINTS

- We know organic and biodynamic practices are good for the environment, but some consumers also believe the resultant wines are better for you and cause less-intense hangovers. While this is more likely a case of a groupthink placebo rather than a scientific truth (a more reasonable explanation is that organic wines are usually at a higher price point, so consumed in smaller amounts), what are some other key benefits?

VINEYARD MANAGEMENT
THREE VITICULTURAL APPROACHES

CONVENTIONAL (NON-ORGANIC) VITICULTURE draws on a range of agricultural practices, including traditional farming methods, some synthetic sprays and fertilisers, modern technology and environmentally-conscious approaches.

ORGANIC VITICULTURE can also draw on both traditional and modern farming practices but avoids the use of synthetic fertilisers, pesticides and herbicides. Instead, organic materials such as rock phosphate, plant-based materials, animal-based products and chemical-free sprays are used.

BIODYNAMIC VITICULTURE is drawn from the ideas of Rudolf Steiner. It's similar to organic viticulture, but also incorporates the phases of the moon and special soil preparations.

VINEYARD MANAGEMENT

When vines first arrived in Australia in the 19th century and right through to the middle of last century, growers did all the vineyard work by hand. Then, along came agrochemicals – synthetic fertilisers, herbicides and fungicides. These made viticulture attractively cheaper and more productive. What we now know as 'conventional viticulture' was born, and a number of wine producers abandoned the old ways, with their inefficiencies and lower yields. However, there was some backlash against this chemical use.

Environmental concerns made their way into the mainstream consciousness in the 1990s and 2000s, and a new generation of consumers were increasingly concerned about what went into their food and wine. This led to a rethink of vineyard-management methods.

THREE VITICULTURAL APPROACHES

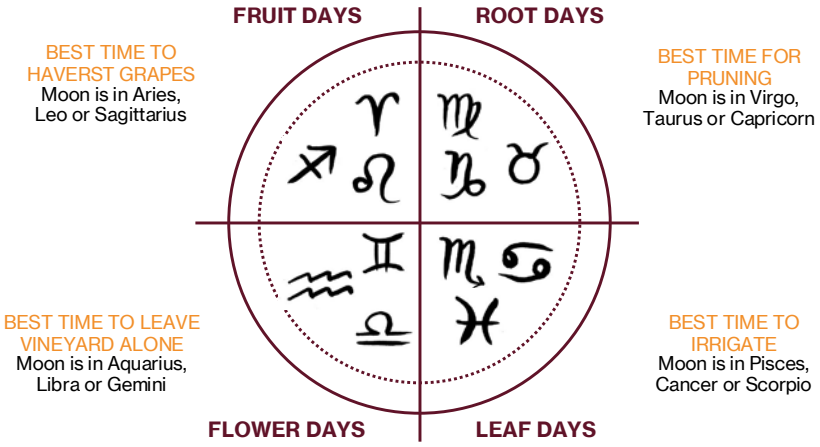
Today, wine producers may use one or a combination of the following viticultural practices.

Conventional (non-organic) viticulture

Conventional (non-organic) viticulture generally draws on a range of agricultural practices:

- Some synthetic materials:
  - Fertilisers – to improve vine growth and increase grape yield.
  - Herbicides – to curb weeds.
  - Pesticides and fungicides – to ward off pests and diseases, respectively.
- Modern technology, such as irrigation systems and tractors.
- Environmentally conscious practices, such as composting and promoting biodiversity.
- Traditional, non-mechanised farming methods, such as hand-picking.

LUNAR CYCLE
AND BIODYNAMIC VITICULTURE



Organic viticulture

Organic viticulture can draw on both traditional and modern farming practices but avoids the use of certain products or practices, such as synthetic fertilisers, pesticides and herbicides. Instead, organic viticulturalists opt for organic products to grow and nourish their grapevines.

Biodynamic viticulture

Biodynamics originates from a series of lectures delivered by the Austrian scientist and philosopher Rudolf Steiner in 1924. With biodynamic winemaking, the lunar cycle breaks down the production process into four periods: flower days, fruit days, root days and leaf days.

Biodynamic wine producers also employ nine biodynamic preparations (BD preps) in their farming practices and winemaking. They apply these preparations to enhance the soil and compost and to stimulate plant life. They comprise manure, fermented herbs and minerals.

