



Stream 3.3: Environmental and technical, regulatory and trade issues

1. Abstract:

The purpose of this Stream was to identify and mitigate threats and impediments to market access of Australian wine. The same wine offered for sale in one export market may be rejected in another due to varying regulatory standards of the importing country. This poses enormous risks and uncertainty for all exporters, especially as the 'goal posts' often shift in response to regulatory and political changes. All contributors across the grape to wine supply chain suffer when national and international regulatory requirements are not met.

The information on relevant regulatory information which was collected through investigation and research by this stream, was conveyed to Australian wine industry stakeholders. Additionally, the stream provided the capacity for early development of compositional and production standards which were endorsed by stakeholders. These were used to influence the regulatory process, facilitating evidence-based decision-making by both industry and governments.

This process required constant scanning of the regulatory environment; understanding the regulations; knowing when changes were pending; evaluating the implications of proposed and actual changes; and supporting stakeholders via a variety of mechanisms, often at short notice.

The stream objectives were achieved through the analysis of compiled regulatory information and the production of tools, publications and presentations to keep stakeholders informed. The preparation of government submissions and position papers served to present the wine industry perspective when an issue threatened to become restrictive to trade. Awareness of issues was facilitated through an active involvement on industry and government boards, committees and working groups both domestically and internationally. When required, collaborative investigations were conducted to fill gaps in understanding and formulate solutions that would satisfy the Australian wine industry's obligations as domestic producers and international exporters.

During the period this stream was active, and in part because of it, Australian wine benefited from largely unimpeded market access in both domestic and overseas markets.

2. Executive summary:

Maintaining market access and opening new markets for Australian wine, nationally and internationally, is facilitated by managing and reducing current and potential barriers to trade. It is imperative that the Australian wine industry be proactive to anticipate, facilitate and influence issues as well as changes to regulations regarding grape and wine composition, production, labelling and marketing. The risk of taking a passive approach could result in changes being imposed upon the industry and trade jeopardised. Breaches of regulations carry a real risk of economic imposts and irreparable damage to Brand Australia, and threaten \$2 billion of annual Australian wine exports.

The overarching aim of this stream was to vigilantly scan the Australian and international horizon for grape and wine issues that could impact on trade and, once identified, provide advice and assistance to manage, mitigate and resolve the issues thus preventing potential interruptions to trade in wine.

Issues were identified through the established AWRI technical problem solving and helpdesk services; the Commercial Services database; and through liaison with key industry and government stakeholder networks in Australia and internationally. Information was duly collected, collated and evaluated. Collaborative research was conducted or coordinated to fill gaps in understanding and formulate solutions that would satisfy the Australian wine industry's obligations as domestic producers and international exporters. Dissemination of the booklet *Agrochemicals registered for use in Australian viticulture* (the 'Dog Book') and associated databases served to communicate changes to regulations and provide guidance to grapegrowers and winemakers to ensure that they were fully compliant with



domestic and international regulations, and to enable them to make informed decisions about grapegrowing and winemaking to meet market expectations.

Submissions, position papers and dossiers were prepared to provide advice and assistance, and present the wine industry perspective to governments when an issue threatened to restrict market access. Those threats included residues of the herbicide 2,4-D and the fungicide phosphorous acid in grapes and wine, and mandatory allergen labelling when egg, fish and milk-derived fining agents had been used. Consequently, there is reduced regulatory and economic impost to wine exporters regarding allergen labelling for the Canadian and EU markets, made possible through collaborative research, dossier preparation and lobbying of key Australian and international stakeholders. Wine containing the herbicide 2,4-D at concentrations below the maximum residue limit (MRL) can be legally sold in Australia and exported, and the formulation, registration and usage provisions of products containing 2,4-D have been reconsidered by the Australian Pesticides and Veterinary Medicines Authority (APVMA), while the use of the fungicide phosphorous acid has been effectively banned in Australia for grapes destined for export wine to maintain market access.

The requirement for timely technical, scientific and regulatory support to the industry will only continue to increase as governments respond to the growth in the international wine trade and erosion of their traditional winemaking practices by innovation, by imposing technical trade barriers.

