



EFFECTS OF DIFFERENT LEVELS OF WATER APPLICATION IN PRE AND POST-VERAISON ON MUST COMPOSITION AND WINE COLOR(CV.CABERNET SAUVIGNON)

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ABSTRACT

An experiment was carried out to evaluate the effect of three levels of water application during pre- and post-veraison on must composition and wine color of a vineyard, located in the Péncahue valley, VII region of Chile (35° 22' S; 70° 47' W), during the 2000-01 growing season. The cultivar was a 7 year-old Cabernet Sauvignon irrigated with a drip irrigation system and trained in a vertical shoot positional system. Irrigation treatments were the application of 40%, 70% and 100% of the vineyard evapotranspiration (ET) during both pre- and post-veraison. The results showed that the water stress reduced the total yield and berry size, especially in vines under pre-veraison water deficit. For must composition, pre-veraison water stress determined an enhancement of solid solids (SS), but post-veraison water stress (40 % ET) had an adverse affect on it. Also, regression analyses indicated that total polyphenols and anthocyanins in the must increased as berry size decreased. In wines, the pre-veraison water stress led to a significant increase in the total polyphenol index and color density.