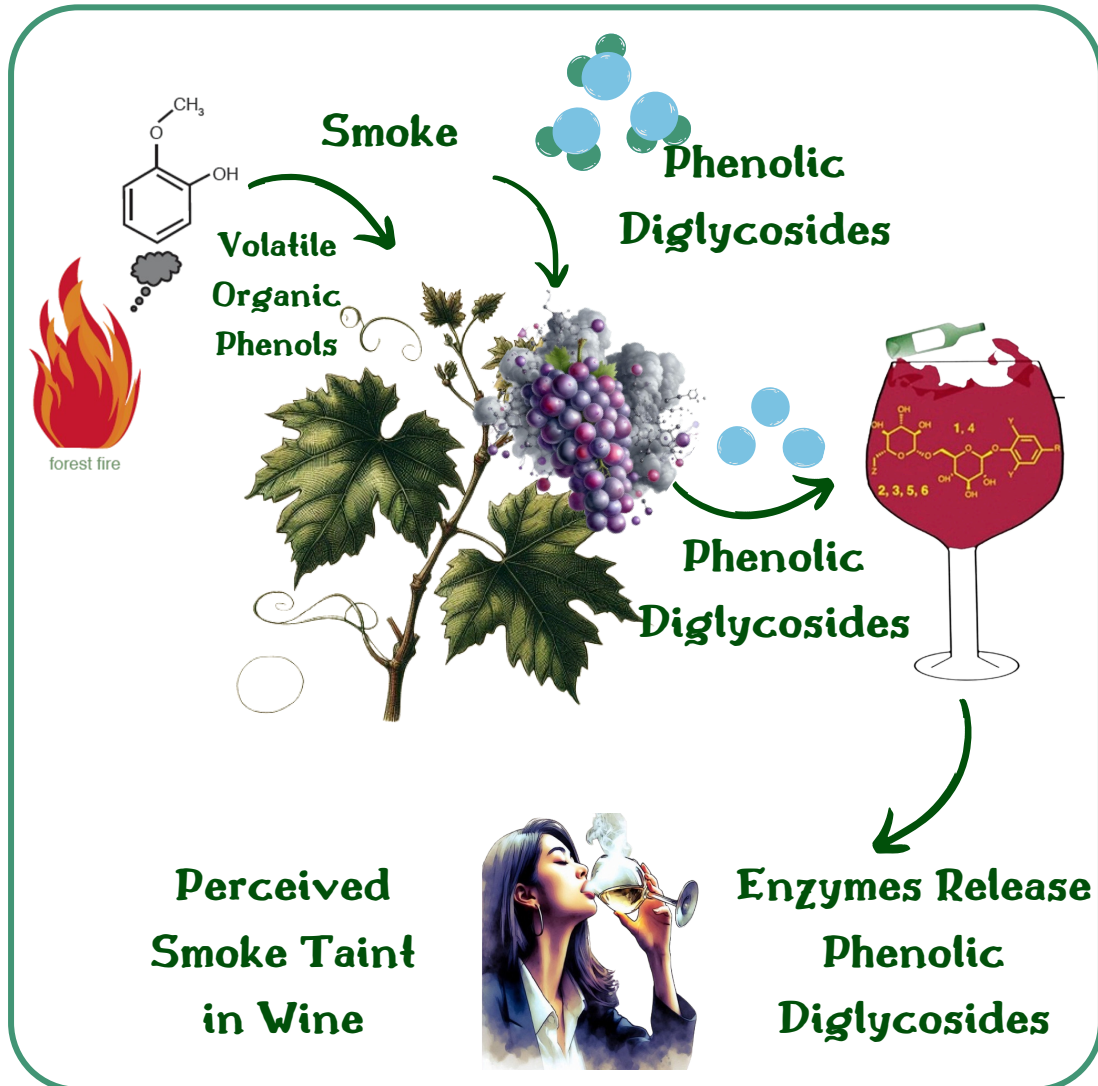


SMOKE TAIN IN WINEGRAPES

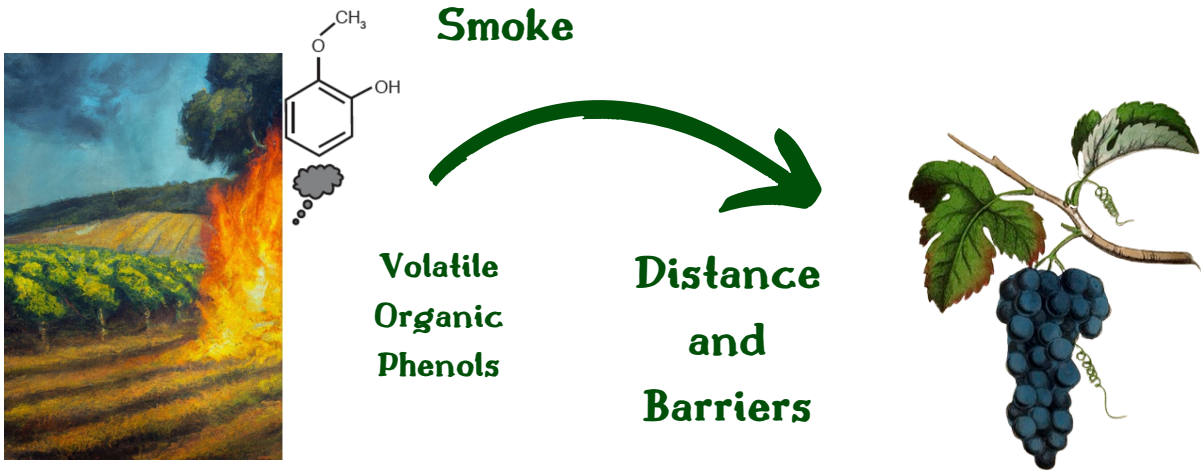


Smoke Impacts on Wine grapes and Wine Products

Smoke carries **volatile phenols** through the air which can bind to carbohydrates and other sugars in the grape as **phenolic diglycosides**

Phenolic diglycosides are often undetectable and make it into the wine

When **consumed**, the enzymes in our mouths release the phenolic diglycosides, which impart **smoke-taint characteristics** to the wine



Factors that Affect Smoke Impact on Winegrapes

Fuel source

- Fuel source impacts are not well known
- Grass fires and woodland fires output different VOCs
- More research needed

Distance from Smoke Source

- How far away the source of the fire is matters
- Closer fires carry a larger risk of smoke taint
- Fires further away have a lower risk of smoke taint

Grapevine Development

- Grapes that have passed véraison are higher risk
- The more sugar in the grape the more binding sites for volatile phenols to become phenolic diglycosides

Natural Barriers

- Natural barriers such as forests can limit smoke risk
- Volatile phenols can bind to leaf tissue in barriers
- Reduction of phenols helps limit smoke taint risk

Age of Smoke

- Smoke that has been traveling for longer seems to pose a lower risk of smoke-taint damage to grapes
- This may have to do with the structure of VOCs

Compounds of Concern

- There are many kinds of Volatile Phenols and Phenolic Diglycosides that may contribute to smoke-taint
- Currently, testing is not standardized
- Make sure any testing done for smoke-taint matches current knowledge on the subject

For more resources visit

<https://ucanr.edu/sites/chenlab/>