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Bioactive compounds and antioxidant activity in guava fruit cultivated in Sub-Midlle São Francisco Valley, Brazil

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Northeast Region in Brazil has a relevant role on the development of Brazilian Fruit Crop, being Petrolina/Juazeiro region a great exporter of some fruits and a supplier to different States in Brazil. Guava (*Psidium guajava* L.) distinguished among tropical fruits not only because of its good sensorial characteristics, but for being considered a source of vitamin C, A and of the group B, as tiamin e niacin. It contains fibers, minerals (as phosphorus, iron and calcium) and lycopen, a carotenoid that helps to prevent cardiovascular diseases and cancers. However, the content of theses compounds change among cultivars and cultivation conditions. The objective of this study was to determine the bioactive compounds content and the total antioxidant activity (TAA) of fruits for the main cultivars of guava fruit produced on Sub-middle of São Francisco Valley, Brazil: 'Paluma', 'Rica' and 'Pedro Sato'. Fruits were harvested on physiological maturity, in April 2009, from irrigated areas of commercial production located in Petrolina, Pernambuco State, Brazil. After harvest, fruits were divided in four replicates, being each one constituted by 20 fruits. They were maintained in ambient temperature (25.9 ± 1.7°C and 66 ± 5% R.H.) until complete the ripening, when they were evaluated for: vitamin C, yellow flavonoids, antocianins, total carotenoids and total extratible polyphenols (TEP), as well for antioxidant activity, using both methods ABTS and ORAC. Among cultivars, 'Rica' showed the highest vitamin C content (107.40 mg.100g-1), yellow flavonoids (4.04 mg.100g-1) and total carotenoids (0.75 mg.100g-1). Pedro Sato cultivar distinguished for its higher TEP (149.97 mg.100g-1) and TAA, for both methods, ABTS (15.31 'M Trolox.g-1 pulp) and ORAC (17.23 'M Trolox.g-1 pulp). For these variables, it was observed a high correlation, confirming a contribution of polyphenols for the antioxidant activity, even others compounds quantified had contributed to this too. Because of these

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nutritional advantages, it is recommended to verify the commercial acceptance of Rica and Pedro Sato cultivars in the market explored by the growers nowadays, as well as its use for agroindustrial processing, considering that both are cultivated in small scale in that region.

Keywords: *Psidium guajava* L., food composition, functional properties.

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