At its heart, biodynamics is a supercharged version of organic farming, and together, biodynamic and organic viticulture have become much more common in the past few decades. Still, only a small proportion of Australian vineyards are being farmed this way.

WHICH APPROACH?

Converting from conventional vineyards to organic or biodynamic viticulture is challenging. Fungal diseases are tricky to control with just sulphur and copper. Growers need to apply these at the right time and correctly, because they must cover the whole canopy and fruit zone.

As a result, many wine producers use a combination of conventional, organic and biodynamic practices as they move towards sustainable viticulture.

!

FUN FACT

According to biodynamic principles, fruit days are the best days for wine tastings, while root days are not.

DID YOU KNOW

For Biodynamic Preparation 500 (the other eight are numbered 501 to 508), the wine producer stuffs cow manure into a cow horn and buries it for months. While it's buried, microbes and worms transform the manure into a material that looks like worm castings. The wine producer then mixes this material with water and pours the nutrient-rich liquid into the vineyard soil.

DID YOU KNOW

Established in 1971, Botobolar's vineyard in Australia's Mudgee region is the country's oldest certified-organic vineyard. From its beginnings, Botobolar has used organic growing practices, never using herbicides, pesticides or chemical fertilisers.

SUGGESTED DISCUSSION POINTS

- Some people are sceptical about the component of biodynamic winemaking that deals with the phases of the moon. While there's an element of mysticism in the Steiner philosophy, studies have revealed that biodynamic soils are the most diverse in microflora and fauna, lending some scientific rationale for biodynamics – even if the vineyard practices and timings cannot be explained by science. Why do you think this practice draws scepticism?

OTHER ENVIRONMENTAL CONSIDERATIONS FOR VINEYARDS AND WINERIES

OTHER ENVIRONMENTAL CONSIDERATIONS FOR VINEYARDS AND WINERIES

The decision to use a conventional, organic or biodynamic approach affects almost all aspects of viticulture and winemaking. On top of this are several key environmental considerations, such as energy efficiency, water conservation and recycling. While some wineries will prioritise environmental considerations more than others, they certainly don't need to be organic or biodynamic to do so.

ADAPTING TO CLIMATE AND CLIMATE CHANGE

- Increasing irrigation efficiency
- Modifying irrigation practices in response to heatwaves and frosts
- Retaining soil moisture
- Using alternative varieties, rootstocks or both
- Modifying canopy-management practices
- Establishing vineyards in cooler regions, sourcing cooler-climate fruit or both
- Delaying pruning to manipulate harvest dates

ADAPTING TO CLIMATE AND CLIMATE CHANGE

Management strategies for dealing with the challenges of short-term climate cycles and long-term climate change in the vineyard are essential for grapegrowers and winemakers. Managing the impact of heatwaves, drought, increased fire risk and salinity to mitigate their effect on grapevine physiology and on grape and wine quality has become an integral part of vineyard management.

Climate change is already impacting the grape and wine community, leading to compressed harvests and greater pressure on vineyard and winery infrastructure. Vulnerability to the impact of climate change varies, but vineyards are relatively vulnerable.

CARBON NEUTRALITY AND ENERGY EFFICIENCY

- Reducing fuel use, e.g. minimising use of tractors and other vehicles, changing grasses planted between vine rows to reduce need for mowing
- Reducing refrigeration in winemaking and using more energy-efficient heating methods
- Switching to lightweight bottles (fewer carbon emissions and less fuel for transport)
- Installing solar panels

DECREASING GREENHOUSE-GAS EMISSIONS (CARBON NEUTRALITY) AND INCREASING ENERGY EFFICIENCY

Some Australian wineries are choosing to go 'carbon neutral', which means getting the net greenhouse-gas (carbon-dioxide) emissions resulting from winery and vineyard production processes to reach zero. They get to zero by:

- Gauging their emissions.
- Reducing those emissions as much as they can.
- Buying carbon credits to offset the remaining emissions.

In addition to carbon neutrality, some of these adjustments also contribute to greater energy efficiency on wineries and in vineyards.

SUGGESTED DISCUSSION POINTS

- Electricity consumption in wineries has a significant environmental impact. How can they source 'clean energy' for more sustainable practices?