Affiliation	Area of support/contribution
Wine Australia	Advice provided on wine industry regulatory and trade issues
Winemakers' Federation of Australia	Advice provided on wine industry regulatory and trade issues
Department of Agriculture, Fisheries and Forestry	Advice on international grape and wine industry regulatory and trade issues
Foods Standards Australia New Zealand	Advice on international grape and wine industry regulatory issues
Organisation Internationale de la Vigne et du Vin	Advice on regulatory, scientific and technical issues
Australian Pesticides and Veterinary Medicine Authority	Advice on grape agrochemical issues
Agrochemical Reference Group	Advice provided on produce related issues

3. Background:

In the global market for wine, it is essential that exporting producers meet the regulatory and technical specifications of the importing country. These requirements are fluid and can change when Australia engages in bi/multi-lateral wine trade agreements, requiring a re-think of policies and procedures. Furthermore, changing consumer expectations are reflected in the purchasing decisions of large supermarket chains or retailers, and these can exert influence on processes and practices in Australian vineyards and wineries. All of these factors have to be understood and managed in a proactive manner to minimise disruptions to trade and to facilitate market access.

Since 1983, the AWRI has provided regulatory, scientific and technical advice and assistance to the Australian government and wine industry to pro-actively resolve trade issues and to influence policymaking on a national and international level.

In 2006, Australian wine exports were worth over \$2.5 billion and it was recognised that the support and multi-disciplinary expertise from the AWRI would be required for industry to:



- be successful in the quest for continued and expanded market access;
- respond to changes in consumer and government attitudes; and
- adapt to the impact that rapid advancements in science and technology would have on regulatory, scientific and technical issues.

4. Stream objectives:

The overarching objective was the timely collection, evaluation, interpretation and repository of the compositional and other regulatory requirements of domestic and international markets, and the conveyance of these to industry so that full compliance is achieved.

A component of this objective was to assist industry in the use and application of agrochemicals, additives and processing aids in a manner that met regulatory requirements and satisfied societal expectations and environmental needs.

Effective relationships were to be maintained between policy, regulatory and research/scientific areas of the industry by participating actively on industry (including supplier) and government boards and committees, to facilitate the two-way flow of information.

When necessary, investigations and research on industry-relevant regulatory, scientific and technical issues was to be undertaken, thereby facilitating decision-making through the provision of assistance and scientifically-sound advice.

5. Methodology:

The AWRI evolved strategies to maximise the capacity of the industry to manage technical, regulatory and trade issues proactively. Stream staff actively identified actual and potential regulatory and technical changes and issues that could impact on the Australian wine industry's capacity to comply with all compositional and production standards, and hence market its wine.

Awareness of critical changes and issues came from a variety of strategies including active investigations of Australia's export markets' regulations.

Interactions with stakeholders, government agencies and consumers were also important in identifying changes and issues. For example, a network of contacts at key government agencies such as the Australian Pesticides and Veterinary Medicines Authority (APVMA), Austrade, Department of Agriculture, Fisheries and Forestry (DAFF), and the Organisation Internationale de la Vigne et du Vin (OIV) was maintained to keep the AWRI and industry informed of policy decisions and developments.

In addition, stream staff were actively involved with a range of industry and government boards, committees and working groups including the AWRI Alcohol Project Advisory Group and Agrochemical Reference Group; Cooperative Research Centre for Viticulture 'Good Environmental Management' Project Reference Group; Wine Australia's (WAC) Legislation Review Committee; Winemakers' Federation of Australia's (WFA) Wine Industry Technical Advisory Committee and Wine Industry National Environment Committee; Management Committee for Viticultural Publishing; the South Australian Royal Agriculture and Horticultural Society's Wine Show Committee; South Australian Wine Industry Council; the Institut des Sciences de la Vigne et du Vin de Bordeaux (ISVV); and the European Food Safety Authority (EFSA) Expert database. The Agrochemicals Reference Group is an informal group comprised of representatives from the major wineries, grape grower organisations and regional industry associations which is convened annually and as required by the AWRI.



