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# Technical notes

## Enhancing regional identity of wines through locally isolated microorganisms

Many well-known 'old world' premium wines are strongly associated with the region they come from (e.g. Burgundy, Barolo, Mosel, Champagne), with each region having a characteristic wine style, influenced by grape variety, geology, climate and viticultural and winemaking practices. In contrast, many Australian wines are more strongly associated with the grape variety from which they are produced, with less emphasis on region of origin. While the focus on grape variety has been an important factor in the success of Brand Australia, many in the industry believe it is time to complement this by an increasing focus on regional identity, particularly for premium wines.

There is evidence to suggest that regional branding can be an effective means of producing higher returns for wine companies. It can provide a clear point of difference for marketing purposes compared with varietal branding which can be used by any winery across the world. Many factors contribute to the regional identity of a wine and in this context winemakers in some parts of Europe are tapping into locally isolated fermentative microorganisms for starter cultures, rather than relying on commercial strains isolated elsewhere.

The Australian Wine Research Institute has an extensive microbial culture collection housing a large number of diverse wine bacteria and yeasts, many of which have been isolated from Australian wineries over a period of 50 years. Characterisation of wine fermentation performance of these microbes over recent years has revealed candidates with strong winemaking properties and known provenance.

This is of particular interest in the context of malolactic fermentation (MLF). Currently, there are no commercially available Australian isolates of the MLF bacterium *Oenococcus oeni*; the only options for Australian winemakers are starter cultures of bacteria originally isolated overseas, selected principally to suit winemaking conditions and practices in Europe and elsewhere.

The AWRI has isolated several *O. oeni* strains that have the potential to fill this gap. In addition, if the region of origin of the isolate is known, the bacterium could be used as a starter culture in that region as a means of enhancing the regional character of wine.

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To explore this opportunity, scientists at the AWRI will partner with winemakers in regions such as the Yarra Valley and the Adelaide Hills to trial region-specific MLF bacterial isolates which have proven to be robust and efficient in laboratory trials.

If you are interested in developing a microbial strain from your region or isolating strains from your winery, please contact Eveline Bartowsky or Paul Chambers at the AWRI, on (08) 8313 6600.

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