

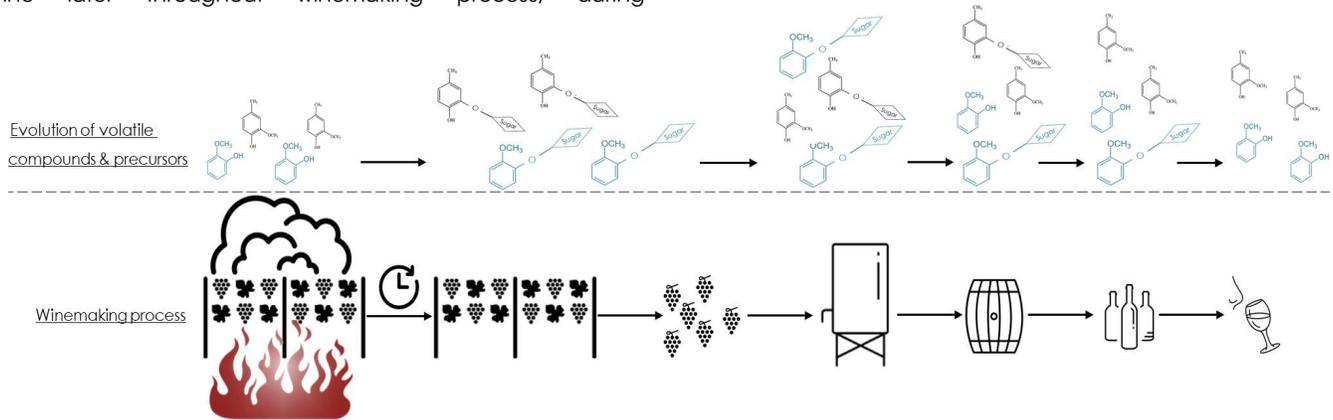
# Smoke taint

## Its mechanisms and the solutions to improve affected wines

### Where does smoke taint come from and how does it impact wines?

With global warming and hotter summers come droughts and an increasing number of bush fires. When smoke occurs near vineyards before harvesting, grapes accumulate **free volatile phenols** produced when wood is burnt. Directly absorbed by grapes, these volatile compounds can bind to sugars to form non odorant **glycosides** in the plant. These glycosides can break apart and release the volatile phenols into the must or wine later throughout winemaking process, during

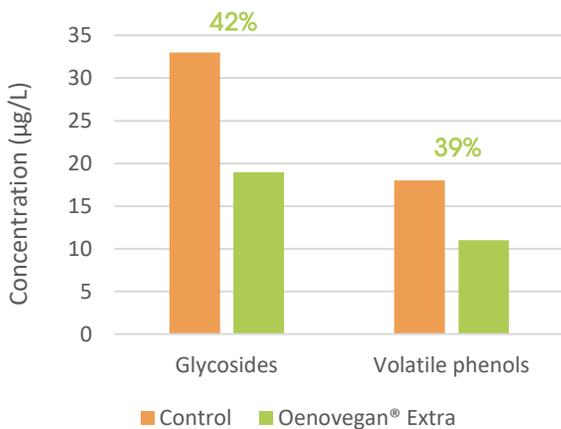
fermentation, ageing and storage. These free volatile phenols are responsible for unpleasant **smoke taint aromas** and **masking fruity notes**. Moreover, the salivary enzymes also make it possible to release the volatile phenols contained in glycosylated forms accentuating the perception of smoky flavors in the mouth, which can explain why certain wines are more marked in the mouth than in the nose.



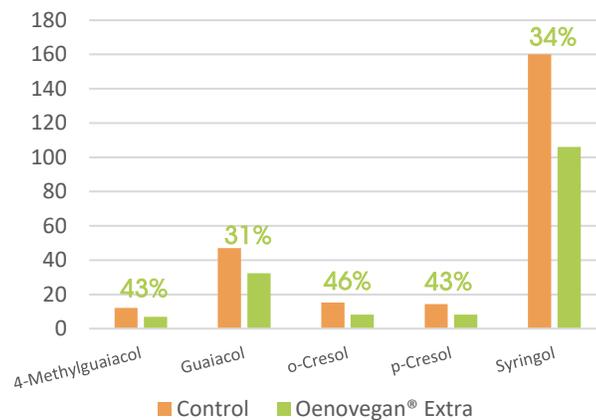
**Figure 1.** Evolution of volatile compounds released during bush fires, from the vineyard to tasting, throughout the whole winemaking process.

### A solution developed to act against smoke taint

Years of research have led to the development of a fining product that reduces volatile phenols responsible for smoke taint. The application of **OENOVEGAN® EXTRA on red grapes prior to maceration, musts and wines** allows the decrease in concentration of several molecules identified to be playing key roles in smoke taint, including 4-methylguaiacol and guaiacol, thus **restoring the fruitiness and freshness**. **OENOVEGAN® EXTRA** has also an impact on **volatile phenols produced by microbiological deviations** (4-ethyl guaiacol, 4-ethyl phenol, etc).



**Figure 2.** Total concentrations in glycosides and volatile phenols in wines made with Australian Pinot Noir with Oenovegan® Extra compared with a control wine.



**Figure 3.** Concentrations in volatile phenols in California wines treated with Oenovegan® Extra compared with a control wine.

It is recommended to perform a treatment with glycosidases to break the glycosides that lead to the release of volatile phenols to enable their removal by **OENOVEGAN® EXTRA**. [See the technical data sheet of the product for more information.](#)