Refrigeration

Refrigeration can account for as much as 50% to 70% of a winery's electricity consumption. There are a number of ways Australian wineries might improve their refrigeration efficiency:

- Turning off the refrigeration plant when not in use.
- Warmer wine storage.
- Night-time grape harvesting.
- Night-time cooling.
- Insulation.

Heating

Heating can also constitute a large portion of a winery's energy consumption and greenhouse-gas emissions. More energy-efficient heating methods include:

- Using or reusing hot water for multiple processes.
- Minimising heat loss from the boiler flue.
- Adopting a different heating technology, such as solar panels.

INCREASING VINEYARD BIODIVERSITY

- Planting cover crops or using mulch to increase plant diversity and 'good' insects that can eliminate pests
- Minimising mechanical cultivation to reduce soil compaction, which improves soil drainage and aeration, allowing water infiltration and biological activity
- Regularly monitoring soil quality
- Monitoring pests and disease and using environmentally friendly sprays
- Using low-input, organic and biodynamic farming practices; avoiding chemicals; and employing compost and manure

INCREASING VINEYARD BIODIVERSITY

Biodiversity, or 'biological diversity', generally refers to the variety and variability of all living things. Biodiversity in the vineyard reflects the natural balance of the vineyard environment and its interactions with fauna (animal life) and flora (plant life).

An established ecosystem contains a community of living things in balance with each other and their environment. The more numerous and genetically diverse these interactions are, the higher the biodiversity and the more sustainable a system will be.

?

DID YOU KNOW

Insectariums are groups of plants that provide a protective niche for natural predators by providing shelter, a regular supply of pollen and nectar, and a water source for a range of beneficial insects. Grapegrowers can plant insectariums in a range of spots.

COMPOSTING AND MULCHING

- **Compost:** Decayed organic material that contains humus, which breaks down animal and vegetable matter. Humus aids soil fertility, improves soil structure and provides moisture
- **Mulch:** Material that grapegrowers spread over grapevine roots to protect them

COMPOSTING AND MULCHING

Some vineyards employ compost and mulch instead of synthetic fertilisers to improve soil quality, feed the grapevines nutrients, promote healthy vine growth and protect vine roots. Placing mulch underneath vines can reduce the amount of water the soil loses through evaporation, so the vine has more water on which to draw. It can also keep soil cool and quell the growth of weeds.

WATER CONSERVATION

WATER REUSE AND WASTEWATER MANAGEMENT

- Drier regions rely on water conservation, reuse and wastewater management. Some innovative Australian wineries have gone so far as to establish their own wastewater-recycling facilities.
- Irrigation can be a large drain on water resources. Drip irrigation systems may be used to minimise wastage.

WATER CONSERVATION, WATER REUSE AND WASTEWATER MANAGEMENT

Viticultural and winemaking processes require a great deal of water. Because some regions in Australia are prone to dry conditions, conservation, water reuse and wastewater management are critical. Wine producers can significantly reduce their water use by:

- Conducting audits on water use.
- Investigating water recycling opportunities.
- Precision irrigation systems are water efficient and can target an individual vine's needs.
- Managing soil moisture.
- Capturing rainwater.
- Reusing winery wastewater when quality allows.
- Using recycled water.

Drip irrigation

Drip irrigation slowly drips water on an as-needed basis through narrow tubes directly into the soil or onto the root system. Unlike conventional surface irrigation (in which water is distributed over the soil), new technology with drip irrigation allows for precise application, which minimises water wastage.

- **Narrow tubes:** Employed on an as-needed basis for soil and root systems.
- **Unconventional:** Compared to standard surface irrigation, the drip method minimises evaporation.

