

Wine
Australia
for
Australian
Wine

Annual Operational Plan 2016-17



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Introduction

This *Australian Grape and Wine Authority Annual Operational Plan 2016–17* details our planned activities, intended outcomes and measurements of success for the second year of our Strategic Plan 2015–2020. Our five-year Strategic Plan identifies our key investment priorities in marketing, regulatory services, and research, development and extension (RD&E).

We are focused on activities and investments that will support our long-term goal for a prosperous Australian wine sector and we deliver these activities as Wine Australia. In the 12 months to the end of March 2016, we have seen Australian wine exports increase by 13 per cent to \$2.1 billion; we've seen record growth in our higher priced wines and we've seen growth in the average value paid for our wines for the sixth year running.

We must keep building on this momentum: positioning Australia as a producer of the finest wines in rapidly growing markets, particularly across Asia; showcasing Australia as a producer of regionally diverse, terroir-driven, high-quality wines; and defending and growing our share in established markets such as the United States (US) and United Kingdom (UK).

To achieve this in the current trading environment means it's more important than ever that we are agile, that we monitor new trends, that we continuously engage with our levy payers to better understand their commercial needs and that we act quickly on new opportunities. In 2016–17, we will enhance our engagement with our grape and wine community and our customers through a new digital platform that brings to life the excitement and authenticity of Australian wine. We will also pilot VinSites, our new web-based platform to collect a comprehensive national data set of grape and wine supply and demand information to support informed decision-making by grapegrowers and winemakers.

The Australian grape and wine community contributes \$40.2 billion to our national economy through grapegrowing, winemaking and wine-related tourism. We are excited about the opportunity to further grow international and domestic markets and wine-related tourism through the \$50 million Export and Regional Tourism Program announced in the Federal Budget on 3 May 2016. In 2016–17, we will consult widely with the grape and wine sector to develop and implement the agreed initiatives to deliver this welcome boost to our vital sector.

This year, as our previous agreement comes to an end, we will seek to negotiate a new agreement with our principal RD&E partner the Australian Wine Research Institute (AWRI) that recognises our strong mutual commitment to provide excellent RD&E for the Australian grape and wine community. We will also investigate developing strategic partnerships with other key RD&E partners to build stronger on-going relationships for the benefit of the sector.



Brian Walsh, Chair



Executive summary

Our goal

Our goal is a prosperous Australian grape and wine community.

State of play

The latest market insights show Australian wine sales have continued to grow internationally. Our Export Report March 2016 shows that, in the 12 months to the end of March 2016:

- the value of Australian wine exports grew 13 per cent to \$2.1 billion and volume increased by 3 per cent to 731 million litres
- the growth in value was driven by bottled exports, most notably at higher price points
- bottled exports grew by 16 per cent to \$1.7 billion, the highest value in five years
- exports above \$10 per litre increased by 32 per cent to \$492 million, which is a record value for exports in this segment
- the average value of bottled exports increased for the sixth straight year, by 9 per cent to \$5.29 per litre
- exports were destined for 119 countries and value increased to 79 of these, including the biggest five, and
- free trade agreements (FTA) contributed to a 44 per cent increase in exports to Northeast Asia to \$601 million (with almost half the value above \$10 per litre).

The domestic market accounts for 40 per cent of Australian wine sales. While in 2014–15 the volume of Australian wine sales domestically declined by 0.6 per cent to 456 million litres, the value increased by 3.8 per cent to \$2.8 billion.

Priorities

To achieve our vision of a prosperous Australian grape and wine community, we will address two clear challenges. Our first challenge is the general global perception of the quality and provenance of our wines that, in our view, is less than the reality, and this translates into lower prices for our wines than are warranted. Our second challenge is our need to more profitably compete in a fiercely contested global marketplace. We must continue to improve the competitiveness of our wine offering through productivity gains, innovation, differentiation and meeting market demand. We will address these challenges by:

Priority 1: Increasing demand and the premium paid for all Australian wine

Priority 2: Increasing competitiveness

The Board developed two measures to determine whether we achieve the priorities – over and beyond the measures of success in the Strategic Plan.

Outcomes

Table 1: Targets to achieve our priorities

Outcome	Strategic Plan target	2016–17 target
Improved returns for Australian wine exporters	The average price per litre for Australian bottled wine exports increases to a point where it is at or near the highest average price per bottle of our global competitors by key markets.	The average price per litre for Australian bottled wine exports increases year-on-year from \$5.32 in April 2016.
Improved global competitiveness	Australian vineyards and wineries are efficient by global standards.	There is greater transparency in the management practices and costs of Australian vineyards and wineries than for many other wine-producing countries. We will benchmark two Australian wine regions against two like regions in the US, where information about management practices and costs is available in a timely manner. We will also benchmark the adoption of five viticultural practices and five oenological practices in Australia to establish a competitiveness indicator.

Table 2: Our goal, our priorities and the strategies to achieve them

Goal: A prosperous Australian grape and wine community		
Priority 1: Increasing demand and the premium paid for all Australian wine	Strategy 1: Promoting Australian fine wine Asia Pacific North America China UK and Europe	
	Strategy 2: Protecting the reputation of Australian wine Annual Analytical Survey Label Integrity Program Regulatory Services	
	Strategy 3: Building Australian vine and wine excellence Grapegrowing for excellence Wine provenance and measures of quality Customer insights	
Priority 2: Increasing competitiveness	Strategy 4: Improving resource management and sustainability Climate adaptability Foundation data Sustainable resource management Biosecurity, pest and disease management	
	Strategy 5: Improving vineyard performance Enhancing grapevine and rootstock performance Efficient and sustainable vineyard management	
	Strategy 6: Improving winery performance Enhanced yeast and bacterial performance Efficient winery production	
	Strategy 7: Enhancing market access Market access	
	Strategy 8: Building capability Developing people	
	Strategy 9: Business intelligence and measurement Business intelligence Monitoring and evaluation	
	Strategy 10: Extension and adoption	
	Supporting functions	Strategy 11: Corporate Affairs Corporate Affairs Sector engagement
		Strategy 12: Corporate Services Finance and administration People and culture Information and communications technology

Priority 1

Increasing demand and the premium paid for all Australian wine

Outcome

The average price per litre for Australian bottled wine exports increases to a point where it is at or near the highest average price per bottle of our global competitors by key markets.

Strategy 1: Promoting Australian fine wine

We promote the sale and consumption of Australian wine through coordinated and collaborative marketing activities. We share with the trade, media and consumers the stories about the natural advantages of the unique and diverse grapegrowing attributes of Australia – its terroirs – that are brought to life by its people.

Our marketing mandate is to develop the market for Australian wine internationally and domestically. We support winemakers' strategies and underpin their efforts by promoting the quality and diversity of Australian wine through marketing initiatives in Australia and overseas.

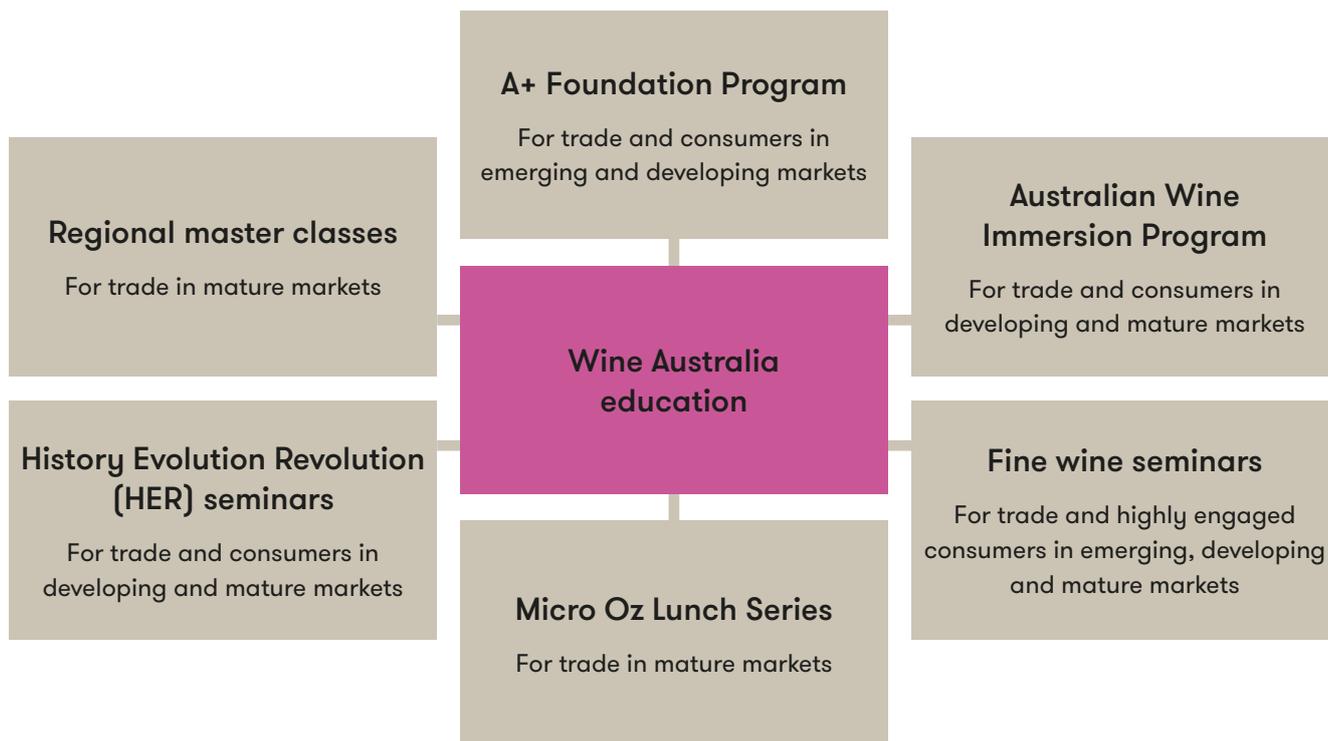
We identify opportunities to help our wine sector partners bring great Australian wines to the world's retail shelves, online offerings and wine lists, and to ensure that they are included in positive conversations across all media. We have established networks across the world's trade channels, media, wine educators and influencers, and we work closely within these networks to deliver events and activities that reflect our market strategy and benefit Australian wine producers.

