

The power of collaboration

Where is the value?

Collaboration is an essential part of the research community and forms part of everything we do at the AWRI. Effective collaboration is entered into freely, by parties with mutual intent, high trust and with complementary skills and knowledge.

To achieve the goals of the AWRI's Business Plan and Research, Development and Extension Plan, the AWRI has engaged in hundreds of active partnerships with companies, institutions and government bodies both locally and internationally. The AWRI has a long history of successfully managing cooperative partnerships for the mutual benefit of the AWRI, its partners and the Australian wine sector. These partnerships generate beneficial knowledge greater than the sum of the individuals working alone.

The AWRI's recent move into the Wine Innovation Cluster's WIC Central Building is one example of a major initiative aimed at building the frameworks that foster effective collaboration. The WIC Central Building accommodates the AWRI with the grape and wine scientists of The University of Adelaide and the South Australian Research and Development Institute (SARDI). Our clustering with these organisations and with our other WIC members, CSIRO Plant Industry and Provisor, provides strength in diversity and alignment with similarity of spirit. The WIC partners have complementary assets and talents and the AWRI will continue to foster linkages with them and other national and international collaborators to the benefit of partners, stakeholders and the whole Australian wine sector. This cooperation enables us separately and together to bag a greater number of goals for *Brand Australia*.

Some compelling outcomes of effective collaboration

- The key peppery aroma compound in Shiraz grapes and wine (and other important spices) was identified as rotundone. This was achieved through a collaboration between the AWRI and a German flavour company. Now that the compound has been identified, research is underway to give Australian producers the tools to manage rotundone levels in their grapes and wine.
- Through the collaborative efforts of the AWRI, the University of Adelaide and Curtin University, the aroma-less (non-volatile) precursors to the key marker compound of smoke taint, guaiacol, were detected in smoke affected grapes. This knowledge gives growers and winemakers the capability to predict which grapes will produce wines with undesirable 'smoke taint'.
- By working together, the AWRI, the Australian Genome Research Facility and a US biotechnology company were the first to complete the genome sequence of wine yeast and conduct a comparative study of several yeast genomes. With the ingredients of this recipe now available, researchers can attempt to pinpoint which parts of the wine yeast are responsible for key components in wine.
- Through productive research contracts with AB Mauri, Lallemand and Anchor Yeast, the AWRI was able to develop and facilitate access by Australian producers to: novel *Saccharomyces bayanus* yeasts; hybrid yeasts; H₂S-minus yeasts; and yeast blends. This gives winemakers greater control over creating wines that their customers want to drink.
- A project completed by the AWRI and Chemical Engineering at the University of Adelaide about a year ago highlighted opportunities to reduce white wine losses in bentonite lees. One of these opportunities included tank or in-line dosing of bentonite, followed by centrifugation for separation of bentonite lees and clarification of the wine. Centrifugation reduced the volume of bentonite lees



nearly five-fold, recovering substantial quantities of occluded wine which otherwise would have been lost or downgraded during recovery. This project was considered by the Council of Rural Research and Development Corporation Chairs (CRRDCC) in its broader evaluation of the impact of research and development funded by Research and Development Corporations in Australia. This evaluation involved an economic analysis of the cost and benefits that R&D conducted in this project would achieve. The analysis concluded that the project would 'generate significant net benefits to the Australian community' with an estimated net present value of \$98 m over 30 years.

- Non-destructive analysis of bottled wine components and classifying unknown bottles of wine is now possible through a commercial collaboration involving the AWRI, a software company and an engineering company. The technology and the equipment will soon be available to wine producers.
- Together with Universities in Victoria, Western Australia and Queensland, the AWRI is developing a strategic capability in microbial metabolomics. The study of an organism's metabolites, metabolomics, is expected to become as important as genomics and proteomics in securing fundamental scientific understanding and delivering relevant outcomes of benefit to producers.
- By being part of the consortium that approached the Australian Government for funding for research into Pinot Noir and Sparkling wine production, the AWRI was able to establish a 'node' and research program in Tasmania. This enables an enhanced effort into understanding the process and problems of cool climate wine production in Australia. Consortium partners were the AWRI, Wine Industry Tasmania, TIAR, Tamar Ridge Estate, Flextank, and Croplands.
- The AWRI engaged key grape and wine research providers in South Australia and, together, were able to realise the vision of an integrated cluster to enhance effective grape and wine research outcomes. The Wine Innovation Cluster commenced physical operation in October 2008, and involves the AWRI, The University of Adelaide, SARDI, CSIRO Plant Industry and Provisor.

Who are the AWRI's current collaborators?

Apart from the many informal collaborations amongst scientists at the AWRI and other individuals and organisations, the map on the next page illustrates the number of contractual collaborations that the AWRI entered into between January 2007 to date.



Contact us

We welcome approaches from organisations that can bring complementary knowledge and skills to a partnership with the AWRI.

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