McLAREN VALE

A CASE STUDY IN WATER MANAGEMENT AND REUSE

McLaren Vale is at the forefront of efforts to both conserve and reuse water, having not used sprinkler or flood irrigation in more than a quarter-century. Instead, it uses:

- Groundwater aquifers
- Surface catchment dams that collect and store water from natural run-off
- Treated, reclaimed water piped in from a wastewater-treatment facility

Wastewater management

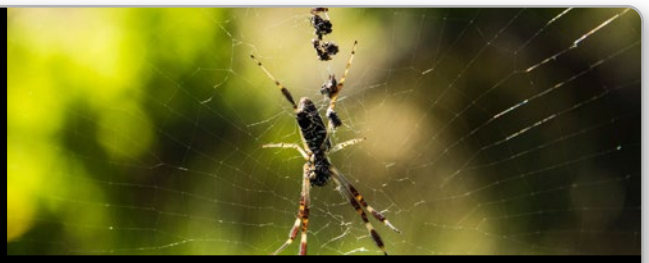
From start to finish, the winemaking process can produce large volumes of wastewater – used water resulting from domestic, industrial, commercial or agricultural activities. If handled incorrectly, it can be detrimental to the environment.

Some innovative Australian wineries have gone so far as to establish their own wastewater-recycling facilities. Taylors Wines in South Australia's Clare Valley, for example, recycles 100% of the wastewater from its winery and bottling facility for reuse in the vineyards. The winery also collects and reuses stormwater and run-off from winery buildings.

Managing wastewater more cost-effectively and sustainably requires an integrated approach:

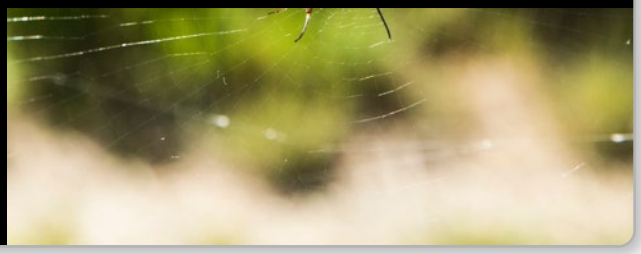
- **Winery:** Cleaner production = increased profits, fewer treatment requirements, less waste.
- **Wastewater-treatment plants:** 'Fit-for-purpose' treatment (treating winery wastewater to the standard required for discharge or recycling) = reduced costs and optimised recycling.
- **Vineyard:** Recycling treated water = alternative and safe irrigation supplies and reduction in environmental risks from discharges.

INTEGRATED PEST MANAGEMENT (IPM) STRATEGIES



IPM encourages organic growers to understand:

- Life cycles of vineyard pests
- Pest population levels
- Useful parasites and predators



INTEGRATED PEST MANAGEMENT (IPM) STRATEGIES

Some Australian vineyards are implementing best-practice spray programs and integrated pest management (IPM) strategies.
IPM encourages growers to gain a thorough knowledge of the:

- Life cycles of vineyard pests to understand when it will be easiest to control them.
- Pest population levels that will likely cause issues in the vineyard.
- Parasites and predators that can help control them.

ANIMAL GRAZING

- Keeps weeds and winter grasses under control, meaning fewer herbicides
- Lessens the need for tractors to spray and mow grass, reducing fuel use
- Can make use of animal manure as a soil conditioner and natural fertiliser

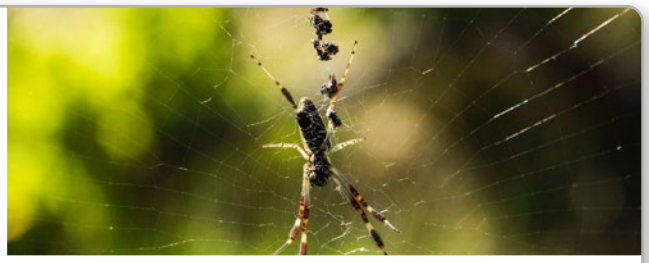
CHEMICAL USE AND ANIMAL GRAZING

Despite Australia's isolation and strict quarantine processes, some domestic pests and diseases, such as grey rot, can still severely impact grape yield, berry quality and wine quality, so strategies to control these are necessary. One strategy involves allowing animals to graze in the vineyard. This approach:

- Keeps weeds and winter grasses under control, thereby requiring fewer herbicides.
- Reduces the amount of fuel the vineyard uses to run tractors for spraying and mowing.
- Can make use of animal manure as a soil conditioner and natural fertiliser.

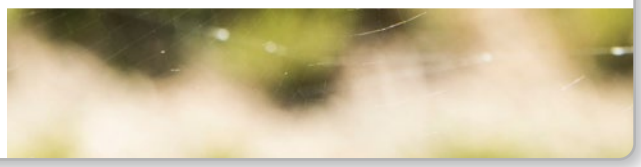
Other approaches include eliminating broad-spectrum insecticide use, targeted spraying in only the most affected areas and monitoring weather conditions (air temperature, wind speed and humidity) during spraying activity.