In 2016–17, we will facilitate perception change of the Australian category through increased partnership and collaboration. We will significantly increase the quality of our visitors program by working more closely with our national, state and regional partners to bring to life Australia's unique fine food, wine and lifestyle offering. We will increase our investment in education and market-building events in mainland China and other Asian markets, and we will develop a deeper portfolio of digital content and assets to support stronger engagement with the world's trade, media, wine educators and influencers.

Export and Regional Tourism Program

In the budget, the Government allocated \$50 million over four years to Wine Australia for the Export and Regional Tourism Program. In 2016–17, working closely with the grape and wine community, we will develop a business case of activities to support Australia's inbound wine tourism sector, with a focus on regional development. We will also develop a marketing program that will complement the existing promotional activities undertaken by individual wine companies.

Figure 1: Our education platforms, their audiences and target markets



Marketing levies

In 2016–17, we anticipate receiving \$5.5 million from the wine export charge and the promotion component of the wine grapes levy.

With this marketing funding, we will maintain our marketing staff in Australia, the UK, North America and China, and conduct approximately 70 core marketing activities. Our in-market teams provide knowledge, insights and assistance to Australian wine companies wishing to develop new markets and build existing markets for their wine.

A key component of our core marketing activities is educating the world’s wine trade, media and consumers about distinctively Australian fine wines through education and master classes, aligning Australian wine with a modern epicurean lifestyle, and displaying and promoting a diverse portfolio of Australian wine at major trade and consumer events globally.

We have a range of education platforms that are tailored to engage with the trade, media and consumers on their journey of discovery and understanding about Australian wine. These channels are detailed in Figure 1.

User-pays activities

The core activities funded by levies are supplemented by user-pays activities in which we partner with wine companies, regions and states to deliver targeted programs to engage with the trade, media and consumers.

Our user-pays activities are developed by our in-market teams in consultation with their in-country wine sector reference groups. We then present these opportunities to wine companies, regions and states, inviting them to invest in those activities and events that support their own marketing strategies.

Our user-pays activities include consumer and trade events, trade-only events, retail promotions, tastings and master classes, educational initiatives, advertorial opportunities, and sommelier and trade immersion activities.

Our user-pays activities help create opportunities for our wine sector partners to achieve greater reach with their marketing efforts; provide an equitable, cost-effective approach for our wine producers and state and regional partners; and remove barriers to entry for smaller producers. Our smaller producers are the largest users of these activities, with 47 per cent of participants coming from small wine companies in 2015–16. Agents and importers are the next most likely to participate (24 per cent of participants), followed by medium-sized companies (15 per cent of participants), while state and regional partners and large companies account for the rest.

In the US, we provide a structured and formal Market Entry Program that provides dedicated assistance to Australian wine brands wanting to enter or re-enter the US market.

We design our user-pays activities to meet the needs of the wine community. We will develop joint business plans with companies, regions and states so that our user-pays activities can help them achieve their objectives. Naturally, we are flexible with the activities we offer and we create new activities to capture emerging opportunities and meet demand from the sector.

Strategic partnerships

Building collaborative partnerships with like-minded organisations to build awareness, understanding and demand for Australian wine is a core element of our strategy. These partnerships help us have greater impact by contributing to the overall elevation of Australian culture and produce through our collaborative efforts.

We work closely with Tourism Australia, state tourism commissions and regional associations to build international awareness of Australia's fine food and wine culture.

Other organisations, campaigns and events we are seeking to partner with or support in 2016–17 include:

- The Woolmark Company
- Court of Master Sommeliers
- James Halliday Wine Companion Awards
- Young Gun of Wine Awards
- G'day USA
- Ultimate Winery Experiences
- China brand messaging (in collaboration with Dairy Australia and Meat and Livestock Australia).

We partner with Austrade, particularly in markets where we do not have a physical presence – mainly across the Asian region and emerging markets – to help the wine sector capture export opportunities. Within these markets, Austrade facilitates market entry arrangements by linking potential importers and distributors with Australian wine companies interested in exporting. Importantly, Austrade also supports our marketing strategies across the Asian region and emerging markets, and we work closely with their in-market teams to deliver initiatives that help promote and profile Australian wine. We provide further assistance to exporters through Export Market Guides that help exporters understand the legal and technical landscape in which they will be operating.

Asia

In the year ended March 2016, Asia (excluding China) saw 16 per cent growth in value for Australian wine exports totalling \$359 million. Achieving success in Asia requires not only a long-term strategy but also commitment to the market, particularly given the various languages and cultures of Asia that are unfamiliar to many Australians.

There are plenty of opportunities that exist across the broader Asian market, with different levels of maturity and accessibility across Wine Australia’s focus countries of Japan, Hong Kong, Singapore, South Korea and Taiwan. These countries in particular have higher levels of wine consumption than other parts of Asia and this translates into greater understanding of wine and greater potential for genuine appreciation of Australia’s fine wine offering. Our focus countries all saw solid growth in wine exports above \$10 per litre in the past 12 months.

In some of our focus markets in the Asian region, Australia commands significant market share. We need to maintain market share as competitors become more active and with the benefit of a number of free trade agreements now in place (including South Korea and Japan), now is the time to maximise opportunities in the region.

Wine Australia’s activities in the region will be designed to excite and persuade wine professionals across Asia of the quality, style and innovation of Australia’s fine wine. Initiatives such as the Asian trade and media visit aim to create Australian wine advocates and ambassadors. Trade tastings such as the Australian Wine Grand Tastings in Tokyo and Seoul will focus on commercial successes and putting Australian wine’s ‘best foot forward’.

The core educational activities focus on delivery of current and relevant information through our foundation program – delivered by educators in partner wine schools – and seminar series delving into specific regional and varietal topics.

We’ll continue a strong communications and public relations program. In particular, we will have an active social media presence in Japan and Korea with market-specific, tailored content in the local language.

Key in-market activities:

- Australian Wine Grand Tastings, Japan and South Korea – September 2016
- Hong Kong Wine and Dine Festival – October 2016
- Leading Asian trade and media visit – November 2016
- Sommelier Immersion Program visit – May 2017
- Trade Immersion Program visit – June 2017.

Strategy 1: Promoting Australian fine wine

Programs	Strategic Plan measures of success	2016–17 measures of success
Asia Pacific	<p>Trade and consumer educational events deliver key messages to support the strategy.</p> <p>Year-on-year positive growth in consumer sentiment index.</p> <p>At least 90% of wineries and distributors who participate in user-pays and core events report they are satisfied.</p>	<p>Trade and consumer educational events deliver key messages to support the strategy.</p> <p>Positive growth in consumer sentiment index in Hong Kong from 6.70, in Japan from 7.37 and in Singapore from 7.20.</p> <p>At least 90% of wineries and distributors who participate in user-pays and core events report they are satisfied.</p>

North America

The US is the largest consumer (by volume) of wine in the world with 158 million wine drinkers – and that number continues its consistent rise. According to Euromonitor, 345 million cases were sold in the US in 2015, up 2.1 per cent. Of those sales, 22 per cent were imported wines. Australian wine represents 5 per cent of total US wine sales and is the second largest imported wine by volume, accounting for 15 per cent.

In the year ended March 2016, Australia exported 161 million litres valued at \$442 million. Exports show a solid growth trend for premium bottled wines with wines above \$10 per litre increasing by 20 per cent to \$32 million.

Canada is Australia's fourth largest export market by value. In the year ended March 2016, total value increased by 1 per cent to \$188 million while volume increased by 2 per cent to 62 million litres. The average value of bottled wine exports to Canada increased by 5 per cent to \$5.51 per litre.

The total wine market in Canada was valued at more than C\$11.8 billion in 2015 and more than 61 million cases of wine was consumed. According to Euromonitor, in 2015 the Canadian wine market grew by 4 per cent in value and volume. Most notable was that it was the higher price points that drove growth. This trend is also reflected in Australian export data with wines above \$10 per litre increasing by 6 per cent to \$24 million.

Through enhanced digital communications, trade education events, consumer engagement, restaurant and retail activations, and our on-going Market Entry Program, we will continue to showcase Australian fine wine, offering consistent visibility and support for the Australian wine category in the North American market.

Key in-market activities:

- Market Entry Program, US – on-going
- LCBO In-Store Tasting Program – August to October 2016
- Winter Trade Tasting and Seminar, Toronto – January 2017
- Vancouver International Wine Festival, Vancouver – February 2017
- Savour North American Roadshow, North America – May 2017.

Strategy 1: Promoting Australian fine wine

Programs	Strategic Plan measures of success	2016–17 measures of success
North America	<p>Trade and consumer educational events deliver key messages to support the strategy.</p> <p>Year-on-year positive growth in consumer sentiment index.</p> <p>At least 90% of wineries and distributors who participate in user-pays and core events report they are satisfied.</p>	<p>Trade and consumer educational events deliver key messages to support the strategy.</p> <p>Positive growth in consumer sentiment index in the US from 8.09 and in Canada from 8.33 (English-speaking) and 7.99 (Québec).</p> <p>At least 90% of wineries and distributors who participate in user-pays and core events report they are satisfied.</p>

China

In sharp contrast to austerity measures that caused a decline in wine consumption in China between 2012 and 2014, Australian exports to China in the year ended March 2016 surged as value increased by 64 per cent to \$397 million and volume increased by 63 per cent to 72 million litres. China is the second most valuable market for Australian wine exports and the growth is expected to continue with the China–Australia Free Trade Agreement now in place.

Australia’s market share in China also remains strong, accounting for 24 per cent of the value and 15 per cent of the volume of total bottled imports as of the year ending February 2016, ranking us second behind France. Australia’s average value of bottled imports (US\$7.98 per litre) is the highest among the top seven importing countries.

To capitalise on the market opportunities that China presents, we have designed a program of activities. This includes activities that target off-premise trade, online promotions, participation in consumer fairs, trade shows, tasting roadshows, Langton’s tastings and the Wine Australia Annual Awards that recognises those wine professionals who have helped raise the profile of Australian wine in China.

Key in-market activities:

- Wine Australia Annual Awards – October 2016
- ProWine China – November 2016
- China National Food, Wine and Spirits Fair, Chengdu – March 2017
- China trade and media visit – April 2017
- China Roadshow – May 2017.

