

Influence of the climate conditions on the physicochemical characteristics of Isabel Precoce and BRS Cora grape juices from Northeast of Brazil

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Abstract

Temperature, pluviocity and solar radiation can play an important role on the vine development, grape and juice characteristics. Northeast of Brazil is located in a tropical semi-arid region where vitiviniculture activity started there are twenty years ago for winemaking. Grapes from one vine can be harvested two or three times per year. Grape juices have been elaborated in little scale but present a high potential for the region development. The aim of this study was to evaluate the physicochemical characteristics of grape juices elaborated from *Vitis labrusca* varieties (Isabel Precoce and BRS Cora), in two harvests in 2010. Vines were located in an experimental area, conducted in pergola system, grafted on "IAC 572 Jales" and Paulsen 1103-P rootstocks and drip irrigated. Grapes were harvested in March and September 2010. Grape juices were elaborated by vapor extraction, with temperature at 75-85 °C for 60 minutes. The analyses performed in triplicate were density, alcohol content, pH, total and volatile acidity, free and total sulfur total dioxide, total soluble sugars, total polyphenol index, color index, anthocyanins, and tonality. Results showed that the highest concentrations of sugars, phenolics, anthocyanins and more balanced grape juices were obtained from grapes harvested in September, showing different characteristics.

Keywords: *Vitis labrusca*; grape juice; intra-annual climate variability; chemical compounds.