

Chemical composition and physicochemical properties of red seaweed (*Kappaphycus alvarezii*) and brown seaweed (*Sargassum polycystum*) from Sabah, Malaysia

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ABSTRACT

The proximate composition, amino acid composition and some physico-chemical properties of two type of seaweeds *Kappaphycus alvarezii* and *Sargassum polycystum* which widely cultivated in Sabah, Malaysia were investigated. *S. polycystum* showed the highest level of protein and crude fibre with 11.69% and 39.863% dry weight, respectively. Minor component was fat 0.12-0.13% in both seaweeds. As for the physicochemical properties of the seaweeds, their swelling capacity (SWC) ranged from 13.33 to 35.83 mL/g while water retention capacity (WRC), and oil retention capacity (ORC) ranged from 8.18 to 10.59 g/g dry weight and 2.68 to 3.32 g/g dry weight, respectively. SWC and ORC of *K. alvarezii* was higher than *S. polycystum* ($p < 0.05$). Both seaweeds contained high amounts of minerals and balanced amino acid profiles. This study suggested that *K. alvarezii* has high nutritional value which could be potentially used as ingredients in human food application.

KEYWORDS

Kappaphycus alvarezii; *Sargassum polycystum*; Marine seaweeds;

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