Strategy 1: Promoting Australian fine wine

Programs	Strategic Plan measures of success	2016–17 measures of success
China	<p>Trade and consumer educational events deliver key messages to support the strategy.</p> <p>Year-on-year positive growth in consumer sentiment index.</p> <p>At least 90% of wineries and distributors who participate in user-pays and core events report they are satisfied.</p>	<p>Trade and consumer educational events deliver key messages to support the strategy.</p> <p>Positive growth in consumer sentiment index in mainland China from 8.44.</p> <p>At least 90% of wineries and distributors who participate in user-pays and core events report they are satisfied.</p>

UK and Europe

UK and European imports of Australian wine totalled \$581 million in the 12 months ended March 2016. Our strategy is to target key markets where we can deliver an educational message in addition to trade and consumer tastings, focusing on Australia's fine wine offering. We will deliver master classes, and trade and consumer tastings in Denmark, Finland, Norway and Sweden through the Nordic Roadshow in October 2016. Our biggest event, the annual Australia Day Tastings, will take place in January 2017 and will again include Dublin and Edinburgh in addition to the original and highly anticipated London event. In Düsseldorf, Germany we will again have a strong presence at the international ProWein fair.

Key in-market activities:

- Nordic Roadshow, Denmark, Finland, Norway and Sweden – September to October 2016
- UK and European trade and media visit – October 2016
- Regional master classes, UK – October to November 2016
- Australia Day Tastings, Ireland, Scotland and England – January 2017
- ProWein International Wine Fair, Germany – March 2017.

Strategy 1: Promoting Australian fine wine

Programs	Strategic Plan measures of success	2016–17 measures of success
UK and Europe	<p>Trade and consumer educational events deliver key messages to support the strategy.</p> <p>Year-on-year positive growth in consumer sentiment index.</p> <p>At least 90% of wineries and distributors who participate in user-pays and core events report they are satisfied.</p>	<p>Trade and consumer educational events deliver key messages to support the strategy.</p> <p>Positive growth in consumer sentiment index in the UK from 8.04.</p> <p>At least 90% of wineries and distributors who participate in user-pays and core events report they are satisfied.</p>



Strategy 2: Protecting the reputation of Australian wine

Annual Analytical Survey

Wine marketed in Australia and exported from Australia must comply with the Australia New Zealand Food Standards Code (the Code), except for a limited number of exceptions. The Code identifies various limits on wine components, including those arising from the application of permitted agricultural chemicals in the vineyard, and others related to approved winery additives. Certain export destinations also impose limits on wine constituents that can derive from natural sources. Breaches of these limits can damage the reputation of Australian wine even in the absence of health implications. In 2016–17, we will consult with the wine community to determine which components are of particular interest, and then commission analysis of a representative sample (at least 300 wines) to determine compliance.

Label Integrity Program

The Label Integrity Program is designed to safeguard the accuracy of statements made on labels about the provenance of Australian wines. Wines are largely differentiated from each other according to their region, variety and vintage so provenance claims are integral to the marketing of Australian wine. To substantiate claims made on labels about the origin of wine, records must be kept throughout the wine supply chain. In 2016–17, we will conduct up to 300 audits of these records based on an assessment of risk, focusing on records relating to wine regions and varieties that are in particular demand.

Regulatory Services

People exporting more than 100 litres of Australian wine require an export licence. We issue these licences and also certify each consignment planned for export. Certain export destinations also require additional certification prior to import, including securing the benefits of FTAs. In 2016–17, we aim to provide the required certification within 24 hours of receiving a written request.

Strategy 2: Protecting the reputation of Australian wine

Programs	Strategic Plan measures of success	2016–17 measures of success
Annual Analytical Survey	Compliance with the Code is demonstrated through analysis of a representative and comprehensive sample of Australian wines.	Compliance with the Code is demonstrated through analysis of 300 Australian wines.
Label Integrity Program	Any minor breaches of the record-keeping requirements of the <i>Australian Grape and Wine Authority Act 2013</i> (the Act) that are identified through risk-based inspections are remedied, while action is initiated in response to serious breaches.	Any minor breaches of the record-keeping requirements of the Act that are identified through risk-based inspections are remedied, while action is initiated in response to serious breaches.
Regulatory Services	An efficient export certification process supports Australian wine sector exports.	We will develop and introduce an automated export certification process to (largely) replace the existing manual system.

Strategy 3: Building Australian vine and wine excellence

Grapegrowing for excellence

We will seek to identify viticultural practices that enhance grape and wine quality. We will look to develop a better understanding of how grapevine genetics interact with the environment and viticultural management techniques to optimise expressions of terroir.

Projects in 2016–17 will continue to improve our understanding of how canopy, crop load and carbon availability impact on yield, grape composition and wine quality. We will provide information to growers on the performance of clones of Chardonnay and Shiraz in several wine regions to demonstrate the impact of region and climate on wine style for these important varieties. Ripening models developed to predict the optimum aromatic window in which to harvest grapes for a chosen wine style will be communicated to the sector. A new in-field imaging tool will be developed to assist growers in determining the optimum harvest window in white varieties, based on skin colour evolution.

Trials based on established precision viticulture principles and approaches will continue, using remote and proximal canopy sensors to investigate whether yield and quality follow the same patterns of spatial variability in a vineyard.

In 2016–17, we will initiate digital viticulture projects using a range of innovative sensor technologies, with the overall aim of improving the sector's ability to estimate grape yield and bud fruitfulness, to assess crop condition and quality, to detect diseases, and improve spraying efficiency.





Wine provenance and measures of quality

We will aim to develop measures to assess provenance, and quality of wine and grapes to optimise viticultural and winemaking practices. This will allow us to capture, enhance and preserve the influence of terroir.

In 2016–17, we will continue to investigate and identify objective measures of wine quality, through a portfolio of projects exploring the occurrence of both preferred and less-desirable flavour markers in grapes and wine, understanding the mechanisms of in-mouth flavour release, factors affecting textural composition and mouthfeel, and the production and impact of volatile sulfur compounds, using sensory evaluation and consumer interaction.

A new collaborative project will be commissioned to better understand the main drivers of regionality and typicality in Shiraz wines, reflective of the broad range of terroirs found in Australian viticulture. Other projects will be initiated to examine specific quality attributes and the provenance of premium Tasmanian sparkling wines and Pinot Noir.

Further research will be conducted to develop the use of multi-elemental isotope ratios and other trace elements to determine the geographic origin of wines and assist in the verification of label claims of provenance, to deter counterfeiting.

Customer insights

This year sees the completion of a majority of the customer insights projects, their resultant extension and the beginning of a new wave focusing on the markets in China, the US and UK.

Building on these learnings, we will continue to target the US, UK and Chinese markets. New research will focus on fine wine and social media use in China, the impact of relationships on demand for Australian wine by the customer in the US and UK markets, and an objective analysis of the key rejection and choice factors among trade and opinion leaders in the US.

We will disseminate the results of finalised research in relation to the Chinese wine market and opportunities that exist in introducing ‘wine avoiders’ (but alcohol consumers) to the category.

Customer insights research will focus on pre-competitive insights and will be closely linked with our extension and marketing activities, enabling development of research-evidenced tools that can be used to encourage demand for Australian wine.

Strategy 3: Building Australian vine and wine excellence

Programs	Strategic Plan measures of success	2016–17 measures of success
Grapegrowing for excellence	<p>New viticultural approaches or tools are available to help growers optimise grape production towards desired quality targets, preferred wine styles and premium price points.</p> <p>Development of a better understanding of how grapevine genetics interact with environment and viticultural management techniques to optimise expression of terroir.</p> <p>Digital tools are developed to capture and interpret the information in large data sets to drive quality improvements.</p> <p>New tools to drive quality improvements draw on the benefits of recognition technologies, robotics and/or systems engineering.</p>	<p>Knowledge of the impact of canopy, crop load and carbon availability manipulation on wine composition and sensory properties. Potential molecular markers for grape vine attributes associated with ‘vine balance’ identified.</p> <p>Results from a three-year trial on the performance of selected Shiraz and Chardonnay clones in multiple regions is used to inform the sector on the influence of region and climate on wine style.</p> <p>New models to profile fruit ripening evolution and predict harvest dates for preferred wine styles are demonstrated and communicated to the sector.</p> <p>Beta testing of a portable, smartphone-based imaging tool to assess ripening development in white grape varieties and berry volume/irrigation requirements in the field.</p> <p>Third season results using remote and proximal canopy sensing tools to determine whether yield and quality follow the same patterns of spatial variability at the ‘within-vineyard’ scale.</p> <p>Four new digital viticulture projects initiated that use sensor technologies to improve the estimation of grape yield, condition and quality, disease detection, bud fruitfulness and spraying efficiency.</p>
Wine provenance and measures of quality	<p>New measures of assessing grape and wine provenance and quality are available for use by grapegrowers and winemakers.</p> <p>Development of knowledge that allows grapegrowers and winemakers to capture, enhance and preserve terroir through optimised winemaking practices.</p>	<p>Results of a four-year study on in-field powdery mildew severity assessment and objective measurements for contamination available to the sector.</p> <p>Data confirming the identity of ‘green flavour’ compounds in red wine, consumer responses to them and amelioration strategies.</p> <p>Information disseminated to the sector on in-mouth flavour release from precursor compounds and their sensory significance in wine.</p> <p>Information disseminated on the effect of low concentrations of carbon dioxide (CO₂) on the tastes and textures of still red and white wine, and on the potential of wine macromolecules to influence taste and texture.</p> <p>Information disseminated on the fate of hydrogen sulfide (H₂S) in wine, the formation of volatile sulfur compounds from precursors and the role of metal ions on the release of sulfur compounds.</p> <p>Develop a set of guidelines for winemakers to measure metal ion speciation in wines and information to interpret the results in relation to wine oxidation, removal of H₂S, and casse formation.</p> <p>Initiate two projects examining the provenance and quality of premium Tasmanian Pinot Noir and sparkling wines.</p> <p>Initiate a collaborative project to identify the main drivers of regionality/typicality for Australian Shiraz wine.</p> <p>Initiate a project to further develop the use of multi-elemental isotope ratios and other trace elements to verify the origin of wines.</p>
Customer insights	<p>The grape and wine community is able to use customer insights gained from research in established and emerging markets into customers’ preferences, perceptions, behaviours and what influences customers’ decisions.</p>	<p>Finalise a guide to WeChat for Australian wineries.</p> <p>Understand the route to Chinese market for a representative cohort of Australian wine brands.</p> <p>Run four sector-orientated webinars in collaboration with Wine Communicators of Australia.</p> <p>Extend the research findings from the ‘Advance Australia Fair?’ project.</p> <p>Extend the research findings from the China Wine Barometer project.</p>

Priority 2

Increasing competitiveness

Outcome

Australian vineyards and wineries are efficient by global standards.