RECYCLING AND REUSE



Wineries can minimise landfill waste by disposing of:

- Glass waste
- Cardboard
- Paper
- Organic solid residuals
- Scrap metal
- E-waste



RECYCLING AND REUSE

In addition to wastewater recycling and other reuse practices, there are a number of materials that wineries and vineyards can dispose of sustainably to minimise waste to landfill.

COMPLEMENTARY READING

NATURAL WINE IN AUSTRALIA

Natural wines – an unofficial term used to describe certain wines produced by organic or biodynamic vineyards – are made in the winery with no heavy machinery, no manipulation and no additions except for low levels of sulphur (with some producers refusing to use any sulphur at all), and bottling occurs without filtering or fining.

There are two schools of thought that fall under the broad umbrella of natural wine in Australia. The first shift toward natural wine began with the trend of minimal intervention by producers who opted to do less in winemaking, refusing additions and fermenting using wild yeasts. These winemakers come from varied places, and the modern incarnation of natural wine comes with much experimentation. Winemakers use ceramic eggs, fermented white grapes on their skins to create skin-contact wines, and bottle wild, unfettered wines from varying sources to create a culture that celebrates uninhibited winemaking.

Alongside those applying the tenets of natural winemaking are those renting vineyards and farming them themselves. If self-farming is not possible, there are those dedicated to sourcing parcels of fruit from organic and biodynamic vineyards and then applying the minimal-intervention principles understood to be natural winemaking.

DID YOU KNOW

Ceramic eggs, a winemaking vessel used for fermentation, are becoming increasingly popular. The ceramic imparts no flavour to the wine, and the egg is shaped just so to assist with the natural fermentation process. They are an alternative to clay amphora.

CASE STUDIES

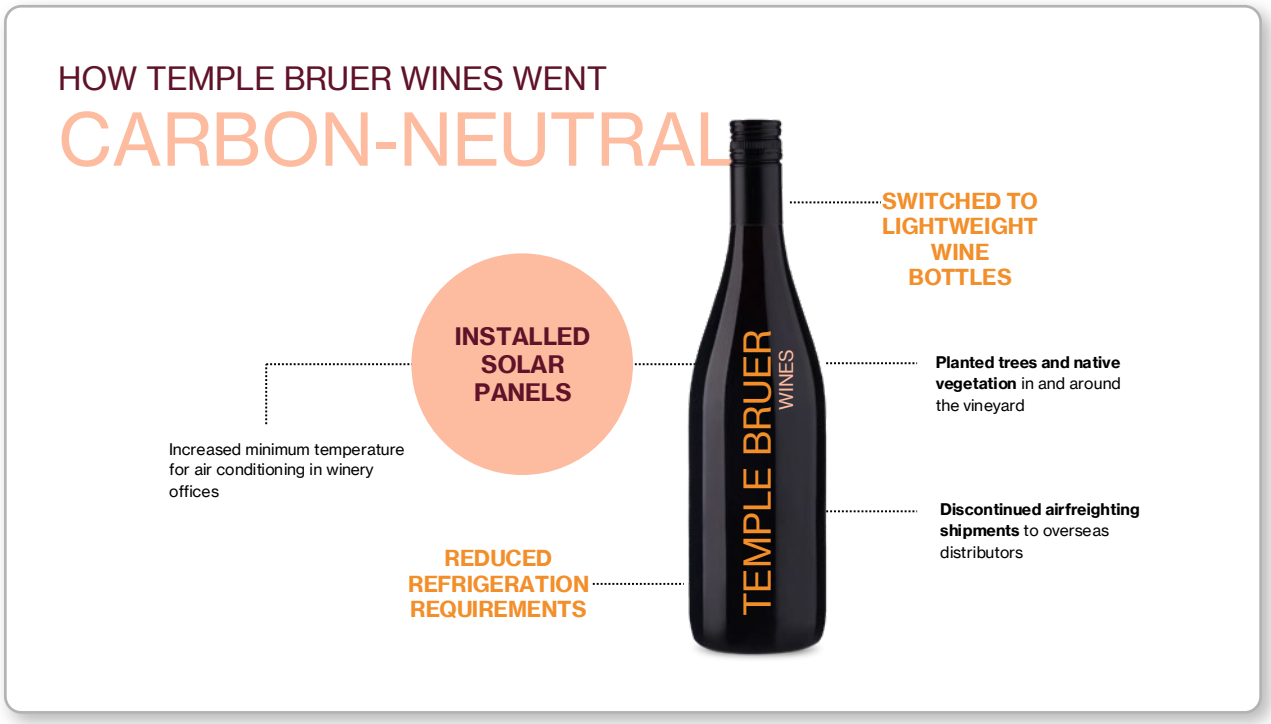
TIME TO TASTE – You may like to taste your selected mix of wines as you work through the relevant sections below.

