



Increasing methoxypyrazines using skin contact and increased pressures...more trouble than it is worth?

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[Basic Wine](#)

18 February 2019

In general, winemakers will agree that juice quality will change during the pressing cycle and (depending on the style of wine) will prefer to use free run juice or slightly pressed fractions for the production of the premium Sauvignon Blanc wines.

The reasoning behind the strategy is multifold; in this blog, we will look only at the effects of skin contact and pressing on the **methoxypyrazines** (the compound responsible for green pepper, grassy and herbaceous aromas).

A study done by the Wine Research Center in New Zealand compared different skin contact times and pressing pressures to investigate the effect thereof on the extraction of aroma compounds and precursors.

It turns out that the methoxypyrazines (MPZ) are **very soluble in the juice fraction** of the berry even though 95% of the MPZ are primarily located in the skins at harvest time.

The impact of this solubility:

- High concentrations of MPZ were already found in the **free run juice**
- Marginal **increase** in MPZ in the juice that received **1-hour skin contact**
- Marginal **increase** in MPZ in the juice that was pressed up to **0.4 atm**
- **Higher pressing pressures** (up to 2 atm) resulted in a **decline** in MPZ
- **Skin contact** of 32 hours resulted in **1.5 x increase** in MPZ (compared to the free run)

NOTE 1:

It is important to remember that these increases can only have a noteworthy effect if the concentration of MPZ in the free run is already elevated (for example 30 ng/L IBMP). If 32-hour skin contact is now applied you could potentially increase the MPZ to 45 ng/L (that is 30 ng/L x 1.5 times increase). This increase is significant and could lead to dramatic aromatic changes in the resulting wine.

The problem is if the initial potential is not there (let say 3 ng/L IBMP in the free run), you will not achieve significant concentrations by extending the skin contact with 32 hours. The potential needs to be there to begin with and luckily, the potential is already evident in the free run juice and can be determined early on.

NOTE 2:

The potential benefits of extended skin contact can be offset by an increase in juice oxidative potential due to a decline in glutathione (a powerful antioxidant) and an increase in particular oxidizable polyphenol compounds. This is another reason to first assess the potential to ensure that the result will be worth the effort and the risk!

[Contact Carien](#)

Reference:

Effect of skin contact and pressure on the composition of Sauvignon Blanc must.

Maggu M, Winz R, Kilmartin PA, Trought MC, Nicolau L.

J Agric Food Chem. 2007, 55:10281-8.