

The AWRI Tannin Portal

What is it?

The AWRI's Tannin Portal is a web-based application that allows rapid analysis of total tannins, total phenolics, and total pigments in red wines and ferments.

How does it work?

The AWRI has developed a spectral calibration that predicts the concentration of these key compounds, based on six UV-Vis absorbance readings.

Users simply need to dilute samples in acid, leave them for at least one hour, and then enter the absorbance data into a web interface which returns results immediately.

An optional extra step which involves diluting samples in buffer allows the additional calculation of free anthocyanins and pigmented tannins, which provide insight into the samples' colour stability.

A quality control (QC) process is built into the system whereby users are provided with a QC standard to measure with every batch analysed.

What are the benefits?

- Results are obtained immediately – there is no need to send samples away to an external lab.
- Historical data is all stored in one place and is easily accessible.
- Data storage is secure and the identity of users is confidential at all times. Sample preparation is simple and straight-forward.
- No expensive new instrument is required – the method will work on any UV-Vis spectrophotometer.
- Users do not need expertise in establishing and maintaining spectral calibrations.
- Users can see the context of their results by benchmarking their data against our extensive database, selected by region, vintage, age or variety as required (Figure 1).

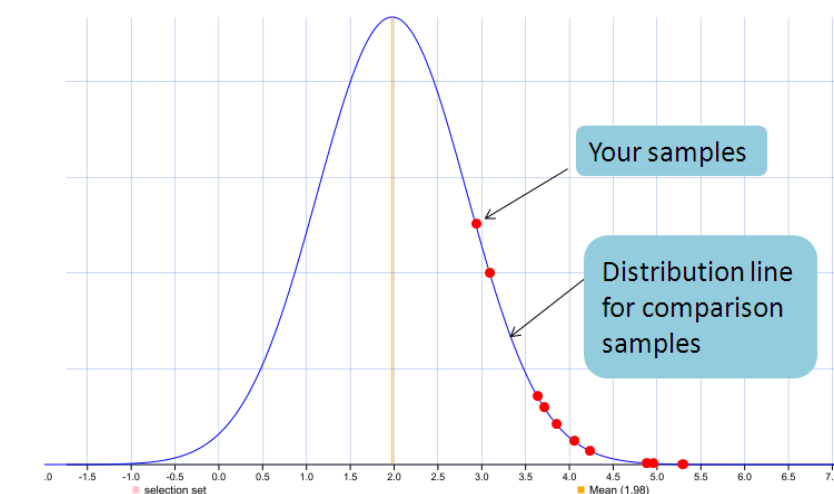


Figure 1 An example of a benchmarking plot produced by the tannin web portal



Why is measuring these compounds important?

Tannin is a critical component of red wine and influences both wine colour and mouth-feel. Research at the AWRI has shown good correlation between wine grades and tannin concentration.

Total phenolics encompasses all phenolic compounds in wine, including tannin monomers and polymers, anthocyanins, phenolic acids, and flavonols.

Young wines contain free anthocyanins, but as wines age they are incorporated into stable pigment, mainly through reaction with tannin. Total pigment is an estimation of all pigmented compounds in wine and is preminantly made up of free anthocyanins and pigmented tannin.

These measurements can provide insight into:

- The impact of different winemaking practices
- Colour stability as wines age
- Variability between vintages, varieties, wine age and winemaking regions
- Fermentation management, for targeting of specific wine styles
- Competitor benchmarking
- Consumer preferences

Where can I find out more?

For further information on the AWRI tannin web portal please contact the AWRI.

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