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Evaluating the crude protein contents of some selected seaweeds of Sri Lanka

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Seaweeds have become an emerging source of proteins in the world. The objective of this study was to evaluate the crude protein content of selected seaweeds from Jaffna (Northern coast), Trincomalee (East coast), Hikkaduwa (West coast), Kalpitiya (North Western coast) and Matara (Southern coast) of Sri Lanka. The crude protein contents of cultivated and wild grown seaweeds were determined using the Kjeldahl method. The crude protein content of brown seaweeds such as *Padina* sp. ($12.58 \pm 1.05\%$), *Sargassum filipendula* ($10.43 \pm 0.14\%$) and *Turbinaria ornata* ($8.15 \pm 0.00\%$) were determined. Moreover, the crude protein content of green seaweeds such as *Caulerpa racemosa* ($13.75 \pm 1.08\%$), *Ulva lactuca* ($6.95 \pm 0.22\%$), *Ulva fasciata* ($16.38 \pm 0.38\%$) and *Caulerpa lentilifera* ($14.51 \pm 0.01\%$) as well as red seaweeds including *Gracilaria edulis* ($10.64 \pm 0.10\%$), *Gracilaria corticata* ($16.21 \pm 2.22\%$), *Euचेuma denticulatum* ($6.62 \pm 0.22\%$), *Gracilaria verrucosa* ($16.77 \pm 0.20\%$), *Gracilaria salicornia* ($9.61 \pm 0.01\%$) and *Kappaphycus alvarezii* ($10.53 \pm 0.06\%$) was evaluated. Data were statistically analysed by ANOVA method in Minitab software. There was a significant difference between the crude protein contents of different seaweed species ($p \leq 0.05$ at 95% confidence interval). Generally, the crude protein content of seaweeds varies with the species, geographical location and harvesting period. Although Sri Lankan seaweeds contain considerable amounts of crude proteins, further studies on how these factors affect the protein content of seaweeds of Sri Lanka are essential before producing seaweed incorporated food products.

Keywords: Chlorophyta, crude proteins, Kjeldahl method, phaeophyta, rhodophyta, seaweeds

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