Stopping the stink: an evaluation of five common 'reductive' aroma remediation strategies

Allie Kulcsar[1], Anaïs Faucon[2], Paul Smith[3], Marlize Bekker[1]

[1] The Australian Wine Research Institute, PO Box 197, Glen Osmond (Adelaide) SA 5064, Australia, [2] Montpellier SupAgro, Montpellier, France, [3] Wine Australia, PO Box 2733, Kent Town (Adelaide) SA 5071

Corresponding author's email: allie.kulcsar@awri.com.au

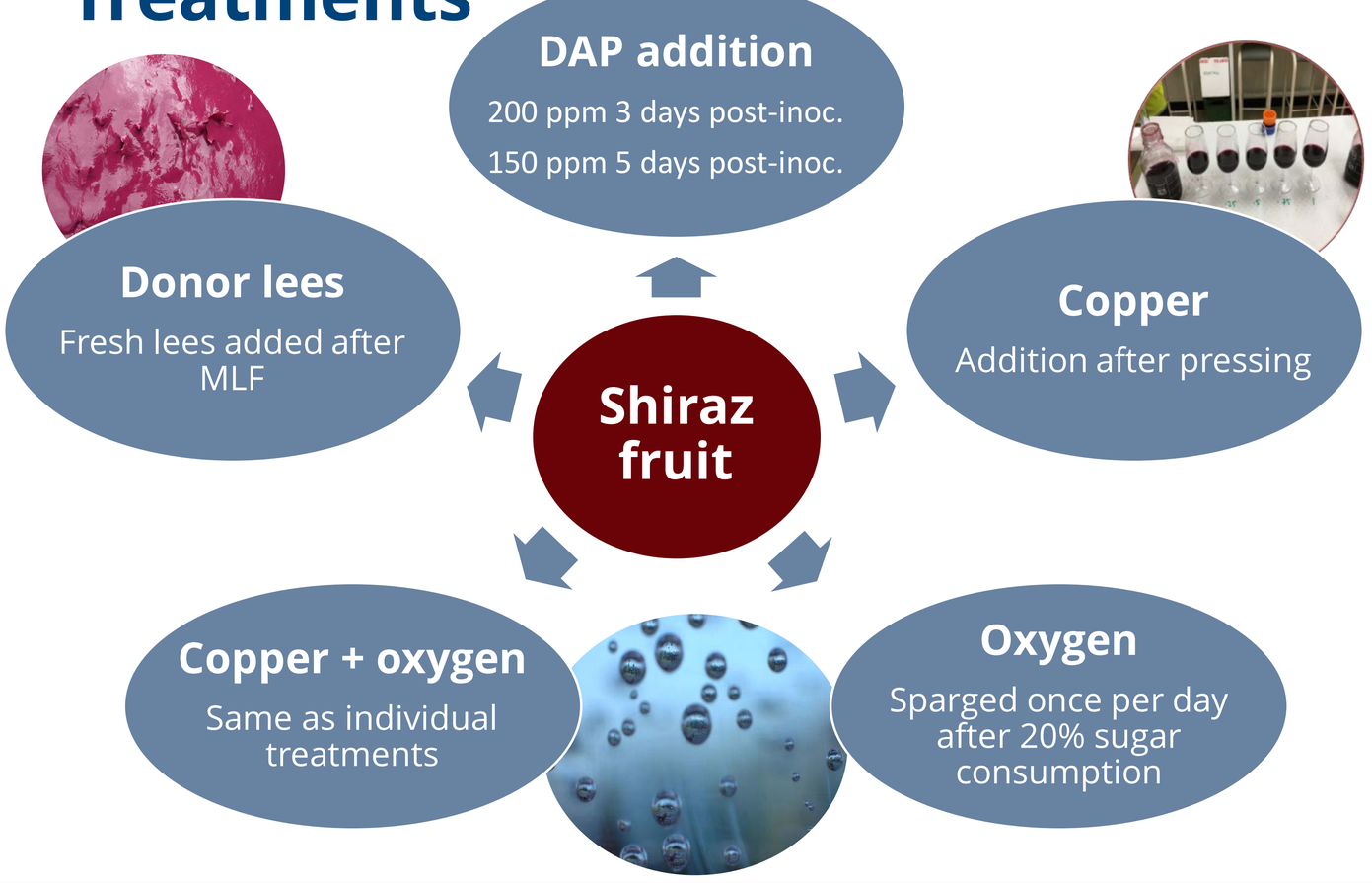
Background

- Volatile sulfur compounds (VSCs) are known to impart 'reductive' aromas in wine.
- Winemakers use various methods to decrease the amount of VSCs present in finished wine; however, it is not known which remediation treatment is the most effective.

