

Enrichment of the Antioxidant Activity of Decaffeinated Assam Green Tea by Herbal Plant: A Synergistic Effect

Authors : Abhijit Das, Runu Chakraborty

Abstract : Tea is the most widely consumed beverage aside from water; it is grown in about 30 countries with a per capita worldwide consumption of approximately 0.12 liter per year. Green tea is of growing importance with its antioxidant contents associated with its health benefits. The various extraction methods can influence the polyphenol concentrations of green tea. The purpose of the study was to quantify the polyphenols, flavonoid and antioxidant activity of both caffeinated and decaffeinated form of tea manufactured commercially in Assam, North Eastern part of India. The results display that phenolic/flavonoid content well correlated with antioxidant activity which was performed by DPPH (2,2-diphenyl-1-picrylhydrazyl) and FRAP (Ferric reducing ability of plasma) assay. After decaffeination there is a decrease in the polyphenols concentration which also affects the antioxidant activity of green tea. For the enrichment of antioxidant activity of decaffeinated tea a herbal plant extract is used which shows a synergistic effect between green tea and herbal plant phenolic compounds.

Keywords : antioxidant activity, decaffeination, green tea, flavonoid content, phenolic content, plant extract

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