



Media release

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For immediate release

A healthy dose of biotechnology the key to a sustainable wine industry

For Australians, a good glass of wine is expected in a country where winemaking is considered as quintessential as sport; yet wine's future, according to the peak industry body for biotechnology AusBiotech, will benefit from innovation and science.

The wine industry is expected to continue to face increased environmental and financial issues in the future, and bio-science – which is at the heart of fermentation – now appears to be a key to maintaining a cost-effective, high-standard of winemaking in Australia.

The issue, according to a panel of experts presenting at the AusBiotech 2011 conference next month, is the continued reliance on fungicides and pesticides to ward off fungi and bugs, which is causing significant environmental and financial impact. The future, they say, could play out in three ways – continued reliance on chemical inputs; organic wine at high premiums; or wine from genetically-enhanced grapevines. But are we ready for the latter?

At present, grape growers have few choices other than to use fungicides and pesticides to protect the grapes from their many enemies such as fungi and bugs. But there is an opportunity for the wine industry to become cleaner and greener by using the plant's own defenses to ward off the pests and pathogens.

In response, researchers are working in the laboratory to modify the genes of grapevines to make winegrapes naturally resistant to powdery and downy mildew, two of the worst grapevine diseases. In the laboratory, Australia is at the forefront.

A team at CSIRO, in collaboration with scientists at the French National Institute for Agricultural Research (INRA), have successfully identified the region in the genome of the wild North American grapevine, *Muscadinia rotundifolia* that provides resistance to these fungal pathogens.

Marker-assisted selection can be used by creating genetic markers based on the information obtained from cloning these genes.

According to Dr Ian Dry, Principal Research Scientist at CSIRO Plant Industry, consumers will soon need to make a choice: "You'll be faced with the prospect of drinking more expensive wine, drinking organic wine at an even higher price, or drinking low chemical-input, genetically engineered wine at a lower price."



Current research is also being performed to optimise the tannin component of wine to perfect the quality. Researchers at CSIRO have been investigating the regulation of the genes involved in the tannin biosynthesis pathway. By identifying key regulatory genes involved in tannin production it is possible to engineer these genes to either increase or decrease the levels of the tannins to alter their profile and produce a different style of wine.

AusBiotech's Chief Executive Officer, Dr Anna Lavelle said: "Few people realise just how much science supports the traditional winemaker to craft that perfect drop of chardonnay, pinot noir or cabernet sauvignon. Researchers are challenging the paradigm in the science behind Australian winemaking and highlighting how science and nature can match, how modernity and the traditional art of winemaking can cohabit in order to provide a delicious flawless glass of pinot noir.

Professor Sakkie Pretorius, the Managing Director of The Australian Wine Research Institute added: "The image of wine as a harmonious blend of nature, art and science invites tension between tradition and innovation. But if genetically modified crops are rejected as "Frankenfoods", then the heavy use of chemicals is increasingly inevitable."

The approaching AusBiotech 2011 conference with its theme *Creativity, Capability & Capital* is to be held in Adelaide, South Australia 16 - 19 October 2011. The annual event has earned a reputation as the industry's premier biotechnology conference for the Asia Pacific region. The country's most talented Australian wine researchers will meet during the AusBiotech 2011 national conference to discuss the role of biotechnology in wine-making and new technologies for disease resistant grape varieties.

For further information: **For more information, a full speaker list or to register for AusBiotech 2011, please visit <http://www.ausbiotech2011.com.au/>** Media passes are available on request.

AusBiotech 2011 is supported by BioInnovation SA and the South Australian Government.

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About AusBiotech: AusBiotech is Australia's voice on biotechnology, and represents more than 3,000 members, encompassing medicines, medical diagnostics and devices, agriculture, alternative fuels and climate change.

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