Title Commercial quality and chemical characterization of sugar apple produced in Sao Francisco Valley, Brazil

Author Patrício Ferreira Batista, Maria Auxiliadora Coêlho de Lima, Danielly Cristina G. da Trindade, Ana Laíla S. Araújo, Ricardo Elesbão Alves

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Abstract

In Brazil, sugar apple is distributed from North to Southeast Region, showing Bahia, AJagoas, Sao Paulo and Pernambuco States the highest productions. Fruits are generally consumed *in natura,* but they can be processed as juices, ice creams and sweets. The objective of this study was evaluate the quality of sugar apple produced in Sao Francisco Valley, Brazil. Fruits were harvested on physiological maturity, in a commercial orchard located in Petrolina, Pernambuco State, Brazil. After harvest, fruits were divided in four replicates constituted by twenty fruits each one and maintained at ambient temperature (25.9 ± 1.7°C and 66 ± 5% RH) until become ripe. The fruits were evaluated for: weight, length, diameter, resistance to a compression force, skin and pulp color, soluble solids content (SS), titrable acidity (TA), pH, soluble sugars content, reducing sugars, starch and pectic substances. The fruits showed weight and shape adequate to commercialization. When submitted to a compression force that promotes a deformation of 20% of its volume, the resistance registered was 8.79 N. SS content was 24.2 °Brix and TA was 0.27% of citric acid, indicating a strong predominance of a sweetie taste. Medium values for skin and pulp color revealed a good appearance and high potential of consumption acceptance. Also, the medium values for soluble sugars content, reducing sugars, pH, starch and pectic substances were 19.85 g. 100 g^{-1}, 18.26 g.100 g^{-1}, 5.10, 1.74 g.100 g^{-1} and 615.50 mg. 100 g^{-1}, respectively. These results represent a production of fruits of quality compatible with the requirements for the domestic market and revealed significant levels of compounds related to firmness, as starch and pectin, which can positively influence the fruit conservation.