The AWRI helpdesk service (Stream 2.5, Protecting the quality and integrity of Australian wine) also acted as a direct link to and as an 'early warning system' for changes and issues.

When an issue was identified, stream staff would collaborate, internally and externally, to assemble all relevant technical, scientific and regulatory information, which was also acquired through tailored literature reviews, and was then evaluated. The nature of the issue and level of knowledge available would determine how staff would proceed. In some cases, the issue had been encountered previously and a solution or resolution was already available, while in other cases, research and investigation was required to be able to adequately advise stakeholders.

Where research and investigation was required, collaborations were also initiated internally and externally in order to determine an appropriate solution and response that satisfied market obligations. The outcomes of this work were shared in the position papers and submissions that were prepared, presented and published.

Reviews of registered chemicals, as well as additives and processing aids, were also periodically undertaken in response to international or domestic changes or requirements, and annual reviews of the established databases were also undertaken to ensure accuracy and relevance.

Changes to legislation, position papers and recently published reports impacting on the operations and performance of the wine industry were duly disseminated through AWRI regulatory and technical publications. Electronic media such as the AWRI's email bulletin service, on-line search facilities and mobile based applications were also used so that industry was made aware in a timely manner and able to comply with evolving expectations. The boards, committees and working groups also served as an information conduit.

6. Results and discussion:

Information on environmental and technical, regulatory and trade industry issues was collected, evaluated and disseminated through a range of delivery mechanisms such as AWRI booklets and databases, published position papers and submissions, and liaison with key stakeholders, for example:

- The AWRI's agrochemical online database and associated hardcopy 'Agrochemicals registered for use in Australian viticulture' ('Dog Book'), as well as the 'Analytical specifications for the export of Australian wine' and 'Approved additives and processing aids for winemaking in Australia and internationally' databases were annually updated. The number of markets for which there is a maximum residue limit (MRL), and wine analytical and compositional information and specifications was increased to 38 to include emerging as well as established markets. Thirteen new active constituents had also been registered to control pests and diseases which were duly evaluated for impact on fermentation and resultant residues in wine and withholding periods were established. The registration of other active constituents such as tetraconazole or procymidone were either changed or removed in response to health and safety issues. This information was also disseminated through evolving electronic media. A specialised on-line search facility for agrochemicals and application for mobile devices were developed, supplementing existing MRL search facilities and regular electronic updates.
- The overarching 'Code of good manufacturing practice for the grape and wine industry' was updated and extended to include environmental best practice and environmental risk management as well as supplier practices as required by supermarket chains and retailers.
- Twenty confidential government submissions on regulatory-related industry issues and over 70 position/peer-reviewed papers and/or materials were prepared and presented in fora to manage or prevent potential regulatory imposts and technical trade barriers.

Examples of effective liaison with key stakeholders to resolve issues include:



- Agrochemical Reference Group*

The addition of new markets or changes in established market MRLs required that established practices around the use of agrochemicals were frequently re-evaluated and reviewed to determine if they were sufficient to meet the new requirements which were duly discussed with and endorsed by stakeholders at the Agrochemical Reference Group. For example, in 2007, the EU substantially reduced the allowable residue concentrations for some chemicals used in viticulture after a major review. The new MRLs were harmonised among EU member states which resulted in stream staff undertaking a review of the active ingredients, carbaryl and captan, used in Australian vineyards. In 2008, a review of Canadian MRLs was conducted and in 2009, the MRL list for the Chinese market was added to the AWRI database and reported to stakeholders through the AWRI website. The annual convening of the Group also facilitated open discussion on chemical use in viticulture between competing organisations. Consequently, this enabled consensus on agrochemical issues and the development of tools such as a common spray diary. This diary allowed grape growers to record specific data about their chemical use that was acceptable to all major grape buyers, simplifying their record keeping requirements.
- OIV working group *Taskforce on additives and processing aids in China*.