Strategy 4: Improving resource management and sustainability

Climate adaptability

We will seek to provide the grape and wine sector with information, tools and practical options to manage the challenges of short-term climate cycles and long-term climate change. In 2016–17, there will be continued focus on furthering the sector's understanding and knowledge of how increased temperature, reduced winter rainfall and CO₂ levels affect grape production and wine quality, and a number of projects will commence.

Adaptation strategies such as evaporative cooling will be evaluated as management options to offset heat impacts, improve yield consistency and enhance wine quality.

The cost, water and emission savings that can be achieved by the sector through the use of new grapevine varieties and different vineyard layouts and management approaches will be assessed at a unique trial site already established in the Barossa Valley.

Climate science, species distribution modelling (or environmental niche modelling) and viticultural expertise will be integrated in a multidisciplinary approach aimed to assist robust decision-making across all Australian wine regions.

The genetic mechanisms and heritability of response to stress in grapevines will be investigated, with a view to developing improved material for grapevine breeding programs. A comprehensive approach will be applied to the effects and mitigation of wildfire and burn-off smoke on grape and wine quality.

Foundation data

There exists in the Australian grape and wine community an urgent need to establish a range of business and economic 'benchmarks' or performance metrics across the value chain from 'vine to glass'. This data, and associated business-wide foundation data, is vital to the sector's ongoing success and sustainability because it provides an evidential fact base to guide individual business decision-making, and sector planning and policy development.

We have initiated a project to deliver a flexible and robust online knowledge management platform that provides the individual grower and/or winemaker with a business decision-making tool while delivering the sector with accurate, current and complete foundation data sets. The platform will also have the flexibility to deliver a basis for biosecurity and environmental management.

The objective is to produce and deliver accurate, timely and comprehensive statistics for the sector in a consistent format and cost-effective manner. In particular, we need to ensure that the sector has:

- security of supply of the data
- flexibility to tailor the data collection to emerging sector issues
- the ability to align the data collection to sector strategies
- more certainty over costs
- improved messaging control.

The key activities for 2016–17 are:

- undertaking a proof of concept in one region (the Riverland) and one state (Western Australia) and reviewing the results
- developing and releasing stage 1 of the platform nationally.

Sustainable resource management

This stream encompasses natural resource management, economic and environmental sustainability, and social license to operate. In 2016–17, our initiative to coordinate a national collection of grapevine germplasm will be progressed, with DNA profiling to be completed for grapevine accessions within the major publicly-owned collections held by CSIRO and SARDI as well as unique material held in other privately-owned Australian collections. We will address our social responsibilities by providing balanced information on the health risk of wine consumption relative to those of other risk factors. We will initiate activities aiming to enhance Australia's competitive advantage through new knowledge that leads to increased sustainability in the vineyard and/or winery through innovation.

Biosecurity, pest and disease management

We will encourage improved resource management and sustainability of the sector through more effective diagnostic protocols for exotic pest incursions, better management of pests and diseases, improved awareness of best-practice spray programs, and integrated pest-management strategies. In 2016–17, we aim to provide the sector with greater preparedness for exotic pest incursions through the national endorsement of diagnostic protocols identified in the sector's biosecurity plan. A contingency plan specific for angular leaf scorch will be finalised as a result of collaborative field trials at Cornell University in the US. For endemic pests and diseases, grapevine trunk disease will continue to be a focus, with research seeking to further understand the impact of regional climates on the incidence, severity and management of eutypa and botryosphaeria dieback. Revised management strategies to ameliorate fungicide resistance for economically important diseases such as downy mildew, powdery mildew and botrytis will be made available to the sector and new guidelines will be developed on best-practice agrichemical spraying, aimed at reducing spray drift and avoiding chemical waste. Further studies will be carried out to improve the management of phylloxera, through robust evaluations of disinfestation protocols for the movement of material between declared phylloxera zones. This will provide additional biosecurity assurance to avoid the spread of this pest.

Strategy 4: Improving resource management and sustainability

Programs	Strategic Plan measures of success	2016–17 measures of success
Climate adaptability	<p>The sector has an improved understanding of how increased temperature, increased CO₂ and reduced water can impact grape and wine production.</p> <p>Climate adaptation strategies are evaluated and available to the sector for adoption by 2020 to alleviate impacts of long-term warming and prolonged seasonal heat events.</p>	<p>Extend information on early pruning as a strategy to mitigate early grape ripening and decompress vintage.</p> <p>Understand how winter drought may impact vine production and wine quality.</p> <p>Information is available on the impact of elevated temperature and elevated CO₂ on the growth and production of Shiraz.</p> <p>Further data is collected on the use of in-canopy misters and sprinklers to alleviate the effects of heatwaves on grapevine growth, yield and wine quality.</p> <p>A crop calendar for each Australian grapegrowing region and variety is developed, and an appraisal is made of the predictability of short- and medium-term climate cycles in viticultural regions.</p> <p>Information is available on the cost, water and emission savings that can be achieved through the use of new grapevine varieties, and different vineyard layouts and management approaches.</p> <p>New knowledge is available on the genetics of stress response and its heritability during propagation of grapevines.</p> <p>An initial evaluation of smoke taint remediation technologies and techniques is available, based on season 1 laboratory and field trials.</p>
Foundation data	<p>The Australian wine sector has access to supply and demand information to assist sector planning.</p> <p>Wine Australia takes a lead role in ensuring the sector has access to key foundation data sets.</p>	<p>Complete a proof of concept in the Riverland and Western Australia.</p> <p>Develop and release stage 1 of the platform nationally.</p>
Sustainable resource management	<p>Wine Australia will work with the sector to preserve and manage access to grapevine germplasm resources.</p> <p>Australia's competitive advantage will be enhanced by knowledge that leads to innovation to increase economic, social and/or environmental sustainability in the vineyard and/or winery.</p> <p>The science to support an informed and balanced debate on wine and health is synthesised and promulgated.</p>	<p>DNA profiles are obtained for all publicly-owned grapevine germplasm and unique accessions from other Australian collections to allow comparison with international reference material.</p> <p>Information disseminated on wine and health.</p>
Biosecurity, pest and disease management	<p>The sector is prepared for exotic pest incursions through the provision of available diagnostic protocols of the high-priority plant pests.</p> <p>Improved practices for sustainable management of pests and diseases are available for sector adoption by 2020.</p> <p>Improved management strategies to prevent and manage trunk diseases are developed and promulgated.</p>	<p>Nationally-endorsed diagnostic protocols are developed for six new high-priority threats and two existing protocols are updated.</p> <p>A detailed contingency plan is released and a diagnostic protocol for angular leaf scorch is submitted.</p> <p>A website to support pMapp, the smartphone tool for powdery mildew assessment in vineyards, is launched for use during 2016–17 vintage.</p> <p>New knowledge on fungicide resistance and updated resistance management strategies for downy mildew, powdery mildew and botrytis is disseminated to the sector.</p> <p>New guidelines for best practice agrichemical spraying to reduce spray drift, including a decision support tool and a drop-size calculator smartphone app, are released.</p> <p>The sector is informed on the latest grapevine trunk disease research and best management practice, with new knowledge available on pruning wound susceptibility, appropriate timing of fungicide application, and duration of efficacy for control of eutypa and botryosphaeria dieback.</p> <p>New research is underway to investigate the effect of differing wine region climates on the incidence, severity and management of eutypa and botryosphaeria fungal trunk disease.</p> <p>Recommendations are made on improved disinfestation protocols for the movement of diagnostic samples between declared phylloxera zones.</p> <p>An in-field proof of concept trial is initiated on the use of detection dogs for preliminary screening of phylloxera infestation.</p>



Strategy 5: Improving vineyard performance

Enhancing grapevine and rootstock performance

We will investigate clones, varieties and rootstocks that possess desirable viticultural and winemaking properties. In 2016–17, we will continue in-field evaluations of new grapevine varieties bred with fungal disease resistance, for their potential to produce desirable commercial wine styles. Molecular methods will continue to play an important role in understanding and predicting traits such as flavour production and bunch architecture, and resistance to abiotic stressors such as extreme heat, drought and salinity. Molecular (DNA) markers will also be developed to provide a rapid screening method for rootstock characteristics that confer stress resistance to grafted vines, and make them more resilient to harsher growing conditions and pests such as root-knot nematodes and phylloxera.

Efficient and sustainable vineyard management

We will seek ways to improve efficiency in the vineyard through enhanced technology and processes. Projects in 2016–17 will continue our focus on improving grape yield estimation methods. This will include promising estimation models using vineyard phenological data and historical weather records as inputs to statistical and machine learning methods. Other research will seek to develop software and an image acquisition system using a prototype smartphone device, for comparison with best practice manual yield estimation methods. Results of a two-year trial evaluating the use of native plant species under-vine will also be made available, as an alternative, more sustainable method for under-vine weed control.

