

THE ANTIOXIDANT ACTIVITY EVOLUTION IN DIFFERENT TECHNOLOGICAL STAGES OF SOME RED WINES

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Abstract

The studies regarding the antioxidant activity evolution in different technological stages of some red wines was made at the oenology laboratory of U.S.A.M.V. Iasi and closely with the Center for oenology, Iasi branch of the Romanian Academy. 4 local grape varieties for red wines, Feteasca neagra, Negru de Causani, Babeasca neagra and Busuioaca de Bohotin were chosen as study material, the last one more specifically for rose wines than for the red ones, and the Merlot variety in order to compare the antioxidant capacity of the Romanian varieties to the international ones. These wines were produced with the classical technology for red wines using the classical skin contact maceration process. Six important technological moments was supervised. The phenol compounds content of the samples was analyzed using the total polyphenolic index and the antioxidant activity using the photochemiluminescence method, calculated as ascorbic acid equivalents, mmol/L. Firstly the values of the phenolic compounds and of the antioxidant activity of all the five wines have ascending curves, with lower or higher variations of their amplitude according to the specificity of each wine. The technological stage that determined the maximal values of both the TPI and the antioxidant activity was the second one, the one after the maceration process, which is responsible of the extraction of phenolic compounds from grapes. Towards the end of vinification, these values slowly decreased under the influence of the other vinification processes but depending also on the grape variety. Linear correlations between the TPI and AO.A were determined, these correlations varying also depending on the grape variety and can be consider a specific characteristic of the grape sort.

Key words: antioxidant activity, Rumanian grape varieties, technological stages

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