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Development and quality evaluation of ready-to-serve (RTS) beverage from coconut haustorium without any chemical preservatives

S. A. C. T. Senarath and O. D. A. N.Perera*

Department of Food Science & Technology, Faculty of Livestock, Fisheries & Nutrition, Wayamba University of Sri Lanka, Makandura, Gonawila.

Coconut haustorium is a healthy food source which contains nutrients and phytochemicals with health-promoting properties. Germinated coconuts are the underutilized waste in coconut industry, which are a rich source of nutrients. Therefore, the aim of this study was to develop a ready-to-serve (RTS) beverage using coconut haustorium. A Survey conducted with the help of a pre-tested questionnaire among twenty coconut processingcompanies in the Kurunegala District in Sri Lanka revealed that underutilized, germinatedcoconuts lie between 2-3% of the total production.A sensory evaluation was conducted with 30 semi-trained panelists to identify the most acceptable proportions of pulp, sugar level, and the acid ratios of the coconut haustorium beverage respectively. The most acceptable beverage formula was; 18% extracted haustorium, 9% sugar, 0.1% citric acid and 0.2% pectin which complies with the SLS 729:2010. The beverage samples were analyzed for physico-chemical and microbiological parameters. Total soluble solids (^{o}Brix) was maintained at 7.50, andtitratable acidity was 0.16 % at pH level of 4.04. Microbial analysis revealed no presence of yeast and mold colonies in the formulated beverage initially. Moisture content, fiber content, fat content, protein content, and ash content of the formulated beverage were within the range of (93.14 ± 0.09), (5.39 ± 0.28), (2.94 ± 0.00), (0.95± 0.1), and (0.19± 0.04), respectively. Total phenolic content (TPC) of developed beverage was 12.58 ± 0.05 mg (Gallic Acid Equivalent GAE) per 100 ml respectively. Mineral constituents of coconut haustorium RTS beverage shows 1055.70 ± 0.43, 702 and 1.00 mg of P, K and Fe respectively per 1L of beverage. Shelf life evaluation revealed that developed product can be stored for 5 days under refrigerated (5 ± 1°C) conditions and at room temperature (29±1°C) by complying with SLS standards 729:2010. Coconut haustorium can be considered as a food source which has the potential of developing into nutritious and novel RTS beverage.

Keywords: Coconut haustorium, RTS beverage, Coconut water

E-mail: aannpp2003@gmail.com