Strategy 5: Improving vineyard performance

Programs	Strategic Plan measures of success	2016–17 measures of success
Enhancing grapevine and rootstock performance	<p>Enhanced or new grapevine varieties, clones and rootstocks are available to the sector through plant breeding programs, informed by molecular methods to identify desired genotypic traits, for example:</p> <ul style="list-style-type: none"> • tolerance to biotic and abiotic stressors, and • improved wine flavour profiles. 	<p>New mildew-resistant grapevine varieties are evaluated in terms of their agronomic performance, yield and potential to produce desirable wine styles.</p> <p>Confirmed list is developed of DNA markers for predicting fruit and wine flavour, from elite mildew-resistant selections.</p> <p>The third year of field trials evaluating and demonstrating 40 new disease-resistant varieties for warm, irrigated regions is completed.</p> <p>Molecular markers for marker-assisted breeding for bunch architecture traits are available.</p> <p>A second generation of experimental germplasm containing multiple genes to improve mildew resistance in future grapevine breeding programs is produced.</p> <p>DNA markers are developed and tested for abiotic stress resistance.</p> <p>A validated glasshouse screening method is developed to assist in rootstock selection.</p> <p>Molecular markers for resistance to phylloxera and root-knot nematodes are identified, to provide new screening methods for rapid selection of rootstocks with these traits.</p> <p>Shiraz plantlets are transformed to incorporate a new chloride exclusion gene. Plantlets are tested for chloride and sodium exclusion traits, and root-knot nematode resistance.</p>
Efficient and sustainable vineyard management	<p>New or enhanced technologies and processes to improve vineyard efficiency and sustainability are evaluated and available for adoption by 2020.</p> <p>Improved yield prediction methods are developed and made available.</p>	<p>Outcomes are communicated on field performance trials of native under-vine plant species on vine growth and nutrition, weed suppression, soil moisture and soil biology. Economic data for the trials is evaluated.</p> <p>Preliminary yield prediction models are developed, based on traditional statistical methods and machine learning, and are applied to historical vineyard and weather data.</p> <p>Software is developed to support the acquisition and analysis of images to assess grape yields in four experimental vineyards using smart devices.</p> <p>Evaluation of yield forecasting software and a prototype smart device for use with a tablet/phone.</p>

Strategy 6: Improving winery performance

Enhancing yeast and bacterial performance

Our objective is to develop new or enhanced fit-for-purpose yeast and bacterial germplasm. Research in 2016–17 will include a project to develop promising new yeast and malolactic fermentation bacteria from directed evolution studies, and another utilising marker-assisted selection to breed yeast with improved characteristics for red winemaking. New information will be made available to assist the sector to manage problematic *Brettanomyces* yeast, with improved control strategies and detection methods for this organism in wine, based on the outcomes of a four-year study. Practical guidelines will also be developed to help operators better manage winery wastewater treatment plants, through an improved understanding of the microbiological composition and the microbial ecology of waste streams.

Efficient winery production

An improved understanding of process efficiency and enhanced production methods to improve winery efficiency will drive business sustainability. Research in 2016–17 will focus on enhanced colour extraction techniques in Shiraz and Pinot Noir, further assessment of wine lees removal prototypes, use of polysaccharides in wine fining as a replacement for bentonite, and use of oxygen in grape juice and fermentation to enhance final wine style.

An activity-based costing tool for wine production will be developed to identify resource consumption with a focus on improving process efficiency by the Australian wine community.

Strategy 6: Improving winery performance

Programs	Strategic Plan measures of success	2016–17 measures of success
Enhancing yeast and bacterial performance	<p>New or enhanced yeast and bacterial germplasm are available to the sector to enhance winemaking processes and realise performance and economic gains, through improved fermentation efficiency and differentiation of wine products/styles.</p> <p>Enhanced understanding of microbiological processes is available to optimise winery wastewater treatment efficiency.</p>	<p>The most promising yeast and/or lactic acid bacteria strains from directed evolution trials are evaluated in pilot- and commercial-scale fermentations.</p> <p>A novel wine yeast strain is developed with improved characteristics for red winemaking, through marker-assisted breeding.</p> <p>Knowledge on the effect of commercial fermentation nutrient addition on yeast strain performance is disseminated.</p> <p>Data based on winery scale trials, processes and procedures to enhance malolactic performance and malolactic fermentation efficiency is collected.</p> <p>Information is disseminated to sector stakeholders on control strategies and detection methods for <i>Brettanomyces</i> yeast in wine.</p> <p>Practical guidelines are developed for winery wastewater treatment plant operators, to maximise plant efficiency and reduce the likelihood of microbiology-related plant failures.</p> <p>A microbial germplasm collection of yeast and bacterial strains is characterised and maintained as a sector resource.</p>
Efficient winery production	<p>Enhanced production methods to improve winery efficiency are evaluated and available for adoption by 2020.</p> <p>The sector has an improved understanding of how to drive business sustainability by focusing on process efficiency.</p>	<p>Sensory impact of polysaccharides used to heat-stabilise wines is understood.</p> <p>Information on how oxygen exposure in juice and ferments can affect final wine style is made available.</p> <p>Framework created to develop an activity-based costing tool to allow process efficiency improvements.</p>

Strategy 7: Enhancing market access

Market access

Access to certain export destinations can be impeded by restrictive wine labelling, wine composition, wine production and wine certification requirements. Differences between the requirements applying in Australia and the destination market can result in the need to produce specific wines for particular destinations, or to present wines with labels designed specifically for that market. In each case exporters incur considerable additional expense. To assist exporters, we will publish guides for the technical requirements of at least 32 major export markets. The guides will contain detailed information on duties and taxes, wine standards, labelling requirements and import certification matters.

When a regulatory update requires urgent action by Australian wine exporters, we will issue bulletins to all licensed exporters that outline the recommended actions. We will field enquiries on various labelling and technical matters with the aim of responding within 24 hours if the enquiry is received via mail or email.

High tariffs on wine imports can present significant barriers to market access in certain markets. When the Australian Government intends to negotiate an FTA with another country, we will make submissions in support of removing such barriers and identifying any technical impediments to trading in those markets.

We actively participate in a number of international fora designed to identify and address key barriers to the free trade in wine across the globe. Last year, Australia assumed the Chair of one of these fora, the World Wine Trade Group (WWTG), and we hosted this group in Adelaide in conjunction with the Asia Pacific Economic Cooperation Wine Regulatory Forum in November 2015. We developed a protocol to combat wine counterfeiting, considered mechanisms to facilitate international distribution of wine trade samples, discussed the design of a single certificate to be used across the Asia Pacific region in place of multiple certificates, and promoted risk management principles as the proper basis for requiring inspection and analysis of imported wine shipments. In 2016–17, we will continue to pursue these important market access matters.

It is critical we build relationships with regulatory authorities in export destinations and we will continue to encourage deeper engagement on regulatory issues between the WWTG and non-member countries such as China.

Strategy 7: Enhancing market access

Programs	Strategic Plan measures of success	2016–17 measures of success
Market access	<p>Market access is maintained in existing markets and improved in developing markets.</p> <p>Technical barriers are identified and managed to the satisfaction of stakeholders.</p> <p>Negotiations for improved market access are supported with accurate, timely and appropriate technical information.</p>	<p>Progress is made on the Regional Comprehensive Economic Partnership Agreement.</p> <p>The Trade Barriers Report is updated twice during the year.</p> <p>DFAT is supplied with a draft model wine standard for possible inclusion as an annex to any future FTAs.</p>

Strategy 8: Building capability

Developing people

To drive the sector forward and build value through innovation, the Australian wine sector will develop our leadership skills base and human resource assets.

We will maintain our investment in developing the capability and capacity of those working in the grape and wine community – researchers, winemakers and grapegrowers.

For researchers, this will include support for PhD, Masters and Honours scholarships and the offering of opportunities to extend knowledge through global collaboration.

For the broader sector, the investment will result in a Future Leaders 2017 program and a suite of complementary activities that are designed to meet the identified needs of the sector, to facilitate collaboration, and to encourage development of, and in, thought leaders, innovators and game changers.

Strategy 8: Building capability

Programs	Strategic Plan measures of success	2016–17 measures of success
Developing people	<p>At least 75 members of the grape and wine community receive leadership and personal development training by 2020.</p> <p>The capacity of the next generation of researchers is developed through at least 75 scholarships for PhD, Masters and Honours study, and support for other learning opportunities.</p>	<p>At least 15 members of the grape and wine community commence leadership and personal development training in 2016–17.</p> <p>The capacity of the next generation of researchers is developed through at least 12 scholarships for PhD, Masters and Honours study.</p> <p>Support is extended to at least eight incoming or outgoing scholars.</p>

Strategy 9: Business intelligence and measurement

Business intelligence

We will encourage evidence-based and data-driven decision-making through the collection, presentation and dissemination of global wine sector intelligence.

We act as the sector's information hub, providing accurate, timely, fit-for-purpose, accessible and appropriately targeted information and analysis to stakeholders.

We will respond to stakeholder queries in an accurate and timely manner.

The information we provide is used for a number of purposes such as providing an evidential base for business and sector planning, informing government policy, benchmarking company performance, forecasting, and identifying market opportunities.

Data will play a significant role in our strategic development, providing an evidential background to marketing strategies, assisting compliance through the maintenance of the export approvals database, and delivering market analysis to help with market access issues.

Our business intelligence will include:

- sector overviews
- Australian wine export approvals
- overseas and domestic market intelligence
- grape and wine production information and statistics, and
- region and variety snapshots.

In 2016–17, there will be a continued focus on market reporting of sales trends across price points, channels, varieties and wine-producing regions. Region-specific and market-specific insight reports will be produced and delivered. Regular presentations with regional associations will be undertaken to assist with strategy development.

All products will continue to be freely available to Australian winegrape and export levy payers, accessible via the Winefacts page on our website (www.wineaustralia.com).

We will regularly deliver presentations on the state of play for Australian wine and region-specific performances at relevant conferences, business seminars, state and regional association meetings, and to individual companies.

We will promote the availability of information, products and services through a range of communication channels including direct marketing, social media and presentations.

Monitoring and evaluation

Performance evaluation is critical to ensure we are adding value to our levy payers and stakeholders. For us to assess the return on the investments we undertake, we need an evaluation framework. This is true for both RD&E and marketing activities.

The Council of Rural Research and Development Corporations provides guidelines for developing a rigorous cost-benefit analysis (CBA) evaluation framework for RD&E activities. We will engage independent economists to conduct CBAs on a range of RD&E activities and systematic CBAs will be undertaken on marketing activities by June 2017. Such evaluations will determine what value investments are delivering to the sector and if they are providing market-based outcomes.

We aim to achieve a positive return on our investments and activities.

We will also measure and report on stakeholder satisfaction with our services. Our objective is to achieve high levels of satisfaction.

