

Chemical, physical, and sensory effects of the use of bentonite at different stages of the production of traditional sparkling wines

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Abstract

The addition of bentonite to wine to eliminate unstable haze-forming proteins and as a riddling adjuvant in the remuage is not selective, and other important molecules are lost in this process. The moment of the addition of bentonite is a key factor. Volatile profile (SPME-GC-MS), foam characteristics (Mosalux method), and sensory analyses were performed to study the effect of the distribution of the dosage of bentonite for stabilization of the wine among the addition on the base wine before the tirage (50%, 75%, and 100% bentonite dosage) and during the tirage (addition of the remaining dosage for each case). Results showed that the addition of 50% of the bentonite to the base wine (before the tirage) resulted in sparkling wines with the lowest quantity of volatile compounds, mainly esters and norisoprenoids. No significant differences were found among the sparkling wines after 9 months of aging in relation to foam properties measured by Mosalux, although higher foamability and crown's persistence were perceived in the sparkling wines with the addition of 75% and 100% of the bentonite dosage in sensory trials. The results of this study suggested that the amount of bentonite added as a fining agent in the tirage had greater effects than during the addition of this agent in the base wine.

Author keywords

Bentonite

Foam properties

Sensory analysis

Sparkling wines

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