Lavandin hydrolat applications to Petit Verdot vineyards and their impact on their wine aroma compounds

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Abstract
Petit Verdot vineyards, close to lavandin fields, were treated at veraison with a lavandin hydrolat, a subproduct of essential oil production, in order to determine if such treatment causes changes in wine aroma composition. Two different foliar hydrolat applications were carried out: H1 where lavandin hydrolat was applied only once and H5 where it was applied five times. The volatile composition of the wines produced with such grapes was analysed, after the alcoholic and malolactic fermentations and six months later, by stir bar sorptive extraction and gas chromatography–mass spectrometry (SBSE-GC-MS). The effect of lavandin atmosphere on control wines was evident as camphor, an unusual wine compound, was detected and increased with hydrolat treatments. Results also showed that the aroma of wines from treated grapevines was modified, especially in relation to some positive aroma compounds in H5 wine at six months after malolactic fermentation. A more stability on some main aroma compounds, such as esters, during evolution was also observed in wines from treated grapevines than in the control ones. Then, it has been proved how the application of lavandin hydrolat to Petit Verdot vineyards can be used to modify its aroma profile and somehow stabilized.

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