Strategy 9: Business intelligence and measurement

Programs	Strategic Plan measures of success	2016–17 measures of success
Business intelligence	<p>The Australian wine sector’s competitiveness is supported through the collection, presentation and dissemination of global wine sector intelligence.</p> <p>Wine Australia is relied on by the sector to provide accurate and timely supply and demand information.</p> <p>Wine Australia provides a comprehensive range of information to assist business and investment decision-making in the sector.</p>	<p>Produce, deliver and communicate region-specific statistics and reports to support business decisions.</p> <p>Produce, deliver and communicate market-specific statistics and reports for the sector that guide business decisions and our investments in marketing and RD&E.</p> <p>Deliver targeted presentations aimed at increasing the awareness of the global wine sector information that is available.</p> <p>Timely and accurate responses are provided to ad hoc questions.</p>
Monitoring and evaluation	<p>Stakeholders indicate a high level of satisfaction with the services provided across the business.</p> <p>CBAs indicate programs achieve a positive return on investment.</p>	<p>75% of stakeholders indicate a high level of satisfaction with the services provided across the business.</p> <p>CBAs indicate 75% of programs measured achieve a positive return on investment.</p>

Extension and adoption

Strategy 10: Extension and adoption

A clear pathway to market for R&D, from the initial project design to the extension of the results is a cornerstone of all our R&D activities and underpins our success. In 2016–17, we will continue to use a range of delivery networks and programs to disseminate R&D outcomes, and encourage the adoption of new technologies and practices. We will build on our partnership with AWRI, which will become the primary delivery agency for our extension activities to encourage the adoption of improved grapegrowing and winemaking practices. Through our Regional Program, we will partner with Australian wine regions to promote the adaption and adoption of research outcomes. We will encourage better business decision-making by sharing information and analysis of international markets, and customer insights with grape and wine businesses, and wine regions.

Strategy 10: Extension and adoption

Programs	Strategic Plan measures of success	2016–17 measures of success
Extension and adoption	<p>Pathways to extension and adoption are incorporated into the planning and approval process of research projects.</p> <p>Wine Australia partners with regions through the Regional Program to deliver extension and practical trials that encourage adaption and adoption of research findings.</p> <p>Wine Australia delivery networks and programs are strongly supported, as demonstrated by user participation and feedback.</p> <p>Levels of understanding and adoption of R&D outcomes are regularly measured and supported.</p>	<p>R&D project assessment criteria includes evaluation of the extension plan and the likelihood of adoption by levy payers.</p> <p>The Regional Program delivers at least 80% of activities across the 11 regional clusters.</p> <p>At least 85% of survey respondents who attend workshops provide an overall rating of at least 4 out of 5.</p> <p>At least 80% of survey respondents indicate that information provided at workshops is useful.</p>



Supporting functions

Outcomes

Deliver new knowledge to, and encourage the personal and professional development of grapegrowers, winemakers and wine businesses, to increase their competitiveness, profitability and sustainability.

Provide commercially-oriented services to the supply chain to support Wine Australia's strategic vision.

Enable Wine Australia to operate cost-effectively through the efficient provision of a range of cross-company support services.

Strategy 11: Corporate Affairs

Corporate Affairs

Our corporate affairs function will support transparent and effective two-way communications with internal and external stakeholders.

This includes media relations, government relations, corporate planning and reporting, and internal communication.

Sector engagement

Our aim is to maintain strong and productive relationships with all of our stakeholders including levy payers, Winemakers' Federation of Australia (WFA), Wine Grape Growers Australia (WGGA), Australian Government, state governments, state and regional associations, export partners such as Austrade, and tourism associations. We will develop joint business plans and work collaboratively.

We will continue regular communications with the sector and deliver a program of engagement activities across 2016-17 including state and regional wine strategy development; Market Program Guide promotion and delivery; R&D extension activities; and events such as the Regional Roadshow and International Students Tasting.

Strategy 11: Corporate Affairs

Programs	Strategic Plan measures of success	2016-17 measures of success
Corporate Affairs	Timely, fit-for-purpose, accessible and appropriately targeted wine sector information and analysis is available to the wine sector through a range of channels.	Timely, fit-for-purpose, accessible and appropriately targeted wine sector information and analysis is available to the wine sector through a range of channels.
Sector engagement	Two-way dialogue and understanding with national, state and regional representative bodies is improved. Positive change is measured in sector and stakeholder awareness of Wine Australia's activities and outcomes from 2015 benchmarks to 2020.	Engage in effective two-way dialogue and understanding with national, state and regional representative bodies. Increase sector and stakeholder awareness of our activities and outcomes from benchmark in 2015.

Strategy 12: Corporate Services

Finance and administration

We will deliver effective and efficient support to our global operations, including guidance on fiscal matters and the provision of information and communications technology (ICT).

People and culture

Our focus is set firmly on fostering a high performance culture and we want our people to realise their potential. We will support them with relevant training and development so they can achieve their best.

Our focus will be reinforced by our core values of integrity, trust, creativity, commercial focus and conviviality. These values are distilled into our fundamental principles, and clearly set expectations for the relationships we build with all of our stakeholders.

ICT

Our fit-for-purpose ICT is one way that we support our team by giving our people the necessary tools to deliver.

We will deliver a revised Wine Australia digital platform and a best-of-breed cloud-based operating platform to support our global teams. We will also complete a pilot phase and develop a national system to collect foundation data from grapegrowers and winemakers.

Strategy 12: Corporate Services

Programs	Strategic Plan measures of success	2016–17 measures of success
Finance and administration	<p>Ensure forward contracts reserve is sufficient to cover annual contractual commitments.</p> <p>Adhere to operating reserves policy.</p> <p>Maintain sufficient reserve to cover obligations.</p> <p>Ensure Wine Australia's commercial needs are reflected in its contracts.</p> <p>Manage adherence to policy and procedures, and mitigate risk.</p>	<p>Balance of reserves at 30 June 2017 in adherence to reserves policy.</p> <p>Reserves greater than \$5 million at 30 June 2017.</p> <p>All commercial contracts and arrangements are prepared with considered and detailed statements of the parties' intentions and commitments, and reviewed by legal counsel prior to being executed.</p> <p>Regular dissemination of single policies and procedures where adherence is identified as an issue to highlight the importance of compliance.</p>
People and culture	<p>Employee engagement survey undertaken and actions developed to target opportunities for improvement.</p> <p>Personal development plans developed and implemented by each team member.</p> <p>Compliance with employment laws and statutory requirements in each jurisdiction.</p>	<p>Integrated internal communications are used to build engagement and disseminate information.</p> <p>Personal development plans are developed and actioned.</p> <p>Zero incidences of non-compliance with all statutory requirements.</p>
ICT	<p>Delivery of digital project and Office 365 upgrade.</p> <p>Develop a national data collection system.</p> <p>High (99%) availability of systems with no planned outages.</p>	<p>In 2016–17, we will complete the rollout of Office 365 and deliver a new web presence.</p> <p>The results of the pilot will be incorporated in the national release of a data collection system.</p> <p>We will maintain ICT systems for our team.</p>

Key performance indicators

We have nine key performance indicators against which we measure and report our activities and outcomes in support of our strategic priorities and the Australian Government priorities.

Key performance indicators for 2016–17

Table 3: Key performance indicators for 2016–17

Key performance indicators	2016–17 target
R&D projects are funded in line with the approved Annual Operational Plan.	100%
R&D contracts are actively managed through regular and ongoing monitoring of the research.	100%
The number of user-pays events hosted with wine sector partners to engage influencers in key markets.	42
The number of Wine Australia-funded events to engage influencers in key markets.	70
Improvement in customer satisfaction rating for market insights services, as measured by actual customer satisfaction survey.	74%
An increased number of RD&E newsletter subscribers.	1500
The number of regional clusters participating in the regional program is maintained.	11
Risk-based audits reinforce a culture of compliance and help protect the reputation of Australian wine.	300
Export Market Guides provide accurate information about import requirements for our largest export markets.	28



Finance

Estimates of income

For the financial year 2016–17, we estimate that proceeds from levies will amount to \$18.2 million, if a crop of 1.7 million tonnes is achieved. Australian Government matching contributions for RD&E funding for 2016–17 are estimated to be \$12 million. It is estimated that proceeds from fees and charges will total \$4.5 million and revenue from user-pays activities will be \$2.2 million.

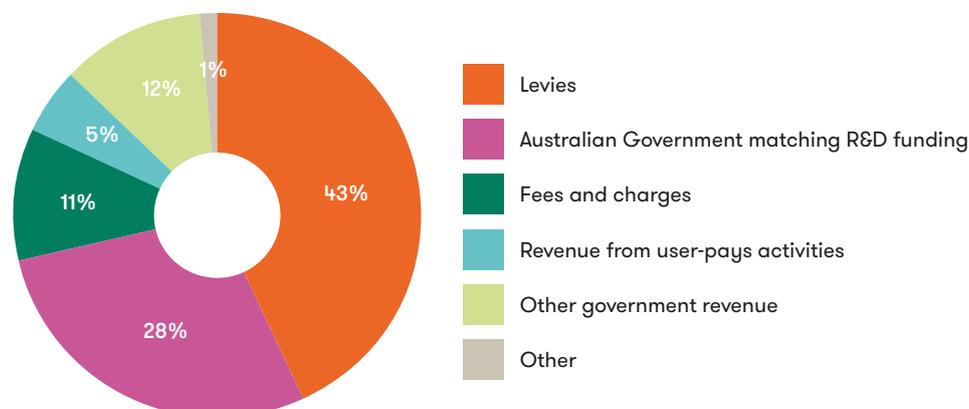
In the first year of the four-year Export and Regional Tourism Program, we anticipate receiving \$2 million from the Australian Government.

Our estimates of this and other income are provided in Table 4. Figure 2 indicates the contribution of each income source to the total revenue of \$42.4 million.

Table 4: Estimates of revenue by source for 2016–17

Source	\$m
Wine grapes levy	11.9
Grape research levy	3.5
Wine export charge	2.9
Australian Government matching R&D funding	12.1
Fees and charges	4.5
Revenue from user-pays activities	2.2
Other government revenue	4.9
Other	0.5
Total income	42.4

Figure 2: Estimates of revenue by source for 2016–17



Estimates of expenditure

Our estimates of expenditure by activity for 2016–17 are provided in Table 5 and Figure 3 and expenditure by priority area in Figure 4. These figures are indicative only, as changes in our operating environment may require us to vary the total expenditure of specific allocations. For the \$2 million Export and Regional Tourism Program grant, we will initially receive \$670,000 to fund the business case development. The remaining \$1.3 million for 2016–17 will be received once the business case has been approved. The forecast funding shortfall of \$1 million is in line with our approved Department of Finance operating loss and will be funded from reserves.

There is no budget for a Selection Committee in 2016–17 as an appointment process for Directors was conducted in 2014–15.

Our representative organisations will receive funding to support our objectives. In 2016–17, WFA will receive \$25,000 to support participation at the International Organisation of Wine and Vine (OIV) and WGGGA will receive \$10,000 for consultation about research priorities.

Appendix 2 contains a detailed breakdown of the R&D expenditure estimates against the Australian Government’s Science and Research Priorities (Table 7), and Rural Research and Development Priorities (Table 8).

