

Comparison of Proximate and Antioxidant Properties of the Developed Herbal Biscuits

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Biscuit is a common baked snack in Sri Lanka. This study was aimed to develop a herbal biscuit by incorporating the herbal mixer which was made with coriander (*Coriandrum sativum*), cinnamon (*Cinnamomum zeylanicum*), curry leaves (*Murraya koenigii*), ginger (*Zingiber officinale*), and licorice (*Glycyrrhiza glabra*), and to analyze the antioxidant and nutritional properties of the accepted biscuits along with the control sample to find out the most suitable compositions for commercialization. The herbal mixer was selected based on the therapeutic and nutritional characteristics of these herbs and the safe consumption level. Two treatment mixer of herbs were prepared and T1 (T1: 22.73:22.73:22.73:22.73:9.09) was accepted from sensory evaluation. The accepted biscuit was fortified with 10g of the herbal mixer, whereas the control biscuit was not fortified. Statistical analysis of the study was carried out using ANOVA SAS university edition. The results of proximate and antioxidant analysis for control and accepted biscuit respectively were moisture (2.08%, 3.06%), ash (1.43%, 1.84%), crude fiber (1.34%, 3.15%), crude protein (11.82%, 12.41%), crude fat (18.37%, 15.29%), TPC(0.64mg and 1.19mg GAE/g dry weight), TFC (0.22mg and 0.67mg CE/g dry weight) and antioxidant capacity (3.49mg and 5.04mg AAE/g dry weight). When compared to ascorbic acid standard, the DPPH scavenging activity of accepted biscuit was higher (0.265mg/ml) than the control biscuit (0.879mg/ml) by IC₅₀ value. According to the above results, biscuits fortified with herbs have higher nutritional and antioxidant properties than control biscuits, indicating that the herbs increase the nutrient value of the biscuits.

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