Scientific and technical dossiers were prepared on the additives and processing aids not currently permitted for winemaking in China and hence not permitted to be present in Australian wine exported to China. In conjunction with WFA, these were submitted to the Chinese government in order to vary Chinese Standard GB 2760 and enable the export of fully-compliant wine to China.
- OIV working group *Taskforce on allergens*

Additional analytical and clinical research was coordinated into the potential for residual protein in protein-fined wine, and its significance for human health. This was undertaken by Australia, France, Germany and Italy. Submissions to the European Food Safety Authority (EFSA) were prepared by the Taskforce requesting and supporting a permanent derogation for wine on allergen labeling for egg and milk products. These submissions formed the basis of a subsequent submission by the AWRI on behalf of the wine industry to the US Alcohol and Tobacco Tax and Trade Bureau (TTB) and Health Canada prior to their voluntary and mandatory introductions, respectively, of allergen warning labels for wine for egg, milk and fish products. A revision of, and subsequent reduced labeling requirements in these markets was made possible through collaborative research, dossier preparation and lobbying of key international stakeholders. The dossiers also formed the basis of a submission to Food Standards Australia New Zealand (FSANZ) supporting a permanent derogation for wine for isinglass labeling (isinglass is a fish product), which was subsequently granted.

Research and investigations were regularly conducted involving multiple internal and external collaborations in order to formulate a solution and response that satisfied market obligations, and included the following agrochemicals:

- Phosphorous acid, which is a highly effective fungicide for downy mildew control, was found to readily present as a residue in wine. Residues are, however, unacceptable in certain key export markets. Extensive collaborative effort went into understanding the transfer of residues from grapes to wine in the aim of identifying a viable use pattern that would preserve this popular control option for grape growers. Unfortunately, the highly systemic nature of the phosphorous acid in grapevines and its stability in wine media resulted in the development of recommendations for its use. Use became limited to fruit destined for the domestic market or for those export markets with an MRL equal to or greater than the Australian MRL, effectively banning the use of phosphorous acid for grapes destined for export wine.
- 2,4-D, which is a broadacre cropping phenoxy herbicide, causes severe leaf distortion when grapevines are exposed. Mature vines will commonly overcome moderate leaf damage caused by drift and ripen the crop for harvest. The absence of an Australian MRL for grapes and wine meant that any wine produced should be free of 2,4-D residues or alternatively was considered



contaminated and unsaleable. Initially, a 2,4-D baseline analytical study was performed by the AWRI, the results of which underpinned an impact study on the assessment of the environmental and toxicological issues. A retrospective maximum residue limit was consequently established for 2,4-D in grapes which was adopted into FSANZ regulations to enable Australian wine containing residual 2,4-D below an MRL to be legally produced and exported. In addition, these data supported changes to the formulation, registration and usage regulations of products containing 2,4-D. The relationship between timing and severity of leaf damage symptoms and resultant residues was subsequently investigated, as well as the relationship between levels measured in fruit and that measured in the resultant wine. This was in consultation with broadacre farmers, researchers and state departments of primary industry who were responsible for monitoring and managing incidences of spray drift from all agricultural sources. Submissions to state and federal agencies investigating the issue of ongoing observations of spray drift and leaf damage in grapevines were also prepared in conjunction with WFA, which were successful and saw reconsideration of label approvals and applications for products containing 2,4-D.

Other issues with potential implications for international trade in wine that were successfully investigated and solved included: the impact of agrochemical residues on livestock fed grape marc; the spray drift risk of an insecticide containing eucalyptol; the implications of state legislation on aerial and ground spraying in Tasmania; gluten sources from oak barrels and implications for allergen labelling, the incidence and potential for mycotoxins such as fumonisin B2 and ochratoxin A to form in Australian wine in amounts greater than maximum permitted limits; the potential contamination of the chemical bisphenol A in Australian wine from synthetic closures and packaging; legality of the addition of the grape-derived phenolic compound resveratrol to wine in Australia and internationally; the status of the concentration of chlorides, such as sodium chloride, in grapes and wines in the context of drought and water allocation revisions and restrictions; the relationship between the concentration of free and total sulfur dioxide in Australian wines with sugar levels of between 5 and 35 g/L and above 35 g/L, to determine whether Australia could harmonise its maximum limit of sulfur dioxide with those of its export destinations; the percentage of water addition during winemaking to support an amendment to FSANZ application 'A573 Water use in winemaking'; and the concentration of copper in Australian wine to support an amendment to WFA proposal 'A463 Copper citrate as a processing aid for wine'.