Table 5: Estimates of expenditure by activity for 2016–17

Activity	\$m
RD&E	24.9
Marketing – core activities	2.5
Marketing – user-pays activities	9.0
Other	7.0
Total	43.4

Figure 3: Estimates of expenditure by activity for 2016–17

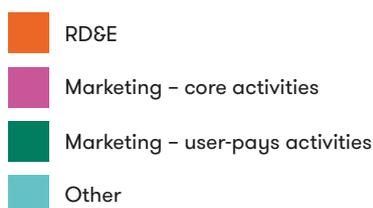
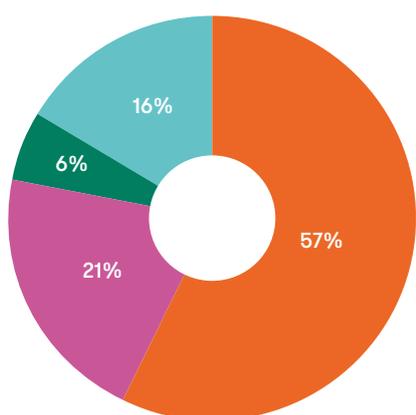
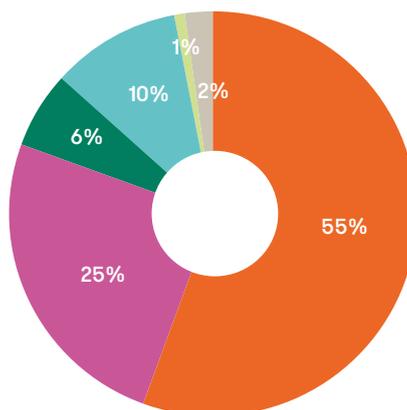


Figure 4: Estimates of expenditure by priority for 2016–17



A balanced portfolio

In developing our Strategic Plan, we conducted extensive consultations with our stakeholders. We sought to engage with the whole Australian grape and wine community so that everyone had the opportunity to contribute. Special efforts were made to ensure that the views of grapegrowers and winemakers around the country were heard, and there was an impressive level of engagement by stakeholders.

To identify key research and market development priorities:

- face-to-face meetings were held with the WGGGA Board and Executive, the WFA Board and Executive, the Department of Agriculture, a number of the top 20 wine producers, AWRI, and grapegrowers and winemakers in the Riverland, Murray Valley, Riverina and broader NSW
- facilitated workshops were conducted with RD&E providers, the Future Leaders Alumni, state and regional association representatives and Innovation Policy Committee members, and
- we invited written submissions and received 60 identifying future priorities and suggested areas of focus.

We have used the strategic research priorities of the Australian Government and the Australian grape and wine community garnered through these consultations to inform our investments. Appendix 2 contains a detailed breakdown of how our investments meet the Australian Government's priorities.

While two separate levies are paid, we do not differentiate between viticultural and winemaking research as the distinction is artificial – viticultural research often has a winemaking outcome and winemaking research often requires viticultural input. Instead, our value chain approach to RD&E investments is aimed at increasing the sector's long-term profitability and sustainability, which benefits all levy payers and the wider community. Our investments range from both short- and long-term applied R&D to blue-sky research where success is less assured.

We focus on extracting the full value of our investments in RD&E for the benefit of our levy payers, the Australian Government and the wider community.

Monitoring and evaluation

We are committed to providing quantifiable returns on wine sector and Australian Government investments across our portfolio of activities and we have a detailed system for the assessment of investment return.

We set clear measures of success in our Strategic Plan and our Annual Operational Plan, we measure our effectiveness in achieving these measures, and we report the outcomes in our Annual Report.

To measure our effectiveness, we:

- evaluate our performance against our Strategic Plan and our Annual Operational Plans
- evaluate investment proposals against clear and public criteria
- actively manage and review current projects and activities, and
- evaluate completed activities and programs of investment.

We will undertake CBAs of selected completed activities and programs. These analyses will measure the results of projects and outcome adoption rates, where relevant.

We are committed to continuous improvement and we will refine our processes and activities based on the outcomes of these evaluations.

Appendices

Appendix 1: Current RD&E projects

Table 6: Current RD&E projects for 2016–17

Strategy 3: Building Australian vine and wine excellence	
3.1 Grapegrowing for excellence	
AWR 1601	Digital solutions for grape quality measures at the weighbridge
AWRI 5.1.3	Administration: grapegrowing for excellence
CSA 1601	Simple tools for spatial analysis - key enabling technologies for precision and digital viticulture
CSL 1401	The yield:quality nexus. Substantiating similarity in the patterns of variation in grape yield/vine vigour and indices of fruit quality
CSP 1401	Understanding and manipulating small signalling molecules to affect the yield/flavour ('quality') nexus
CSP 1501	New non-destructive technologies for simultaneous yield, crop condition and quality estimation
CSP 1502	New technologies for dynamic canopy and disease management
CSP 1503	New non-destructive technologies for simultaneous yield, crop condition and quality estimation
CSU 1501	Developing a phone-based imaging tool to inform on fruit volume and potential optimal harvest time
NWG 1301	Optimising grape quality and value to improve vineyard profitability and sustainability
SAR 1303	Assessing clonal variability in Chardonnay and Shiraz for future climate change
SAR 1501	Smartphone-based image analysis to assess vine water stress
UA 1207	Optimising vine balance in Australian vineyards: developing a toolbox for the sector to ensure best practice, sustainability and profitability
UQ 1501	LiDAR and PACE for vineyards
USA 1601	Use of unmanned air vehicles for early, real-time detection of extreme weather events in vineyards
UT 1501	Taking grapevine yield forecasting into the digital age
3.2 Wine provenance and measures of quality	
AWR 1202	Assessment of relationships between grape chemical composition and grape allocation grade
AWR 1501	Defining and exploiting the microbial genetic diversity of regionality and terroir
AWR 1502	Winemaking interventions to modulate glutathione status: effects on white wine quality
AWR 1503	Objective measures of Shiraz grape and wine quality in premium Australian vineyards
AWR 1504	Rotundone and its role in defining terroir in iconic Australian cool climate 'peppery' Shiraz
AWR 1505	Further development of origin verification tools using multi-elemental isotope ratio and trace elements

AWRI 3.1.1	Identification and origin of volatile compounds responsible for important wine sensory attributes
AWRI 3.1.3	Flavour precursors: contribution to wine aroma, in-mouth sensory properties and flavour release
AWRI 3.1.4	Factors affecting wine texture, taste, clarity, stability and production efficiency
AWRI 3.5.3	Formation and fate of positive and negative sulfur compounds
AWRI 5.1.3	Administration: wine provenance and measures of quality
CSP 1201	Grape quality parameters that influence wine flavour and aroma
CSU 1301	Determination of thresholds for bunch rot contamination of grapes, and techniques to ameliorate associated fungal taints
NWG 1401	Metal ion speciation: understanding its role in wine development and generating a tool to minimise wine spoilage
UA 1202	Objective measures for powdery mildew
UT 1502	Building and measuring the quality of fine Australian sparkling wines, through identification of the impact compounds responsible for 'autolytic character' in sparkling wine, and novel winemaking technologies to hasten autolysis
UT 1503	Pinot Noir provenance and traceability: Australian benchmarking to support perception of quality, marketing and added value to the supply chain

3.3 Customer insights

AGW 1508	Market and consumer insights to drive food value chain innovation and growth
UA 1203	Context and wine composition effects on Australian wine consumer mood and liking
UA 1501	Harnessing Chinese social media and accelerating Australian wine exports
UA 1601	The ties that bind: building strong importer and retailer relationships to drive premium wine export sales
USA 1501	Driving the strategic growth of Australian wines in the US export market
USA 1602	Creating opportunity for Australian 'fine' wine in China
WOP 1401	The opportunities for further market share expansion of Australia's regional and premium price segment wines in the US market

Strategy 4: Improving resource management and sustainability

4.1 Climate adaptability

AWR 1602	A novel platform for rapid and selective removal of undesired constituents from wines
AWR 1603	Development of cost effective remediation tools for the management of smoke-affected grapes and wine
AWRI 5.1.3	Administration: climate adaptability
CSP 1504	Evaluation of new technology and new scion-rootstock combinations for improved water use efficiency and reduced costs
CRRDC	Council of Rural R&D Corporations
DPI 1202	Impact of elevated CO ₂ and its interaction with elevated temperature on production and physiology of Shiraz
SAR 1302	Managing the impacts of climate change rainfall decline on vine balance and root activity
UA 1304	Translation of 'whole-of-production-chain' wine science research to industry outcomes
UA 1502	Using in-canopy misters to mitigate the negative effects of heatwaves on grapevines
UA 1503	Epi-breeding: using the epigenetic memory of stress to prime Australian grapevines for a changing environment
UT 1504	Australia's wine future: adapting to short-term climate variability and long-term climate change

4.3 Sustainable resource management	
AGW 1513	Testing of all unique cultivars (90-95) in the Australian Grapevine Foundation Planting Service collection at Monash
AWRI 5.1.3	Administration: sustainable resource management
AWRI 2.2.3	Informing Australia's wine consumers through understanding of wine consumption, health and nutrition issues
CSP 1501	Grapevine germplasm variety identification

4.4 Biosecurity, pest and disease management	
SAR 1201	Developing a threat-specific contingency plan for the exotic pest angular leaf scorch
SAR 1204	Understanding fungicide resistance in powdery and downy mildew
SAR 1205	Practical management of grapevine trunk diseases
SAR 1601	Grapevine trunk disease management for vineyard longevity in diverse climates in Australia
UQ 1201	A generic approach to improving spray coverage

Strategy 5: Improving vineyard performance

5.1 Enhancing grapevine and rootstock performance

CSP 1301	Identification and marker-assisted selection of genes for reducing the susceptibility of new winegrape cultivar to fungal pathogens
CSP 1302	Genetic and mechanistic characterisation of rootstock traits conferring abiotic stress tolerance to grapevines
CSP 1303	Towards elite mildew-resistant selections suitable for use by the sector
CSP 1304	New rootstocks for Australian conditions
CSP 1307	Fast phenomics: grapevine trait characterisation in the field
CSP 1402	Evaluating and demonstrating new disease-resistant varieties

