Whole bunch fermentation of Shiraz and Pinot Noir: influence on ‘green’ characters and astringency

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Background
Shiraz and Pinot Noir berries do not contain methoxypyrazine (IBMP, ‘capsicum’ flavour). Recent studies have shown that the stems/stalks of Shiraz grapes can have detectable levels of IBMP.

- Can whole bunch (WB) fermentation give elevated IBMP/‘green’ characters to Shiraz and Pinot Noir wines?
- What about tannin and other sensory effects?

Experimental
- Shiraz and Pinot Noir, Adelaide Hills 2018
- 50 kg ferments in triplicate
- Hand-picked fruit
- 0% whole bunches – all crushed, destemmed
- 25% WB
- 50% WB
- 75% WB
- 100% whole bunches
- Sensory and chemical analysis of wines

Results
For Shiraz and Pinot Noir, concentration of IBMP and ‘capsicum’ aroma were highly correlated with % WB in the ferment. For both varieties, concentration of IBMP and ‘capsicum’ aroma were highly correlated with % WB in the ferment. For Shiraz, the concentration of tannin and the perception of astringency were increased with WB inclusion.

Conclusion
Winemakers need to consider the trade-off between production of ‘green’ characters vs enhancement of wine colour and increased tannin when adding whole bunches to their ferments.

Outcome
Whole bunch fermentation can result in methoxypyrazine-influenced wines.