Bureau of Meteorology Review 2011

Joint submission by
Wine Grape Growers Australia and
Winemakers' Federation of Australia

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This submission contains feedback gathered by the Winemakers' Federation of Australia (WFA) and Wine Grape Growers Australia (WGGA) on how the Bureau of Meteorology (BoM) could better meet seasonal and extreme weather forecasting needs of the Australian wine sector.

WFA and WGGA are the peak national organisations representing Australia's winemakers and winegrape growers. The WFA represents wine enterprises of all sizes across Australia; and in excess of 90% of wine production in Australia. There is estimated to be roughly 6 500 winegrape growers in Australia. About 55% of the nation's winegrape harvest is represented by WGGA through the current combination of levy and voluntary funding arrangements. More still is represented on the WGGA Executive Committee by an electoral zone representation system covering all of Australia's winegrowing districts. This gives WGGA legitimacy as a national voice for the winegrape growing sector.

As an agriculturally based industry, the Australian wine sector is heavily reliant on a broad range of weather and climatic information. Beyond the usual season-to-season information requirements, the winegrowing has been impacted by drought, flood and bushfire disasters in recent years that have highlighted additional information needs. The 2011 vintage was considered extreme by most in the industry with diseases pressures from cool, wet conditions over the final development and maturation period for winegrapes causing diseases impacts that have rated by most in the industry the most difficult in memory to measure, monitor and respond to.

The 2011 experience also illustrates that the most sensitive time of the season for climate and weather information is from budburst to harvest, or roughly October-November through to April-May, notwithstanding the fact that adequate preparation for the likely conditions in this period requires intelligence that sometimes precedes it by six months. Information in this time is required and utilised on a daily basis for planning of spray/fertiliser application, pest and disease management, irrigation planning, canopy management and harvesting.

Given the foregoing, this review is timely and welcomed by the wine sector.

The feedback reported here has been collected from members of the collaborating organisations and comes under the following headings.

1. **Accessibility of data and interpretation**
2. **Timing aspects for data and forecasts**
3. **Geographical alignment of BoM data to wine sector needs**
4. **New data parameters that are relevant to the wine sector**
5. **Cost implications**

The above points are elaborated on below.

Accessibility of data and interpretation

Many of WFA's and WGGA's constituency acknowledge the information 'is probably available' but the uncertainty reflected in their comments suggest that promotion of BoM's services could be improved. Suggestions received include distribution of the information via media networks and simplified, more intuitive navigation of the BoM website.

A common item of feedback concerns the strong preference to complement forecast data with interpretation. While WFA and WGGA acknowledge an industry role in this, the feedback is offered for BoM's consideration of action it might be able to undertake in this area.

Timing aspects for data and forecasts

Seasonal forecasting is needed at least a several months in advance implementing vineyard management practices. Longer term forecasting would also be of great benefit to growers as many chemical supply decisions are made at least six months before the season begins. As illustrated in 2011, late decision-making

in this area, based on late assessments of need, lead to shortages of chemicals not only because of availability of stock but also competition for available stock.

Geographical alignment of BoM data to wine sector needs

As the Australian wine sector matures and pursues an export program that currently sees around two of thirds of Australian wine sales in overseas markets, the expression of terroir (the interaction of the environment with wine attributes and quality) is becoming vital to the industry's promotional and sales prospects.

A frequent item of feedback from industry was that the locations of BoM data-collecting stations were not adequately located relative to the major winegrowing regions. The NSW Riverina, a significant winegrape growing region that accounted for nearly 20% of the nation's winegrapes in 2011, is a prime example. Griffith, the central growing region of this region, is situated on the edge of two radars - one at Wagga Wagga and the other at Yarrawonga. This makes interpretation and tracking of rainfall data particularly difficult. Furthermore the information provided by some of these radars can be quite poorly defined. Predicted rainfall can be seen but there is little to distinguish between virga and 'actual rain'. This means that even if a producer utilises the radar information there is still too little definition to determine if the rain will actually make it to the ground. Hence the addition or strategic relocation of weather radars may be warranted to better meet regional agricultural industry needs.

Similar concerns were raised regarding the relevance of the Strathalbyn station to the Langhorne Creek winegrowing district, the Noarlunga station to the McLaren Vale district and the Grafton station to Tenterfield vineyards.

The incomplete nature of the feedback in this submission means the WFA and WGGA are of the belief that a comprehensive review of BoM weather station locations relative to winegrowing regions across Australia, is warranted.

The growing importance of regional wine characteristics increases the importance of collecting localised weather and climate data. For this reason, regionally specific information available via 'Forecast Explorer' in Victoria and New South Wales on a 6km by 6km grid system is very welcome. A wider deployment of this specificity of data collection is warranted.

New data parameters that are relevant to the wine sector

Recent extreme seasons, including drought in recent years and 'record' weather-induced disease incidence in 2011, as well as natural disasters in the form of bushfires and flooding in the last two to three years have taught the wine sector that there is an emerging need for more relevant measures to guide vineyard management practices.

Soil moisture readings and evapotranspiration are required for effective irrigation practices. In the management of common fungal or algal diseases, leaf wetness and the conditions that create this, is more relevant than rainfall data.

An additional service that would be of significant benefit to the wine industry is the provision of predictive modelling of smoke plume movements from bushfires. Smoke from bushfires taints wine and significantly lowers the wine quality, making it unsaleable or if retrievable, leading to costly remedial action. Smoke taint is the subject of significant ongoing research within the wine industry, given that most wine regions are at risk. Through this research the critical compounds and the susceptible phenological stages of the grapes have already been determined. Missing from our current knowledge, is an understanding of where smoke is going to go under forecast weather conditions, what density it will be at ground level and how long it will be around for. People conducting controlled burns need this information. Smoke plume predictive modelling could be provided to the State Departments responsible for managing controlled burns to help them to minimise the likelihood of damaging or destroying winegrape crops.

Cost implications

In a time of great financial stress in the Australian wine sector, concern has been raised about the potential for changes in BoM services that will imply cost increases in winegrowing. The sector generally believes that the benefits of winegrowing to regional Australian communities and Australia's image overseas, as

warranting public investment in the matters raised and is wary of potential costs of improved services being directly imposed on individual businesses.

Summary

Specific suggestions collected from winegrape growers include the following.

- Greater provision of interpretive services.
- Improved access to data and interpretation through simplified and more intuitive on-line services.
- Long lead times for forecast.
- New measures that are more relevant to winegrape growing.
- Improved regionally specific historic information and forecasting.
- The strategic location of data collecting to better align with winegrowing districts.
- Predictive modelling of smoke plumes from bushfires.
- No increases in direct costs on winegrape growers.

The benefits are seen to be those of; better vineyard management through irrigation scheduling, canopy management, chemical use and disease management. The growing problem of smoke taint in wine, due to natural disasters or management of bushfire potential, also requires better measurement of relevant factors and forecasting.

WFA and WGGA look forward to the outcomes of this review.

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