



TECHNICAL FOCUS - OCT 2019

SMOKY WEATHER...

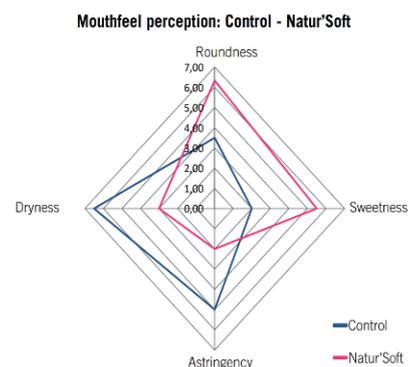
Vineyard and grape exposure to smoke may result in wines with undesirable sensory characteristics such as smoky, burnt, bacon, medicinal or ash.

Molecules responsible of smoke character in wine: Numerous volatile phenols are present in bushfire smoke and can be absorbed by grape berries and vine leaves during a smoke event. The primary compounds in smoke responsible for taint are free volatile phenols (guaiacol, 4-methylguaiacol, o-cresol, p-cresol, m-cresol, etc) which are produced and released into the atmosphere when lignin in wood is burnt.

Factors affecting smoke uptake by vines: The risk of smoke exposure causing a perceptible taint in wine is a function of the stage of grapevine growth and development, the grapevine variety, smoke concentration, duration of exposure and the composition of the actual smoke.

Some tips to limit smoke characters in wines

1. Hand harvest, sort out leaf material and remove any ashes present on grapes
 2. Select a strong fermenter yeast strain with high production of mannoproteins to balance 'ashy' and drying mouthfeel = > **Excellence XR**
 3. Promote production of fruity and fresh aromas through yeast nutrition: **20 g/hL of OptiEsters** during the first 1/3 of fermentation.
 4. Use tannins and mannoproteins during fermentation to stabilize color, build mid-palate and balance mouthfeel
- Softan V** is a proanthocyanidic tannin bound to plant polysaccharides, to improve color stabilization in wines with low to medium phenolic content. Addition at 150-200 g/ton at the beginning of fermentation will help stabilizing color, filling mid palate without bringing any taste or structure.
- Natur'Soft** is a pure mannoprotein used to stabilize color and soften mouthfeel in medium to high phenolic content wines. Addition at 20-30 g/hL will balance rough tannins
5. Oak chips can reduce intensity of smoke characteristics through increased wine complexity.
 6. Promote fast settling and rack off lees early (some off-aromas bound to lees and can be eliminated by racking early) by using clarification enzymes after pressing. It is important to choose **an enzyme purified of cinnamyl esterase** to limit production of volatile phenols such as **Oenozym Clar**.
 7. Separate press fractions and treat separate. We have samples of fining agents and can set up fining trials for you.
 8. Choose ML bacteria, fast fermenter and producer of esters and acetates: **Oeno1**. To increase production of fresh and fruity aromas and limit smoky characters, co-inoculation is recommended.



Co-inoculation, practice of inoculating lactic acid bacteria lactic shortly after yeast inoculation presents many advantages:

- **Secure MLF** by giving bacteria a favorable environment with lower alcohol concentration, better nutrient fermentations availability, less medium chain fatty acids (bacteria inhibitors), warmer temperature and better acclimation
- **Limit risk of microbial contamination and spoilage** by eliminating the microbial vacuum
- Produce fresh, fruity, clean with better balance and fuller body
- **Save time:** blend, stabilize, age wine earlier and allow a quick release on the market
- **Cost effective:** less analysis, less labor, less barrel, less energy use

Lamothe-Abiet developed a specific yeast/bacteria couple for co-inoculation for red wines production: Excellence XR at 20 g/hL. 24-48 hours after the beginning of alcoholic fermentation, add 1 g/hL of Oeno1. Temperature < 86°F, SO₂ on grapes < 8 g/hL.

9. Market for early release: smoke-related characteristics can evolve in bottle as wine ages