

Chemical composition and physicochemical properties of tropical red seaweed, *Gracilaria changii*

Abstract

The study on the proximate composition, minerals, vitamins, carotenoids, amino acids, fatty acids profiles and some physicochemical properties of freeze dried *Gracilaria changii* was conducted. It was discovered that this seaweed was high in dietary fibre ($64.74 \pm 0.82\%$), low in fat ($0.30 \pm 0.02\%$) and Na/K ratio (0.12 ± 0.02). The total amino acid content was $91.90 \pm 7.70\%$ mainly essential amino acids (55.87 ± 2.15 mg g⁻¹) which were comparable to FAO/WHO requirements. The fatty acid profiles were dominated by the polyunsaturated fatty acids particularly docosahexaenoic ($48.36 \pm 6.76\%$) which lead to low $\omega 6/\omega 3$, atherogenic, and thrombogenic index. The physicochemical properties of this seaweed namely the water holding and the swelling capacity were comparable to some commercial fibre rich products. This study suggested that *G. changii* could be potentially used as ingredients to improve nutritive value and texture of functional foods for human consumption.