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12 ¹H NMR Study Of Northeast Brazilian Wines

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The new Brazilian frontier in the vitiviniculture activity is located at Northeast region in Pernambuco State, closed to the equator line (8° latitude south). Comparing with other Brazilian vineyards, the grapes of this region possess peculiar characteristics, producing high quality wines called “wines of sun” (flavor, lights and ideal to be consumed at the first years after winemaking process). This characteristic is due to the singularity of the hot climate and soil of this region, being the second great producer of wine in Brazil. Additionally, in the last few years Northeast Brazilian wines have made their debut on both national and international markets.

The extensive European studies on wines have encouraged us to undertake a preliminary ¹H NMR study of Brazilian Wines [1]. Moreover, these studies have shown that regional and cultivars-based differences can be identified by NMR spectroscopy. ¹H NMR spectroscopy allows one to quantify, in a single analysis, the major sugars, organic and amino acids and phenolic compounds and thus to obtain the metabolic profiles in a complex mixture.

This study determined the metabolite profiles of Northeast Brazilian wines by ¹H NMR, associated to chemometric methods to analyze (dis)similarities from wines elaborated in 2005 and 2006 vintages. The wine samples analysed were Petit Verdot, Tempranillo, Castelão, Barbera and Periquita red wines; and Viognier and Chenin Blanc white wines.

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