



Physico-chemical, metabolic and sensory characteristics of Brazilian tropical wines

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Abstract

In the Northeast of Brazil, tropical wines have been produced there are twenty years ago. The region is located between the parallels 8-9° of the South Hemisphere, characterized by a tropical semi-arid climate, where winemaking process occur between May and December. The annual average temperature is 26.5°C, with about 550 mm of normal rainfall between January and April, located at 350 m above of sea level, in a flat landscape. Research are been developed to determine the effects of climate conditions, according to the harvest date, the soils, rootstocks, cultivar clones, irrigation strategies, nutrition, winemaking process, on grape and wine quality. Experimental wines have been elaborated at Embrapa to determine analytical and sensory characteristics of the white and red wines. Phenolic compounds and aromatic profile have been analyzed by high performance liquid chromatography – HPLC and gas chromatography with mass spectrometer – GS-MS. Proton nuclear magnetic resonance – ¹H NMR have been used to determine metabolic profiling of the tropical wines. Multivariate statistical analyses have been applied on data to discriminate between wine samples and to explain the variability by identifying fingerprints. Wines have presented different analytical compounds and sensory characteristics according to the viticulture and enological parameters.

Keywords: *Vitis vinifera* L.; wines; polyphenols; aromatic compounds; metabolic fingerprint