Pest incursions were also a catalyst for investigations. This is because control strategies for locust or fruit fly, such as the use of broad-spectrum insecticides, can run counter to meeting export market requirements, and environmental and societal goals. As such, alternative culturally sensitive strategies which controlled the pest and satisfied all stakeholders had to be devised. These included monitoring location of locust hoppers, and targeting this early growth stage by spraying the vineyard midrow and headlands and not the crop. Sprays to fruit and foliage for fruit fly control were replaced by the strategic use of baits applied low on the posts or grape vine trunks.

The position papers and submissions that have been produced in response to environmental and technical, regulatory and trade issues has meant that a perspective favourable to the needs of the Australian wine industry has been presented.

7. Outcome and Conclusion:

The timely identification and management of environmental and technical, regulatory and trade issues, via the collection, evaluation, generation and dissemination of data on these issues helped maintain market access for Australian wine, facilitating the trade of Australian wine nationally and internationally.

The continued development of recommendations for chemical application in Australia viticulture, which is packaged as the 'Dog Book' and complementary applications, for example, has enabled winemakers to easily manage the production of wine for different markets with different regulatory requirements, thereby facilitating trade.



Trade has been similarly facilitated by the provision of sound regulatory, scientific and technical information disseminated via a variety of vehicles and Brand Australia protected, for example, by enabling the:

- inclusion of an MRL for 2,4-D in grapes to facilitate the domestic sale and export of Australian wine with residues of 2,4-D below the designated MRLs;
- export of Australian wine with a reduced risk of phosphorous acid residues, effectively enhancing the 'clean and green' image of Australian wine;
- export of Australian wine to Canada and the European Union without complex and prescriptive allergen labelling for eggs, fish or milk if the wine contains residues of those potential allergens below 0.25 mg/L; and
- export of Australian wine which is fully compliant with the changing provisions and regulations of its export markets.

The regular involvement of the AWRI with the OIV expert groups has also ensured that OIV provisions and regulations for wine and winemaking, which are reflected in the complementary European Union provisions and regulations for wine and winemaking, are consistent with, and not more restrictive than, the provisions and regulations to which Australian wine must comply. Differences in these provisions and regulations between countries impedes trade and market access, with consequent economic cost to wine exporters.

In addition, domestically, monetary savings have been made by, for example:

- the reduction in risk of grapevine damage by 2,4-D spray drift;
- the reduction in risk of grapes and wine containing residues of phosphorous acid and other restricted agrochemicals;
- the reduction in risk of pest outbreak in vineyards and the development of more cost-effective management strategies; and
- by enabling the sale of wine and wine products without allergen labelling for fish/isinglass.

Overall, the stream and its associated activities provide a strong foundation for the industry to continue to confidently export wine which is compliant with the provisions and regulations of its domestic and export markets.

8. Recommendations:

Maintaining market access or opening markets for Australian wine, nationally and internationally, is only facilitated by managing and reducing current and potential barriers to trade. The Australian wine industry needs to be proactive and to anticipate, facilitate and influence changes to regulations regarding grape and wine composition, production, labelling and marketing. The risk of taking a passive approach could result in changes being imposed upon the industry and reduced market access.

Some wine-producing countries have reacted to the increased importation of Australian wines by increasing technical trade barriers creating market access challenges, while a further challenge is the number of bi-/multi-lateral wine trade agreements created between countries.

The requirement for timely technical, scientific and regulatory support to the industry will continue to increase as governments such as the European Union, respond to the growth in international wine trade and erosion of their traditional winemaking practices and procedures by imposing non-tariff or technical trade barriers.

