

Proximate compositions and total phenolic contents of selected edible seaweed from Semporna, Sabah, Malaysia

Abstract

In this study proximate compositions and total phenolic contents in extracts of 15 seaweeds from Semporna, Sabah, were determined. In general, results of proximate analysis for all seaweeds showed that moisture content (75.95-96.03%) was the most abundant in seaweed, followed by carbohydrate (26.86 - 74.10% dry weight basis), crude fiber (4.03 - 34.71% dry weight), and ash (6.05 - 45.04% dry weight), crude protein (5.22 - 17.28% dry weight), and crude fat content (0.15 - 0.84% dry weight). The total phenolic contents were determined using Folin-Ciocalteu reagent method based on the standard calibration curve of phloroglucinol measured at 740 nm using UV-Visible Spectrometer (Perkin Elmer). Overall, the total phenolic contents for all seaweeds of methanolic extract were between 9.40 - 51.87 mg/g phloroglucinol equivalents (PGE) of dried sample. The results of the present study showed significant differences ($p < 0.05$) in proximate compositions and total phenolic contents among several species of red, green and brown seaweeds. The findings on total phenolic contents and proximate compositions of the seaweeds in this study can be further used as a basis for more advance research on seaweed antioxidant capability and nutritional information guideline, respectively.