5.2 Efficient and sustainable vineyard management

AWRI 5.1.3	Administration: efficient and sustainable vineyard management
DAF 1401	Soil RD&E strategy implementation
DPI 1401	Improved yield prediction for the Australian wine sector
MQ 1401	Accurate and early yield predictions through advanced statistical modelling
UA 1303	The development of a low-input under-vine floor management system which improves profitability without compromising yield or quality

Strategy 6: Improving winery performance

6.1 Enhanced yeast and bacterial performance

AWR 1301	Enhanced winemaking outcomes and wine style diversification through provision of fit-for-purpose yeast starter cultures
AWR 1302	Defining the nutritional drivers of yeast performance and matching yeast to must
AWR 1303	Efficient and reliable malolactic fermentation to achieve specification wine style
AWR 1304	Ensuring the continued efficacy of Brettanomyces control strategies for avoidance of spoilage
AWRI 3.2.5	Safeguarding and realising the potential of the Australian wine microbial germplasm collection
AWRI 5.1.3	Administration: enhanced yeast and bacterial performance
UA 1301	Developing a fundamental understanding of the microbiological treatment of winery wastewater
UA 1302	Fit-for-purpose yeast and bacteria via directed evolution

6.2 Efficient winery production

AWR 1307	Removal of lees from underneath wine
AWRI 5.1.3	Administration: efficient winery production
AWRI 3.3.2	Influencing wine style through management of oxygen during winemaking
TWE 1301	Novel fining agents to heat stabilise wine
UT 1301	Improved red wine process efficiency and product quality

Strategy 7: Enhancing market access

7.1 Market access

AWRI 2.2.1	Collecting and disseminating information regarding agrochemicals registered for use and maximum residue limits in Australian viticulture
AWRI 2.2.4	Increasing Australia's influence in market access, safety, regulatory and technical trade issues
AWRI 5.1.3	Administration: market access
WFA 1201	Market access impediments and opportunities for the Australian wine sector

Strategy 8: Building capability

8.1 Developing people

AGT 1530	Travel to Oregon and California in 2016 to attend the 11th International Terroir Congress, seminars, and visit research organisations and wineries
AGW Ph1501	Bioprospecting the regional genetic diversity of Australian wine microbiota
AGW Ph1502	AGWA PhD scholarship application – Yue Wu
AGW Ph1503	Decoding the unique terroir of Australian wines using a multi-omics approach
AGW Ph1504	A low power flexible sensor network system for viticulture
AGW Ph1505	Process control of objective wine quality parameters during fermentation using novel simulation models
AGW Ph1507	A cross-cultural study of the impact of Australian wines of provenance and food pairings on the consumer gastronomic experience
AGW Ph1508	Objective measures of sparkling wine quality
AGW Ph1509	Impacts of viticultural conditions and juice composition on the oxidative and reductive development of wine
AGW Ph1510	Identification and understanding of <i>Saccharomyces</i> and <i>Oenococcus</i> interactions in co-inoculated cultures for development of robust inoculation pairs in wine fermentation
AGW Ph1511	Developing <i>Botrytis cinerea</i> as a potent non-GM enzyme producer for the removal of haze-forming proteins under normal winemaking conditions
AGW Ph1512	Origin of varietal thiols: environmental and winemaking effects
AGW Ph1513	Autonomous in-vivo determination of maturity parameters
GWR M1301	Assessment of vineyard performance to predict wine quality
GWR PH 1312	Selective and deliberate use of winemaking supplements to modulate sensory properties of wine
GWR Ph1304	Indicators of vine balance and their application to rapid estimation of yield and key crop parameters
GWR Ph1305	Inoculated mixed-culture fermentations for enhanced wine quality and reliable fermentation
GWR Ph1308	Isolation and characterisation of improved lactic acid bacteria strains for optimised malolacticfermentation performance
GWR Ph1309	Understanding Australian wine consumers' preferences for sparkling wine

GWR Ph1311	Optimising oak expression in wine through real-time flavour profiling of maturation products
GWR Ph1314	The biochemical pathways behind H ₂ S generation by yeast
GWR Ph1315	Genomic insights into the nutrient utilisation and wine spoilage potential of <i>Dekkera bruxellensis</i>
GWR Ph1316	Improved treatment of winery wastewater through a detailed microbial population analysis
GWR Ph1317	Enhanced biological control of light brown apple moth in vineyards
GWR Ph1401	The impact of modes of climate change on vineyard performance in Australia
GWR Ph1403	The biochemical response of grapevines to smoke exposure
GWR Ph1404	Measuring physical availability (distribution network) of alcoholic beverage categories in light of localisation trends in globalised markets
GWR Ph1405	Assessing the effects of water and nutrient stress on wine quality using hyperspectral remote sensing
GWR Ph1406	Production of lower alcohol wines PhD support
GWR Ph1407	Non-Saccharomyces yeasts in ethanol reduction and flavour enhancement - supplementary funding application
GWR Ph1408	Optimisation of an early harvest regime - impact on grape and wine quality and content

Strategy 10: Extension and adoption

10.1 Extension and adoption

AWRI 4.1.1	The staging and conduct of extension programs
AWRI 4.1.2	Specialised technical troubleshooting and responsive helpdesk services for the Australian wine sector
AWRI 4.1.3	Library service
AWRI 4.1.4	Communication with stakeholders
AWRI 5.1.3	Administration: extension and adoption
GRP 1301	GWRDC regional plan - Riverina 2013-17
GRP 1302	GWRDC regional plan - Greater Victoria 2013-17
GRP 1303	GWRDC regional plan - Tasmania 2013-17
GRP 1304	GWRDC regional plan - SA North 2013-17
GRP 1305	GWRDC regional plan - Murray Valley 2013-17
GRP 1306	GWRDC regional plan - Limestone Coast 2013-17
GRP 1307	GWRDC regional plan - SA Central 2013-17
GRP 1308	GWRDC regional plan - Greater NSW and ACT 2013-17
GRP 1309	GWRDC regional plan - Western Australia 2013-17
GRP 1310	GWRDC regional plan - Queensland 2013-17
GRP 1311	GWRDC regional plan - Riverland 2013-17
VIN 1501	ACE winery trial

Appendix 2: RD&E expenditure estimates and Australian Government priorities

Table 7: Research, development and extension expenditure estimates 2016–17 across Science and Research Priorities

AGWA priorities and strategies	Science and Research Priorities			Total
	Food 1.1	Food 1.3	Environmental change 8.3	
	\$000	\$000	\$000	\$000
Priority 1: Increasing demand and the premium paid for all Australian wines				
Strategy 3: Building Australian grape and wine excellence	735.2 (3.2%)	10,037.8 (43.7%)		10,773.1 (46.9%)
Priority 2: Increasing competitiveness				
Strategy 4: Improving resource management and sustainability	61.9 (0.3%)	1324.2 (5.8%)	1127 (4.9%)	2513.1 (10.9%)
Strategy 5: Improving vineyard performance		2131.4 (9.3%)		2131.4 (9.3%)
Strategy 6: Improving winery performance		2661.6 (11.6%)		2661.6 (11.6%)
Strategy 7: Enhancing market access	221.2 (1%)			221.2 (1%)
Strategy 8: Building capability			1334.5 (5.8%)	1334.5 (5.8%)
Strategy 9: Business intelligence and measurement		733.5 (3.2%)		733.5 (3.2%)
Priorities 1 and 2				
Strategy 10: Extension and adoption		2591.3 (11.4%)	0.7 (0%)	2590 (11.3%)
Total	1018.3 (4.4%)	19,479.9 (84.8%)	2462.2 (10.7%)	22,960.4 (100%)

Table 8: Research, development and extension expenditure estimates 2016–17 across Rural Research and Development Priorities

AGWA priorities and strategies	Rural Research and Development Priorities				
	Advanced technologies	Biosecurity	Soil, water and managing natural resources	Adoption of R&D	Total
	\$000	\$000	\$000	\$000	\$000
Priority 1: Increasing demand and the premium paid for all Australian wines					
Strategy 3: Building Australian grape and wine excellence	6335.8 (27.6%)		982.5 (4.3%)	3454.7 (15.0%)	10,773.1 (46.9%)
Priority 2: Increasing competitiveness					
Strategy 4: Improving resource management and sustainability	437.5 (1.9%)	692.1 (3%)	1191 (5.2%)	192.5 (0.8%)	2513.1 (10.9%)
Strategy 5: Improving vineyard performance			2105.4 (9.2%)	26.1 (0.1%)	2131.4 (9.3%)
Strategy 6: Improving winery performance	1695.7 (7.4%)			965.9 (4.2%)	2661.6 (11.6%)
Strategy 7: Enhancing market access				221.2 (1%)	221.2 (1%)
Strategy 8: Building capability			2.5 (0%)	1332 (5.8%)	1334.5 (5.8%)
Strategy 9: Business intelligence and measurement	295 (1.3%)			438.5 (1.9%)	733.5 (3.2%)
Priorities 1 and 2					
Strategy 10: Extension and adoption	500 (2.2%)		0.7 (0%)	2091.3 (9.1%)	2592 (11.3%)
Total	9263.9 (40.3%)	692.1 (3%)	4282.1 (18.6%)	8722.3 (38%)	22,960.4 (100%)

Appendix 3: Glossary

AGWA	Australian Grape and Wine Authority
AWRI	Australian Wine Research Institute
CBA	cost-benefit analysis
CO ₂	carbon dioxide
CSIRO	Commonwealth Scientific and Industrial Research Organisation
C\$	Canadian dollar
DFAT	Department of Foreign Affairs and Trade
DNA	Deoxyribonucleic acid
FTA	free trade agreement
grapevine accession	a distinct, genetically unique and identifiable grapevine plant representing a cultivar, breeding line or a population, which is maintained in a collection for conservation and use
H ₂ S	hydrogen sulfide
HER	history, evolution and revolution
ICT	information and communications technology
LCBO	Liquor Control Board of Ontario
OIV	International Organisation of Vine and Wine
RD&E	research, development and extension
R&D	research and development
SARDI	South Australian Research and Development Institute
the Act	<i>Australian Grape and Wine Authority Act 2013</i>
the Code	Australia New Zealand Food Standards Code
US	United States of America
US\$	US dollar
UK	United Kingdom
WFA	Winemakers' Federation of Australia
WGGA	Wine Grape Growers Australia
WWTG	World Wine Trade Group

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The Australian Grape and Wine Authority is a partner of, and funded by the Australian grape and wine community and the Australian Government.

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Electronic version: ISSN 2206-3404

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