Development of a Herbal Tea Bag from Sweet Potato Leaves (*Ipomoea batatas* (L.) Lam) and Evaluation of its Physicochemical and Sensory Parameters

G.W.P.M. Ganegoda*, M.P.M. Arachchi, W.A.J.P. Wijesinghe, N.E. Wedamulla and K.P.M. Kahandage

Department of Export Agriculture, Uva Wellassa University, Badulla, Sri Lanka
**Corresponding Author E-mail: ganegodamadushanka@gmail.com, TP: +94766755520*

Sweet potato (*Ipomoea batatas* (L.) Lam) is an economically important nutritious root crop that was considered the 7th most important food crop in the world. Though sweet potato plants are typically grown for their sweet tubers, leaves also a rich source of nutrients. However due to lack of awareness of its nutritional composition and health benefits, still sweet potato leaves remain underutilized. Therefore, this study was conducted to develop a herbal tea from sweet potato leaves and to evaluate its quality parameters. Two varieties of sweet potato leaves (Red variety 'Ama' and yellow variety 'CARI 426') were selected and proximate composition, antioxidant activity and total polyphenolic content were analyzed by AOAC 2000, 2,2- diphenyl-1-picrylhydrazyl radical scavenging assay and Folin-Ciocalteau methods respectively. Moisture, total fat, crude fiber, ash, protein and carbohydrate content of fresh leaves of 'Ama' variety was 86.78±0.72%,11.73±0.12%,19.35±0.59%,19.44±0.73%, 22.5±1.36%, 26.98% respectively while for CARI 426 values were 85.79±0.24%, 9.94±0.23%, 13.56±0.58% ,17.9±0.64%, 14.72±0.39%,43.88% respectively. For fresh leaves, antioxidant values were obtained as 59.33±1.24%,41.05±2.18% for Ama and CARI 426 respectively at 500µg/mL while total polyphenolic content was obtained as 5.56g/100g and 3.17g/100g at dry weight respectively. The results obtained for antioxidant values, for freeze dried Ama and CARI 426 leaves were 69.66±1.24% and 41.66±2.05% respectively at 500 µg/mL while total phenolic content was 6.94g/100g and 4.55g/100g at dry weight. Ama variety was chosen to prepare the herbal tea considering its highest antioxidant and total phenolic content. Four different herbal teas were prepared by adding strawberry, vanilla, orange flavor and control was used without adding any flavor. Sensory analysis was carried out with 30 untrained panelists using a 9-point hedonic scale to determine the best herbal tea product. Among those flavors, orange flavored herbal tea shows the best sensory acceptability. It can be concluded that sweet potato leaves can be used to develop a value-added herbal drink. However further studies should be needed to evaluate its functional properties.

***Keywords*:** Sweet potato leaves; Freeze drying; Antioxidant activity, Sensory properties