

Estimation of Phenolic Compounds in Tropical Red Wines elaborated in Northeast Brazil

Giuliano Elias Pereira¹, Celito Crivellaro Guerra²

¹Brazilian Agricultural Research Corporation – Embrapa Grape & Wine/Embrapa Tropical Semi-Arid, P.O. Box 23, 56302-970, Petrolina-PE, Brazil

²Brazilian Agricultural Research Corporation – Embrapa Grape & Wine, Rua Livramento, 515, 95.700-000, Bento Gonçalves-RS, Brazil

Email: gpereira@cpatsa.embrapa.br

Background and Aims

Vitiviniculture has been developed since 1980's in an area between 8° and 9 ° S latitude of Northeast Brazil. This area presents an intra-annual climate variability, with an annual average temperature of 26.4°C, located at 350 m above sea level. The rainy season occurs from December to March, with about 567 mm of rainfall. The heliothermical availability is about 3000 hours of luminosity.year⁻¹ and allows a continuous crop vegetative development. The total area cultivated for winemaking is about 700 ha and cultivars used for tropical red wines are Syrah and Cabernet Sauvignon. The objective of this study was to estimate total anthocyanins and tannins according to spectrophotometric methods in four red wines, elaborated from cultivars recently introduced in the region.

Methods and Results

Tempranillo, Alfrocheiro, Petit Verdot and Barbera were introduced in December/2004 and grafted on IAC-572 (*Vitis caribaea* x 101-14 Mgt), cultivated on pergola trellis system and irrigated by drip. The grapes were harvested according to total sugars and acidity estimation. Wines were elaborated by traditional methods in 500 L inox tanks. The results showed that the responses of each cultivar to the edaphoclimatic conditions were different. Total tannins varied between 2.7 (Barbera) and 4.8 g.L⁻¹ (Tempranillo), while total anthocyanins varied between 262.1 (Tempranillo) and 868.5 mg.L⁻¹ (Petit Verdot).

Conclusions

These results show that the cultivars have different enological potential and the winemaking process need to be specifically adapted according to each cultivar.

Significance of Study

New studies will be carried out to evaluate the influence of harvest date on grape and wine phenolic compound profiles.