

# Can the varietal 'apricot' aroma of Viognier wine be controlled in the vineyard?

# AWRI

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## Background

- Monoterpenes are flavour compounds in wine that come from grapes
- Monoterpene alcohols, such as linalool and geraniol, are key aroma compounds linked to the 'apricot' aroma in Viognier wines
- There can be large differences in monoterpene concentrations between Viognier clones
- Monoterpene concentrations in grapes increase over the last four weeks of ripening

## Questions

- Can grape monoterpene concentrations be influenced by bunch exposure?
- Do climate and clone make a difference?

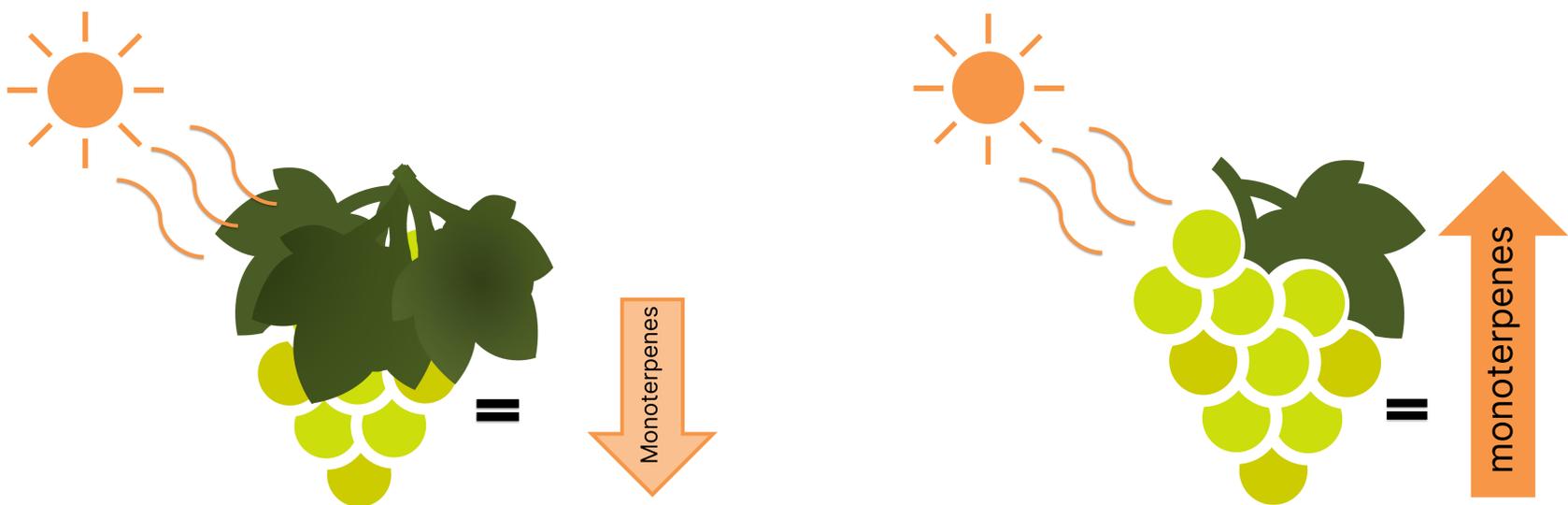
## Methods

- Canopy-shaded and sun-exposed bunches harvested:
  - Two clones – Montpellier 1968 and ENTAV-INRA® N° 1042
  - Two sites – warmer (Riverland) and cooler (Eden Valley)
- Free and sugar-bound monoterpenes measured in grape homogenate



## Results

- More substantial canopy on the Riverland vines → more shading difference than at Eden Valley site
- Harvest of Eden Valley fruit occurred after long heatwave conditions
- Comparing site/clone/exposure pairs:
  - No difference in any pairs for pH and total soluble solids; titratable acidity was lower only for Montpellier canopy-shaded compared to sun-exposed at the Riverland site
  - Total bound monoterpenes increased by 25–35% in sun-exposed grapes compared to canopy-shaded grapes for both clones at both sites
  - Sun-exposed grapes had 50–90% higher total free monoterpenes in both clones only at the Riverland site
  - Montpellier clone at the Riverland site had the lowest monoterpenes for both exposed and shaded grapes of any site/clone pair



## Conclusions

Overall, sun exposure led to an increase in monoterpenes in Viognier grapes. The effect was more evident in the warmer Riverland site than in the Eden Valley vineyard. By considering these results together with clonal and ripening findings, it is likely that 'apricot' aroma of Viognier wine can be controlled in the vineyard with clonal selection, harvest timing and canopy management.