



## Influence of Rootstock on Physico-Chemical Composition of Tropical Wines Elaborated from Alicante Bouschet in Brazil

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### Abstract

The sub-middle São Francisco River Valley is a region located between the 8-9° latitudes of the Southern Hemisphere, in a flat landscape at 330 m above sea level. The local climate is characterized by tropical semi-arid, with an annual average temperature of 26°C and rainfall of 550 mm, concentrated between the months January and April. The region has a great potential for fine wine production, is currently responsible for 15% of the national fine wine market and it is the second largest producing region of Brazil, after Rio Grande do Sul, in the South of Brazil.

The variety Alicante Bouschet is native to France and was grown in the Valley due to the richness of anthocyanins. The rootstock used in vitiviniculture can influence the vine development, grape and wine quality. This study aimed to evaluate the effect of two different rootstocks on the physical-chemical composition of Alicante Bouschet tropical wines produced under semi-arid tropical conditions. The grapes were harvested at optimal maturity in November 2009 from vines

grafted on two rootstocks, IAC 313 (*Golia* x *Vitis caribae*) and 1103 Paulsen, in a partner winery and transported to the Laboratory of Enology at Embrapa for the winemaking. Wines were elaborated in triplicate by the traditional method and analyzed 30 days after bottling. The following parameters were evaluated: pH, total and volatile acidity, alcohol content, density, dry

extract, free and total sulphur dioxide, total polyphenol index (I-280), tonality, colour intensity and total anthocyanins. All analyses were performed in triplicate and the results were submitted to the analysis of variance and Tukey test ( $P_{0.05}$ ), using SAS statistical software 9.1.3 (Statistical Analysis System®). The results showed that the less vigorous rootstock (Paulsen 1103) influenced positively the total polyphenol contents, total anthocyanins and colour intensity of the wines. More detailed studies are needed in order to determine the influence in other periods of the year and to determine phenolic and aromatic profiles of the wines from Alicante Bouschet in the region.

**Keywords:** *Vitis vinifera* L.; grapes; chemical compounds; phenolic composition; typicity,