

Comparison of iced tea types in Sri Lanka and Australia

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Abstract

Iced tea industry is a popular industry around the world. Australia is a country with high consumer demand for iced tea and a variety of iced tea categories. As a country that has cultivated tea in abundance, Sri Lanka has also been producing a lot of iced tea varieties for the last few years. Data available on the quality of the iced tea types are scarce. The quality of iced tea depends on its physicochemical parameters such as antioxidant activity (AA), total polyphenol content (TPC), titratable acidity (TA), total soluble solids (TSS) and turbidity. The aim of this study was to perform a research that compares the above-mentioned physicochemical parameters of the iced tea types available in Sri Lanka and Australia. Five different iced tea types (in aqueous extract) from both Sri Lankan and Australian origin were tested in the forms of green tea, black tea, peach flavoured tea, lemon flavoured tea and apple flavoured tea. The properties were measured by physicochemical tests. The DPPH assay was performed to determine the free radical scavenging ability and polyphenol content was determined through the Folin-Ciocalteu method. The Sri Lankan varieties showed AA in 5.1-22.2GAE μ g/mL, TPC in 2.45-19.8GAE μ g/mL, TA in 1.15-2.59g/L, TSS in 6.4-12.2 $^{\circ}$ Bx and turbidity in 1.3-19.08NTU. The Australian product types reported AA in 3.9-5.1GAE μ g/mL, TPC in 1.9-4.9GAE μ g/mL, TA in 1.18-2.59g/L, TSS in 0.6-12.2 $^{\circ}$ Bx and turbidity in 2.79-19.9NTU. The apple flavoured black tea of both countries depicted similar properties with AA in 3.9-5.1GAE μ g/mL, TPC in 1.9-2.4GAE μ g/mL, TA in 2.16-2.59g/L, and turbidity in 19.08-19.9NTU. The Sri Lankan green tea variety showed best overall characteristics with AA in 22.2GAE μ g/mL, TPC in 19.8GAE μ g/mL, 1.15g/L in TA, 6.8 $^{\circ}$ Bx of brix value and 10.19NTU in turbidity. The Sri Lankan iced tea types showed the highest values in AA and TPC and lower values in TA for green tea, black tea and lemon flavoured tea. The TSS measures of both countries were quite similar and so was it for turbidity values except for green tea and black tea. According to the results it showed that the Sri Lankan iced tea varieties were higher in antioxidant activity and polyphenol levels. These results show that the Sri Lankan green tea variety has a higher quality with higher health benefits over the other iced tea types.

Keywords: Antioxidant activity, Iced tea, Iced tea quality, Tea, Tea quality

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