Research aim

To determine and compare the effectiveness of five remediation treatments.

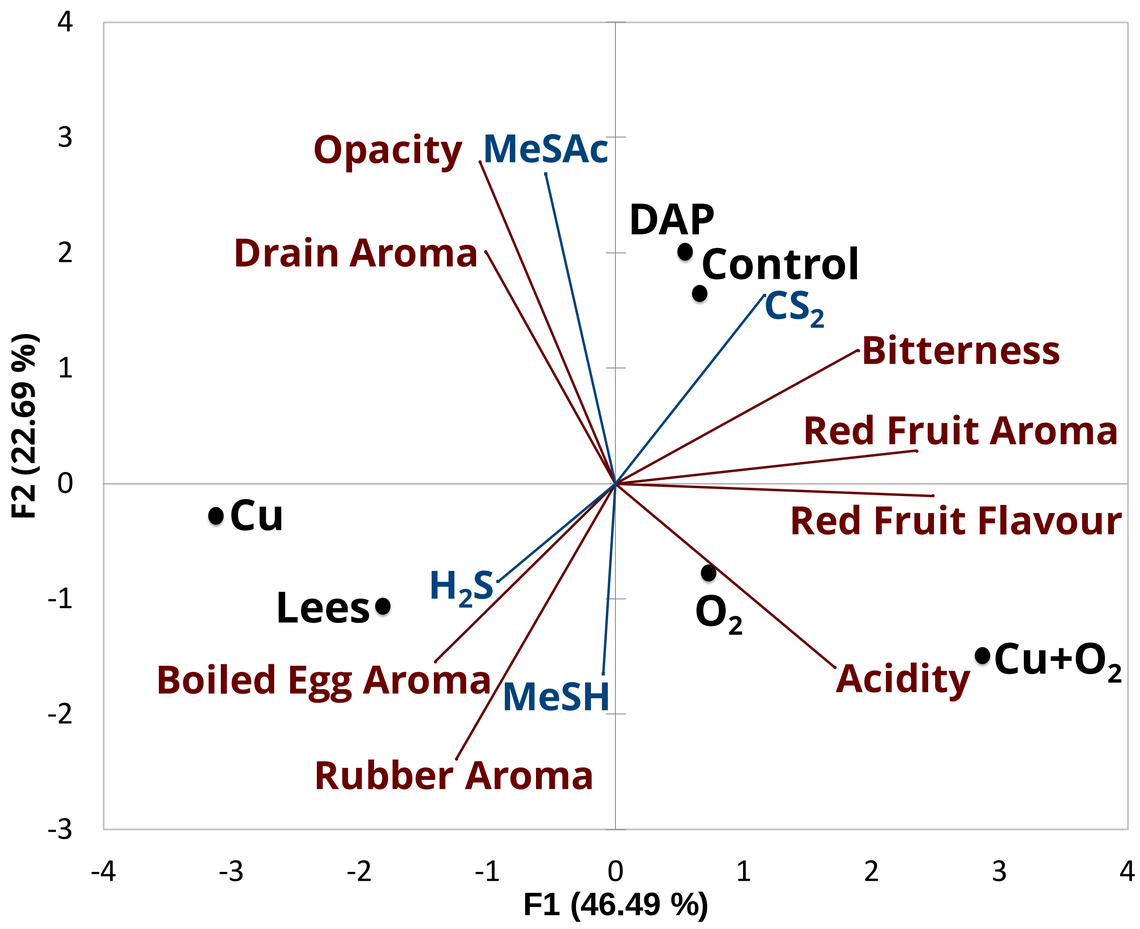
Treatments



Take-home message:
Oxygen is the most effective remediation treatment

Key findings

- Wines treated with lees and copper showed increased hydrogen sulfide and methanethiol concentrations.
- Wines treated with oxygen and a combination of copper and oxygen showed greater red fruit aroma and higher ester concentrations.
- Differences in metal and glutathione concentrations were also observed.



Principal component biplot of sensory attributes and VSC results for the five remediation treatments and the control.

The Australian Wine Research Institute

Wine Australia

The AWRI is a member of the Wine Innovation Cluster.