The color analysis and antioxidant properties for red wine from Sangiovese grapes

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Were characterized in relation to the antioxidant and chromatic properties the red wines processing from Sangiovese grapes variety harvested in 2005. In this sense was determined the total antioxidant capacity, total polyphenols content, as the main chromatic characteristics resulted after red wines color analysis: monomeric anthocyanin pigment, fraction of color due to polymeric, monomeric and copigmented anthocyanins, color intensity, tonality, the hue, "chemical age" and the degree of pigments coloration. Total antioxidant capacity it was determined by FRAP method (expressed as mM Fe2+/L). The polyphenols content it was determined by Folin-Ciocalteu method (expressed such as mM acid gallic/L). The chromatic parameters were obtained by standardized method and Glories method; monomeric antocyanins it was calculated by differential pH method and color composition by Boulton method. From the obtained data, it can be was observed that pigments structure reflect exactly the chromatic properties of analyzed red wines. For all Sangiovese red wines it was obtained the red shade and the chromatic structure was equilibrated. The values of color intensity were in the range 5.6-7.6, tonality between 0.89-0.95, and the values for monomeric anthocyanins content were situated between 41-85 mg/L. The fraction of color due to polymeric pigment was in the range 73-90%, fraction of color due to copigmented anthocyanins 6.5-15% and the fraction of color due to free anthocyanins between 4-12%. The chemical ages was characterized by two indices that give a measure of the extent to which polymeric pigments have replaced monomeric anthocyanins during the wine evolution. The degree of pigments coloration gives a measure of the amount of pigment in the colored form (for our case, this parameter present the values in the range 74-94%). The values for total antioxidant capacity were situated between 14-15.5 mM Fe2+/L, the values for polyphenols between 10-13 mM gallic acid/L. The total antioxidant capacity has the same direction of evolution with polyphenols content. It was observed a linear correlation between antioxidant capacity and total polyphenols content (the correlation coefficient is R=0.98635).