

Study of the changes in volatile compounds, aroma and sensory attributes during the production process of sparkling wine by traditional method

Ubeda, Cristina

Kania-Zelada, Ingeborg

del Barrio-Galán, Rubén

Medel-Marabolí, Marcela

Gil, Mariona

Peña-Neira, Álvaro

© 2018 Elsevier Ltd One of the strongest factors that affects the volatile profile of sparkling wine is the winemaking process. Here we focus on determining the effects of the second fermentation and aging on lees of sparkling wine from País grape variety combining different analysis techniques for the first time in sparkling wine: gas chromatography/mass spectrometry/olfactometry and sensorial analysis. During the second fermentation and aging, there was a significant loss of esters that might be related to the adsorption on lees and ester volatility and chemical hydrolysis. The concentration of several compounds such as some esters (diethyl succinate, ethyl lactate, and ethyl isovalerate) increased during aging and could be used as aging markers. Vitispiranes were identified as the best norisoprenoids aging markers for young sparkling wines (12 months of aging). Also, PCA showed that time of aging on lees affected mostly esters and terpenes. On the other hand, the diminution of fruit