SUGGESTED DISCUSSION POINTS

- Do you think a bottle of biodynamic wine will taste different from a bottle of conventional or organic wine? Why or why not?

AUSTRALIAN CASE STUDIES

The following is a sampling of just some inspirational Australian wineries practising 'green' viticulture or winemaking techniques.



SPOTLIGHT ON CARBON NEUTRALITY: TEMPLE BRUER WINES, LANGHORNE CREEK

Temple Bruer in Langhorne Creek is one of Australia's only 100% certified-organic and carbon-neutral wineries. The winery achieved its carbon-neutral status in 2011 and prides itself on trying to maintain this status as much as possible through its own actions and not by purchasing carbon credits.

With this in mind, the winery introduced a cradle-to-gate approach to carbon neutrality, meaning it focuses on environmental practices from the vineyard to the time the wines leave the distributor.

KALLESKE'S

ORGANIC AND BIODYNAMIC PRACTICES IN THE VINEYARD

- Controlling weeds mechanically and naturally nourishing vines without chemical fertilisers
- Using composts and natural fertilisers (kelp and rock dust) in the soil
- Applying BD preps to the soil and grapevines
- Using natural sprays rather than fungicides or insecticides

SPOTLIGHT ON CERTIFIED-ORGANIC AND BIODYNAMIC: KALLESKE, BAROSSA VALLEY

The Kalleske vineyard and winery have been 100% certified organic and biodynamic by the ACO since 1998. Kalleske is the oldest certified-organic/biodynamic vineyard and winery in Barossa Valley. The winery aims to not only preserve the natural environment but improve it. Its winemaking approach focuses on the relationship between soil health, vine health, grape quality and minimal intervention to produce premium wines.

From a biodynamic standpoint, Kalleske monitors the phases of the moon and aims to harvest and rack its wines during favourable lunar conditions.

The winery has also installed solar energy, which produces enough electricity to power the whole winery. It also takes an environmental approach to water management. Kalleske uses a 250,000-litre rainwater tank to collect water from the winery and vineyard sheds.

KALLESKE'S

TRADITIONAL, MINIMAL INTERVENTION APPROACH IN THE WINERY

ADDS NO TANNINS, ENZYMES OR FINING AGENTS

Relies on natural yeasts for primary fermentation and natural malolactic bacteria for malolactic fermentation

NATURALLY CLARIFIES ITS WINES WITH RACKING AND NO FILTRATION

BATTLE OF BOSWORTH'S

ORGANIC CONVERSION

- Runs its vineyards as it would have before synthetic fertilisers and pesticides came along
- Uses soursob (a flower used in the fight against weeds) for weed management
- Employs modified vineyard machinery to improve efficiency and reduce environmental impact
- Has undergone extensive revegetation, removing problematic species and replanting natives

Photo courtesy of Loch Bosworth

SPOTLIGHT ON CONVERTING TO ORGANIC VITICULTURE: BATTLE OF BOSWORTH, MCLAREN VALE

McLaren Vale's Battle of Bosworth winery began its conversion to organic viticulture in 1995. Today, the winery has a variety of grapevines that have been ACO-certified organic for decades, including Shiraz, Cabernet Sauvignon, Chardonnay, Viognier, Petit Verdot, Sauvignon Blanc and Mourvèdre (as well as a little Graciano and Touriga Nacional). Gaining organic certification took Battle of Bosworth four years, with yearly audits and random produce sampling.

!

