

ANALYSIS OF PROXIMATE AND ANTIOXIDANT PROPERTIES OF CORIANDER, CINNAMON, CURRY LEAVES, GINGER AND LIQUORICE

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ABSTRACT

Coriander (*Coriandrum sativum*), cinnamon (*Cinnamomum zeylanicum*), curry leaves (*Murraya koenigii*), ginger (*Zingiber officinale*), and liquorice (*Glycyrrhiza glabra*) are commonly used herbs and spices in Sri Lanka for medicinal and culinary purposes. This study was carried out to determine the proximate composition and antioxidant properties of the dried and powdered coriander seed, cinnamon bark, ginger rhizome, curry leaves, and liquorice roots using standard procedures and the data analysed using the ANOVA SAS university edition. Moisture content of the selected samples ranged between 5.80%±0.33 to 8.79%±0.1 where lowest value was observed in coriander seeds and highest was in curry leaves. Coriander seeds (5.97%±0.04) and curry leaves (11.47%±0.03) were bared the lowest and highest values respectively for ash content while 6.37%±0.06 to 38.99%±0.97 was the range for crude fibre content with ginger rhizome and cinnamon bark contained the poorest and richest values respectively. Coriander seeds (18.4%±0.04) contained highest and liquorice root powder (1.01%±0.01) had lowest values for crude fat content among the selected herbs. Crude protein content of the selected samples ranged between 5.45%±0.23 to 16.15%±0.22 where lowest value was observed in cinnamon bark and highest was in curry leaves. 33.21%±0.39 to 64.37%±0.77 was the range for carbohydrates in selected herbs where cinnamon and ginger contained the lowest and highest percentage respectively. With 70% ethanol extractions, antioxidant assays namely total phenolic content (TPC), total flavonoid content (TFC), and antioxidant capacity were performed for all five herbs under the spectrophotometric method. The results showed TPC in the range 1.33±0.008 to 7.91±0.03 mg GAE/g dry weight, TFC ranged between 0.88±0.006 to 22.73±0.086 mg CE/g dry weight, and antioxidant capacity ranged between 6.43±0.041 to 15.42±0.058 mg AAE mg /g dry weight that lowest and highest values were determined in coriander seeds and cinnamon bark respectively for all antioxidant tests. The study showed that these herbs and spices contained a significant level of nutrients, crude fibre and bioactive compounds which will be beneficial in food applications.

Keywords – Antioxidant; Herbs; Proximate composition; crude fibre.

