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A fine blend of science with heritage grapevines to ensure future of Australian wines

14 April 2025 | News

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New mildew-resistant and drought-resilient grapevines have been planted in South Australiaâ??s Coonawarra wine region to help safeguard the future of Australiaâ??s wine industry against a changing climate and disease threats.

Australiaâ??s national science agency, CSIRO, and Treasury Wine Estates (TWE) partnered to future-proof some of the most collected wines in the region from old vines, with the first vines of the new progeny recently planted at Wynns Coonawarra Estate.

The new grapevines blend genetics from TWEâ??s heritage vines in Coonawarra and Barossa Valley, which have enhanced climate resilience, with mildew-resistant traits developed through years of selective breeding by CSIRO, with funding from Wine Australia.

Powdery and downy mildew costs the Australian wine sector an estimated $160 million in management expenses and production losses annually.

CSIRO Research Scientist and project lead, Dr Paul Boss, said breeding mildew resistance into elite vines gives future grapevines a genetic advantage to withstand these disease-causing pathogens.

â??Using traditional breeding methods, we introduced two distinct genes to the Wynns heritage vines, which give resistance to downy mildew and powdery mildew,â?• Dr Boss said.

â??These are from CSIRO-developed breeding lines that confer robust disease resistance and other quality traits onto their progeny.

â??Having resistance genes for both powdery and downy mildew makes these plants more robust as it is unlikely the pathogens can break both sources of resistance with a single mutation.â?