Influence of the trellis system on physical-chemical characteristics of grapes juices from cv. BRS Magna in the North-East of Brazil

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The objective of this work was to evaluate the influence of two trellis systems on physical-chemical characteristics of grape juices elaborate with grapes cv. BRS Magna in the North-East of Brazil. The plot was installed in a partner farm located in Petrolina, Pernambuco Estate, Brazil. Vines cv. BRS Magna were planted in 2013 in two trellis systems (pergola and espalier), on randomized blocks, on the same rootstock ('IAC-572'), and were irrigated by drip. After definition of the optimal maturation stade, grapes were harvested in the morning and sent to the Laboratory of Enology at Embrapa to be elaborated. Grapes were destemmed and juices obtained in triplicate, from traditional method, by using a vapor extraction machine, after 60 minutes. Then, juices were bottled at 80±5ºC and pasteurized. Bottles were placed in a controlled chamber at 18±2ºC for thirty days before analyses. Grape juices were analyzed and determined pH, density, total soluble sugars, total acidity, as described by OIV method, and total polyphenol index-TPI, color index-CI and total anthocyanins-TA, according to authors. The two trellis system did not influence on total sugars and density. For all other chemical characteristics, there were found significant differences. According to the results, grape juices elaborated with grapes from pergola system, presented higher amounts of TPI, CI and TA (94.70, 14.24 e 1,553.29 ppm, respectively) than grape juices from espalier trellis system (60.13, 10.36 e 932.84 ppm, respectively). These results suggest that vines BRS Magna cultivated in pergola system in the tropical semi-arid conditions of the North-East of Brazil, have higher photosynthesis efficiency and consequently higher phenolic accumulation than vines cultivated in espalier, showing a high concentration of phenolics in the grape juices.

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