FUN FACT

Soursob (*Oxalis pes-caprae*), the pretty yellow flower, is helpful in the vineyard in the fight against weeds. A fast grower during winter rains, soursob outcompetes other weeds during the colder season and establishes a natural carpeting of weeds in the warmer seasons. What's more, it nicely complements grapevines, as it takes advantage of water when the vine is dormant and dies in summer when the vines need more water.

The flower features on the label of Battle of Bosworth wines.

CULLEN WINES' ENVIRONMENTAL TIMELINE

1998
- Switched to organic viticulture, implementing drains, composting and cover crops.

2003
- Certified organic and converted to biodynamic farming.

2004
- First vineyard (Cullen) received certified biodynamic status; second (Mangan) in 2008.

2006
- Voluntarily offset its carbon footprint by purchasing carbon credits.

2014
- Installed a 45-kilowatt solar-energy system, which provides for a decent proportion of Cullen's average consumption.

SPOTLIGHT ON STEADY SUSTAINABILITY: CULLEN WINES, MARGARET RIVER

Cullen Wines is committed to being sustainable at all levels of its business and has steadily implemented a number of initiatives to reduce the environmental impact of its viticultural and winemaking practices:

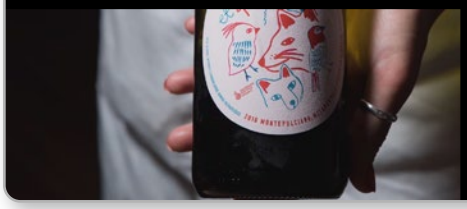
- Carbon-reduced bottles for the majority of its wines.
- Locally purchased cardboard packaging to cut down on transport distances.
- Segregated waste to take advantage of local waste-recycling programs.

Cullen takes a biodynamic and minimal-intervention approach to both the winery and the vineyard by:

- Naturally fermenting all its wines.
- Maintaining a biodynamic vegetable garden for use in its restaurant.

THE RISE OF ALTERNATIVE VARIETIES IN AUSTRALIA

- Arneis
- Barbera
- Fiano
- Gamay
- Grüner Veltliner
- Montepulciano
- Nebbiolo
- Nero d'Avolo
- Sangiovese
- Tempranillo
- Touriga Nacional
- Vermentino



ALTERNATIVE VARIETIES

'Alternative varieties' come from grapes that are not part of the mainstream varieties widely planted across Australia.

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FUN FACT

You may like to taste your selected mix of Australian alternative-variety wines as you work through the relevant sections below.

Note that not all alternative-variety wines are organic, biodynamic or other.

Winemakers are now looking to alternative varieties, not just because they're fashionable, creating more choice for consumers and contributing to Australia's diverse viticultural landscape – although all of this is true. Innovative winemakers are also exploring whether these varieties are better suited to the Australian environment and climate, and therefore more environmentally-friendly.

After all, when the original wine pioneers arrived in Australia, they brought varieties that were successful (in some cases for centuries) and popular in Europe, South Africa and South America. These early visionaries didn't yet know how the vines would fare in their new country. They were also still getting to know Australian terroir, regional differences and the viticultural and winemaking techniques to best suit the grapes.

These days, armed with generations of knowledge and experience, Australian wine is evolving. Bold winemakers and alternative varieties are challenging the status quo and garnering a great deal of attention – both domestically and abroad – for their freshness, balance and regional distinction.

Time will certainly play a role in determining if and in what regions these varieties will thrive, and whether they'll stand the test of time against some of the great Australian classics. Over time, talented Australian wine producers will gain an even greater understanding of the specific practices and processes that will enable them to grow superlative alternative grape varieties and create superlative alternative-variety Australian wines.

Whatever the outcome, it makes for an exciting time for both winemakers and consumers.

DID YOU KNOW

Alternative varieties account for approximately 4% of Australia's vineyard area.

SUGGESTED DISCUSSION POINT

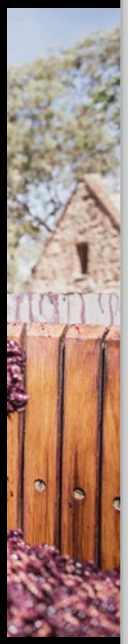
- How do you think the increase in alternative varieties will impact the Australian wine and grape community?

