FFOODS Spectrum
perspectives on food technologies & business
ASIA

Federal grant to accelerate rollout of smoke sensor innovation Australian for wine sector

25 August 2025 | News

Over 100 WISD prototypes have already been tested across several states, monitoring smoke during controlled burns and bushfires

Over 100 WISD prototypes have already been tested across several states, monitoring smoke during controlled burns and bushfires

Australian winegrape growers are set to benefit from a breakthrough real-time smoke monitoring system designed to protect vineyards from the costly impacts of bushfire smoke taint. Thanks to $1.78 million in funding from the Australian Governmentâ??s Australiaâ??s Economic Accelerator (AEA) program, the Wine Industry Smoke Detectors (WISDs) will soon move from research into full commercialisation.

Developed by researchers at La Trobe University with support from Wine Australia, WISDs, nicknamed â??wizardsâ??, operate like air quality networks, continuously measuring smoke particles in vineyards. The system uses a proprietary algorithm to calculate risk ratings for smoke taint and delivers a simple traffic-light warning directly to growers via a mobile app or website.

Smoke damage has been one of the wine sectorâ??s most severe challenges, with more than $1.6 billion in losses over the past two decades, including an estimated $500 million during the 2020 bushfires alone. Traditional lab testing for smoke taint is costly, limited, and only viable in the weeks before harvest. By contrast, WISDs provide real-time risk assessments, giving growers the confidence to make timely management and marketing decisions.

Over 100 WISD prototypes have already been tested across several states, monitoring smoke during controlled burns and bushfires. With validation complete, agritech company Goanna Ag has joined as the commercial partner to scale the system across Australia and into global wine regions.

Professor Ian Porter from La Trobeâ??s School of Agriculture, Biomedicine and Environment said:
â??Having results in real time greatly reduces stress for growers and winemakers and allows them to make early decisions. In many cases, they will be able to proceed with vineyard management, market their grapes and produce wine with confidence.â?•

Dr Paul Smith, General Manager â?? Research & Innovation at Wine Australia, said the technology is â??revolutionising how the wine sector responds to smoke-related threats.â?•

Goanna Agâ??s Winegrape Business Development Lead, Jock Ferguson, added:
â??They are a vital industry breakthrough with appeal to stakeholders throughout the grape and wine sector in Australia as well as winegrowing regions around the world.â?•