

Effects of different organic fertilization levels on the physicochemical composition of Syrah wines from a tropical semiarid region of Brazil

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ABSTRACT

The Lower-middle São Francisco River Valley is located in the tropical semi-arid part of Northeastern Brazil. The soils are sandy with low organic matter content and nutrient retention capacity. The grapevine is one of the crops contributing for the economic and social development of the region. Due to the high annual average air temperature, solar radiation and water availability for irrigation, vines can develop and grapes can be harvested throughout the year and one vine can produce two or three harvests per year. This study aimed to evaluate the oenological potential of wines made from grapes grown under different levels of organic matter fertilization. The plants were conducted in spalier system, spaced 3.0 x 1.0 m, grafted on 1103 Paulsen rootstock, with drip irrigation. Wines from two treatments (T1 without organic fertilization and T2 with 30dm³ organic matter.plant⁻¹) with five repetitions were evaluated. The wines were elaborated by the traditional method and analyzed to determine pH, total and volatile acidity, alcohol content, density, dry extract, total polyphenols, tonality, color intensity and total anthocyanins. The results showed that there was a significant difference between treatments, and wines from treatments where organic matter were applied presented high alcohol content and phenolic compounds.

Keywords: *Vitis vinefra* L.; vines; grapes; tropical wines; phenolic potential.