

How have the smoke-exposed wines from 2020 changed over the last two years?

AWRI

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Background:

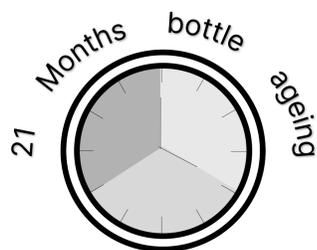
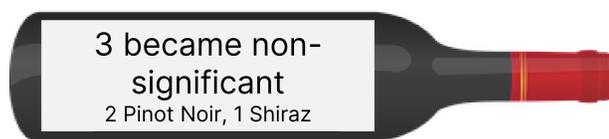
- In 2020, many wines made from smoke-exposed grapes studied had phenolic glycosides above concentrations typically found in non-smoke-exposed wines
- Many wines had no discernible 'smoke' flavour when assessed six weeks post-bottling
- Phenolic glycosides can release volatile phenols during winemaking
- Results from model field experiments suggest that the concentration of guaiacol glycosides can be unchanged in bottled red wine for up to six years
- There is little data on the impact of ageing on composition and sensory characteristics of smoke-affected wines in the literature

The question: Does 'smoke' flavour increase over time due to phenolic glycosides breaking down and releasing volatile phenols?

Young wines six weeks after bottling



Aged wines



Sensory results:

'Smoke' flavour **did not increase** for most wines

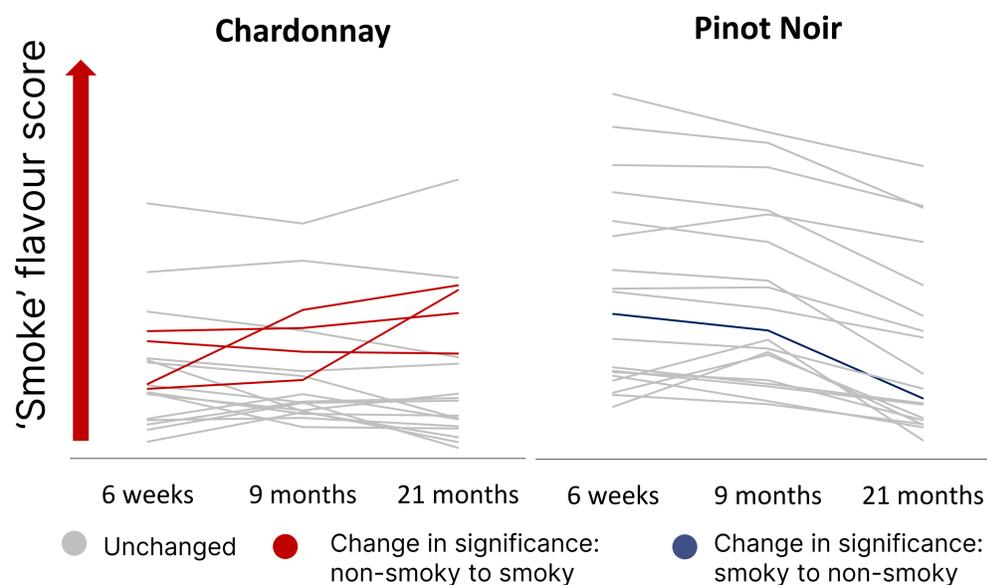
'Smoke' flavour **decreased** in several wines to become non-significant (n=3)

'Smoke' flavour **increased** in ~10% of wines to perceptible level (n=5)



- 51 wines made from smoke-exposed Chardonnay, Pinot Noir and Shiraz
- 'Smoke' flavour compared to control by AWRI panel

Changes to 'smoke' flavour



Chemical analysis results:

- Concentrations of most volatile phenols and glycosides remained constant, within method uncertainty
- Trend to increased volatile phenols and some glycosides (rutosides) in highly smoke-affected wines
- Trend to increasing syringol
- Any increase in 'smoke' flavour is likely to be due to a decline in primary fruit flavour and other characters which may mask low-level 'smoke' flavour in young wines, most commonly for Chardonnay

Wines made from smoke-exposed fruit generally changed very little from 2020 to 2022, and very few wines became smokier