In addition, emerging non-traditional wine markets such as China, India and Japan, are responding to the growth in their wine trade and domestic wine production by imposing technical trade barriers. This is primarily because they do not have a well-established domestic industry and associated



infrastructure that would act to restrain restrictive legislation. Removing impediments to market access in these wine markets will be achieved by providing the required technical, scientific and regulatory responses regarding the status of Australian and international wine (from the review of existing data and generation of new data where no data exists), to Wine Australia Corporation, Winemakers' Federation of Australia, Wine Grape Growers Australia and Department of Agriculture Fisheries and Forestry before potential technical trade barriers can be proposed, (to be addressed in Project 2.2.4 in the AWRI's R,D&E plan 2013-2018).

As well as those imposed by governments, non-government organisations such as retailer-chains are imposing consumer and environmental social policies on the industry that may effectively simulate technical trade barriers but are not regulated by the World Trade Organisation (WTO). Furthermore, FSANZ, responsible for regulating the composition, labelling and production of domestic and imported wine, is continuously modifying and refining its standards and provisions for domestic and imported wine to reflect evolving international best practice for winemaking, marketing and labelling. In parallel, the OIV is regularly reviewing its wine standards and provisions, acting as a reference to the European Commission, Codex Alimentarius Commission (CAC) and WTO in the event of trade disputes between countries, (to be addressed in Project 2.2.4 in the AWRI's R,D&E plan 2013-2018).

The efforts of Wine Australia and the Winemakers' Federation of Australia in establishing robust regulatory frameworks in domestic and export market should continue to be supported by the types of activities pursued in this stream, (to be addressed in Project 2.2.4 in the AWRI's R,D&E plan 2013-2018).

Issues continue to need to be identified, and information needs to be constantly collected, collated and communicated to the Australian wine industry. Additionally, influence in national and international forums is required, in order to maintain market access and reduce the potential for regulatory and economic imposts on industry. This can be facilitated by maintaining the established effective relationships with key regulatory stakeholders in export markets such as the OIV. OIV recommendations are automatically adopted into EU law, which in turn will also have a strong influence on other non-EU countries such as China, India and Japan which are developing their wine regulations, standards and provisions based on OIV recommendations, (to be addressed in Project 2.2.4 in the AWRI's R,D&E plan 2013-2018).

In addition, it has been identified that the use of technology will also enable the integration of the information in the AWRI 'Dog Book' with label information and with web-based vineyard management platforms to better support Australian grapegrowers, (to be addressed in Projects 2.2.1 and 4.1.5 in the AWRI's R,D&E plan 2013-2018).



9. Budget reconciliation:

Financial Year	Receipts / Income ❶	Outgoings / Expenditure ❷
Year 1: 2006/2007	\$137,929	\$137,929
Year 2: 2007/2008	\$126,020	\$126,020
Year 3: 2008/2009	\$117,129	\$117,129
Year 4: 2009/2010	\$108,588	\$108,588
Year 5: 2010/2011	\$105,234	\$105,234
Year 6: 2011/2012	\$119,022	\$119,022
Year 7: 2012/2013	\$120,011	\$120,011
TOTAL	\$833,933	\$833,933

❶ Note that the GWRDC – AWRI Investment Agreement budget was established and approved at an aggregate level, with variances to budget (i.e. annual overspends and underspends) reported and considered at that same aggregate (i.e. whole of agreement) level. The receipts / income relating to a Stream for any year therefore equate to the outgoings / expenditure within that Stream for that year, as any variances between total Investment Agreement funding received and total funds expended were considered at the whole of Agreement rather than individual Stream level.

❷ Includes a pro-rated share of Theme 5 *Executive management and administration*.

I hereby certify that this statement is true and accurate.

Signature of duly authorised representative.....

Chris Day

Group Manager – Corporate Services

29/11/2013.....

Name:

Title:

Date:



10. References:

The AWRI's R,D&E plan 2013-2018; http://www.awri.com.au/about_the_awri/rde-plan/

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