

Evaluation of leaf removal strategies and cluster radiation protection on grape and wine quality of *Vitis vinifera* L. cultivar Cabernet Sauvignon

Vargas, S., Cazorla, M., Bordeu, E., Casaubon, G., & González, Á. S. (2016, June). Evaluation of leaf removal strategies and cluster radiation protection on grape and wine quality of *Vitis vinifera* L.'Cabernet Sauvignon'. In X International Symposium on Grapevine Physiology and Biotechnology 1188 (pp. 97-104). <10.17660/ActaHortic.2017.1188.13> Accessed 05 Nov 2020.

Abstract

The advantages of a good exposition of grapes to sunlight is well known. However, with global warming and increased UV radiation, in particular in the southern hemisphere, sunburn problems have become more frequent. The main objective of this study was to improve the exposition of grapes to the sun while avoiding negative effects such as sunburn and dehydration. To reach these goals, different leaf removal techniques and a sunblock application were tested on a commercial vineyard of 'Cabernet Sauvignon' in the Maule Valley in Chile, during the 2014-15 season. Four leaf removal treatments, with different intensities and dates of defoliation were tested and a sunblock spray was evaluated in a heavily defoliated treatment. Canopy structure, yield and dehydration, must and wine composition were evaluated and monomeric anthocyanins were measured by HPLC-DAD. Conclusions indicate that more defoliated treatments had higher radiation and cluster temperature inside the canopy but they also had more dehydrated berries cluster-1 than the control. The treatment with sunblock recorded temperatures of clusters exposed to the sun 2°C lower than the same defoliation treatment without sunblock. Wine sensorial quality and color were improved by low-to-medium-intensity defoliation; in particular, the east side defoliation at veraison and late season defoliation were better evaluated by the panel. A positive effect of the sunblock on quality was also observed..

Keywords

Canopy management, Sunlight exposure,, Vine microclimate, Temperature, Sunblock, Sunburn.