COMPLEMENTARY PROGRAM

Learn more in the **Alternative Varieties** module, available at **www.australianwinediscovered.com**

ENSURING AUSTRALIA'S GENERATIONS-OLD VINEYARDS, VITICULTURE AND WINEMAKING

ENDURE AND EXCITE FOR YEARS TO COME.



In recent years, wine consumers have wanted to know more about what goes into what they drink, and wine producers have pondered the quality and character of their finished products. The quest for authenticity, for individuality and for expressions of place has replaced the search for superficial perfection. Nowhere is anyone pursuing this quest more passionately than in Australia, which has the largest amount of certified-organic agricultural land worldwide. As part of this, a growing number of wineries are adapting their vine and grape-growing methods in favour of more environmentally-friendly practices, such as farming organically or biodynamically.

These practices can also help ensure the country's generations-old vineyards, viticulture and winemaking will endure for years to come.

As Australian winemakers gain an even deeper understanding of their land and discerning consumers demand ever-more complex and premium wines, the future of Australian wine will be driven by curious winemakers always looking for ways to innovate, while also reflecting on traditional techniques.

KEY POINTS TO REMEMBER

- With the popularity of biodynamic and organic products on the rise, more Australian wine producers are looking to environmentally-friendly practices.
- Australia's sustainable viticulture and winemaking culture aims to meet market needs now and for future generations by maintaining or improving the country's grape and wine production.
- The three primary viticultural approaches are conventional (non-organic) viticulture, organic viticulture and biodynamic viticulture.
- Australian wine producers have many environmental factors to consider: climate and climate change; greenhouse-gas emissions (carbon neutrality); energy efficiency; biodiversity; vineyard management (viticultural approaches); composting and mulching; water conservation, water reuse and wastewater management; chemical use; recycling and reuse; and more.
- Innovative winemakers are exploring certain alternative grapes to determine whether these varieties are actually better suited to the Australian environment and climate, and therefore more sustainable.

Suggested timings

This program is designed to be taught in one to two hours. How long you spend on each topic – or whether you cover it at all – will depend on your attendees as well as time allocation. Below are two different examples of how you may wish to divide your time.

ONE-HOUR CLASS

Topic	Time
Welcome and introduction	3 mins
Organic and biodynamic viticulture and winemaking	10 mins
Other environmental considerations	10 mins
Producer case studies (including tasting)	25 mins
Alternative varieties (including tasting)	10 mins
Summary and class close	2 mins

TWO-HOUR CLASS

Topic	Time
Welcome and introduction	5 mins
Organic and biodynamic viticulture and winemaking	20 mins
Other environmental considerations	20 mins
Break	10 mins
Producer case studies (including tasting)	40 mins
Alternative varieties (including tasting)	20 mins
Summary and class close	5 mins

SUGGESTED WINES TO TASTE

These are just suggestions – you can select whichever wines best suit your tasting and audience. Wines may or may not be available in your area.

- Lark Hill Canberra District Riesling
- Cullen Margaret River Sauvignon Blanc Semillon
- Angove Organic Chardonnay
- Temple Bruer Wines Eden Valley Shiraz
- Kalleske 'Old Vine' Barossa Valley Grenache
- Castagna 'Genesis' Beechworth Syrah
- Battle of Bosworth 'Puritan' McLaren Vale Shiraz
- Yangarra Estate Vineyard 'Old Vine' McLaren Vale Grenache
- Paxton 'Jones Block' McLaren Vale Shiraz
- Tamburlaine Reserve Hunter Valley Shiraz
- Highbank Coonawarra Cabernet Sauvignon

ALTERNATIVE VARIETIES

- Coriole McLaren Vale Piquepoul
- Golden Grove Estate Granite Belt Vermentino
- Oliver's Taranga McLaren Vale Fiano
- Lark Hill Canberra District Grüner Veltliner
- Jim Barry Clare Valley Assyrtiko
- Coriole McLaren Vale Sangiovese
- Gemtree 'Luna Roja' McLaren Vale Tempranillo
- S.C Pannell McLaren Vale Tempranillo Touriga
- Luke Lambert Yarra Valley Nebbiolo
- Mount Horrocks Clare Valley Nero d'Avola

THANK YOU

AUSTRALIAN WINE DISCOVERED