QUALITY PARAMETERS OF GREEN TEA PRODUCTS IN SRI LANKAN MARKET

K.P.C. Madusanka[1], S.A.D.P.S. Jayawardhane[2], W.M.R.S.K. Warnasooriya[1], D.M.D. Dissanayake[1] and K.M. Mewan[2]

[1]Department of Plant Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura
[2]Biochemistry Division, Tea Research Institute of Sri Lanka, Talawakelle

Increased awareness on health benefits had created a huge market potential for green tea. Thus a range of green tea (GT) products are available in Sri Lankan market with diverse quality. Determination of quality parameters of GT products is a timely need to identify their acceptability. Hence, physical quality parameters, ISO recommended chemical parameters and other parameters relevant for the daily tea intake as per WHO recommendations were determined for thirteen GT products available in Sri Lankan market. Total polyphenol (TP), total catechin (TC) and ratio of TC/TP of GT products varied between 15-26%, 14-18% and 0.5-1.2%, satisfying the ISO recommendation of minimums 11%, 7% and 0.5%, respectively. Total ash content of all products complied with ISO requirement of 4-8%. Water soluble ash, alkalinity of water soluble ash and acid insoluble ash contents varied between 45-62%, 1.2-2.1% and 0.1-0.7%, fulfilling the ISO recommendations of >45%, 1-3% and <1%, respectively. Water extracts in all GT products complied with minimum ISO requirement of 32% (m/m) with a range of 38-45%. Crude fiber content of six GT products deviated from the ISO requirement of maximum 16.5%, showing a range of 16.5-19.6%. Antioxidant activity, amino acid and aluminium contents are agreeable with WHO recommendations and varied between 11-13%, 0.7-1.2% and 0.1-0.2%, respectively. Fluoride content is agreeable with WHO recommendations and varied between 0.1-0.2 mg per 120 ml in all GT products. Colour of the GT products varied from brown to green, while the infusion colour varied from coppery to golden yellow. The particle size of GT products varied from very fine dusty particles to leafy ones. In conclusion, parameters relevant for the daily intake complied with the WHO recommendations in all GT products. Except for crude fiber content, all GT products have fulfilled the ISO recommended chemical parameters.

Keywords: Chemical quality parameters, Green tea, ISO standards, Physical quality parameters