

Research area: VITICULTURE

Regional cluster: SA CENTRAL

Does the expression of key regulatory and structural anthocyanin genes differ between Malbec clones?

Background:

Traditionally used in blending, Malbec is gaining an increasing position as a single varietal wine in Australia, with some excellent examples from the Langhorne Creek region in South Australia. Malbec is known to suffer particularly in high heat events, with a resultant loss of fruit quality and the intense colour for which they are known. Various clones of Malbec are being trialled in Langhorne Creek to determine their fruit characteristics and wine-making potential under local conditions.

A recent publication noted the change in expression of a number of regulatory and structural anthocyanin genes in heat-treated Malbec berries. Results from this work suggest that colour development and pigment modification in Malbec berries under conditions of high temperature are regulated at a gene transcriptional level.

Why is it important?

The aim of this project is to determine if expression of these genes is variable between Malbec clones being grown in Australia. Linking expression of particular genes to desirable fruit characteristics (i.e. increased anthocyanin and increased colour) would contribute to the effective evaluation of Malbec clones and their suitability to Australian conditions.

What would success look like?

Success would be correlation between gene expression in response to high temperatures and desirable clonal fruit characteristics in Malbec.