

IX.I.S4.1.P11. Bioactive compounds and antioxidant activity on custard apple and atemoya fruits cultivated in sub-middle of São Francisco River Valley, Brazil

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The consumption of fresh fruits has been encouraged from the expansion of knowledge about nutritional value, therapeutic effects and presence of different phytochemicals that have antioxidant activity and may be related to the aging delay and disease prevention. The annonaceae fruits stand out among tropical fruits showing chemical compounds with the mentioned properties, such as phenolic acids, tannins, flavonoids, aromatic substances, benzol substances, catechins, proanthocyanidins, essential oils, terpenes, steroids, alkaloids, acetogenins, carbohydrates, lipids, proteins, lactones, vitamins, carotenoids, saponins and others. The contents of these compounds can vary depending on various factors, including the production area. Thus, the aim of this study was to determine bioactive compounds content and total antioxidant activity of custard apple and atemoya fruits cultivated in the sub-middle Basin of the São Francisco Valley, Brazil. The fruits were harvested at physiological maturity, from areas of commercial production located in Petrolina, Pernambuco State, Brazil. After harvest, fruits were divided into four replicates, each consisting of 20 fruits, and kept at room temperature ($25.9 \pm 1.7^\circ\text{C}$ and $66 \pm 5\%$ RH) until complete ripening, when they were assessed for ascorbic acid, yellow flavonoids and total extractable polyphenols (PET) content as well as for total antioxidant activity, using ABTS and ORAC methods. Custard apple fruit was characterized by the highest ascorbic acid content ($35.4 \text{ mg } 100 \text{ g}^{-1}$) while atemoya, cultivar Gefner, highlighted by higher yellow flavonoids ($5.5 \text{ mg } 100 \text{ g}^{-1}$), total extractable polyphenols ($237.81 \text{ mg } 100 \text{ g}^{-1}$) content and antioxidant activity determined by both methods, ABTS ($16.89 \text{ uM } \text{g}^{-1}$ pulp of Trolox) and ORAC ($41.5 \text{ uM } \text{g}^{-1}$ pulp of Trolox). The annonaceae-evaluated fruits showed bioactive compounds content and antioxidant activity, highlighting atemoya fruit and they can be identified as sources of these compounds, justifying the promotion of their consumption as part of a healthy diet.

Keywords: *Annona squamosa*, *Annona squamosa* x *Annona cherimola*, fruit composition, functional properties