

Modeling to predict the sensory profile of wines.

Concrete use of FTIR for wine production

➤ Context / client need

The French institute of Wine and Vine (IFV) is always looking for improving the winemaking processes, from harvest to bottling process. The IFV often leads collaborative projects, in particular with Vinalie, a group of wine coop from South -West of France.

One of their main issues is to **identify the aromatic potential of grapes in order to apply the most adapted winemaking process to the musts.**

➤ Ondalys Solution

The Vinalie teams held on sampling campaigns on several years. The musts were measured using Fourier-transform infrared spectrometers (FTIR).

Depending on the projects, the direct must tasting or wine tasting, after standard winemaking, was realized by an expert panel.

Ondalys' expertise in data analysis, allowed to build models to predict the wine aromatic potential during 3 studies on various grape variety (Fronton, Negrette, Colombard...).

Ondalys team adapted its skills to the different problematics, especially to the model transfer on different spectrometers and the model update during the season.

➤ Results / Clients benefits

Aid-decision tools have been implemented and are now used by the different actors. These tools allow to define a optimized winemaking way for the grapes, to increase the productivity and improve the wine quality.

For INES wines (AOP Fronton Rosé)

- **+ 10% of productivity**
- **+ 18% of wine with a high aromatic quality**
- **+ 15% of price increase** due to a better wine quality
- International Gold Medal in 2016



INES
AOP* Fronton Rosé
Aromatic Rosé de Négrette

➤ Publications / Communications

LALLEMAND Jordane, ROUSSEL Sylvie, FEILHES Carole, DUFOURCQ Thierry & SERRANO Eric – Calibration transfer in a complex case – Discrimination of the aromatic potential of wines – Conference Chimie 2011 – Marseille. (in French)

LALLEMAND Jordane, ROUSSEL Sylvie, FEILHES Carole, SERRANO Eric, PEREA Julie, NACENTA Pascal, & TRANIER Jacques - Discrimination of qualitative profiles of grappe using mid-infrared spectroscopy and instrument transfer - 15^{èmes} Héliospir days (2014) - Montpellier. (in French)

ROUSSEL Sylvie & HEMMI Jean – Modeling to predict the sensory profile of wines. Use of the FTIR for the Rosé wine production - V'Inno Day 2018 - Toulouse. (in French)

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