



Executive Summary

The 2006-2013 seven-year funding agreement between the Grape and Wine Research and Development Corporation (GWRDC) and the Australian Wine Research Institute (AWRI) concluded on 30 June 2013. This document reports the key outcomes derived from that agreement and the GWRDC's investment: outcomes that have helped to drive technical innovation throughout the Australian wine sector.

A summary of those outcomes is provided below; more detailed reports follow. At their foundation are two prevailing themes: the success of the investment model provided by the seven-year agreement and the world-class technical expertise that the AWRI has to offer as an integral part of the Australian wine sector.

Productive investment

The outcomes achieved throughout the seven-year agreement were driven by industry-defined objectives: within strategically defined thematic streams, activities were continually aligned with the needs of Australia's grape and wine producers.

The investment model, which combined long-term stability with short-term adaptability, empowered the AWRI and its technical experts to design and pursue medium-term research and development projects while responding to changing industry conditions.

Through a comprehensive programme of extension and information dissemination the research outcomes have contributed directly to innovation and adaptation, helping to support the Australian wine sector throughout a period of transformation and upheaval.

Grape and wine producers' dollars have been invested in outcomes that deliver results: non value-adding activity has been minimised. This has only been possible due to an investment framework that provided stability, underwrote productivity and offered flexibility as well as accountability.

A Benefit-Cost Analysis of AWRI research during the seven-year funding term has indicated a benefit-to-cost ratio in the order of 15:1 – a figure that compares very favourably with other investment frameworks and other research institutions.

World-class research, development and extension

The AWRI continued to grow its standing as a centre of excellence in the field of grape and wine research. It is internationally recognised for its integrated research, development and extension programmes.

This report demonstrates how those programmes have delivered value: some results have already transformed grape and wine production, contributing to cost savings and greater profitability.

The investment framework, which allowed the attraction, retention, maintenance and development of world-leading researchers and technical experts dedicated to technical innovation throughout the Australian wine sector, was a major factor in the delivery of the key research outcomes detailed in this report, including:

- The discovery of critical aroma and flavour compounds including the 'black pepper' character in Shiraz and the origin of minty eucalyptus characters. Both are considered



distinctive characters in Australian wine.

- Breakthroughs in understanding the tannins and pigments (phenolics) that drive wine quality.
- The development of novel yeasts to help winemakers to achieve targeted wine styles. By unlocking the genetic code of wine yeast and malolactic bacteria, the AWRI has given Australia a competitive advantage in an innovative area of wine research.
- Better understanding of, and improvements to, fermentation performance, including malolactic fermentation, a major source of economic losses.
- The investigation of alternatives to bentonite fining to tackle haze control. As a result, there has been a reduction in bentonite usage, leading to substantial savings each year for the Australian wine sector.
- Streamlining of production processes to ensure increased efficiency, cost-savings and greater productivity. This included the integration of web-based tannin measurement tools; in bottle, non-destructive spectral analysis; and faster methods for assessment of variables in composition.
- Rapid response, helpdesk services which provide technical advice and trouble-shooting to help grape and wine producers control the spoilage yeast *Brettanomyces* and deal with wine taints such as those arising from bushfires.
- Working on behalf of Australian grape and wine producers and with sector peak bodies to achieve evidence-based regulatory and policy decisions by industry, government and regulatory authorities, including those related to issues concerning wine and human health.
- Comprehensive extension and communication services, including publications, roadshows, wine assessment courses and web-based services to ensure the uptake of new technology and technical know-how.
- Development of regional nodes to ensure that research programmes, while national in scope, remain in touch with the needs of specific regions.

The outcomes described in this document provide evidence of the value created. They also demonstrate the value and foresight of the investment model applied throughout the seven-year agreement, for the benefit of Australia's wine sector.