

Effect of Drying Methods on Nutrient Composition and Physicochemical Properties of Malaysian Seaweeds

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Abstract. Sample drying is an important step in the sample preparation of materials. In this study, the effects of two drying methods which are oven-drying and freeze-drying on the proximate composition, mineral content and physicochemical properties of seaweeds *Kappaphycus alvarezii* and *Sargassum polycystum* were investigated. There were significant differences ($p < 0.05$) in the moisture, fat, crude protein, crude fiber and ash contents of both seaweeds treated by different drying methods. The highest values of nutrient composition were detected in the moisture, protein, crude fiber and fat content of samples treated with the oven-dried method. In contrast, the amount of ash and mineral in both seaweeds were found higher in freeze-dried compared to oven-dried. As for the physicochemical properties of both seaweeds, swelling capacity and water retention capacity of freeze-dried *K. alvarezii* were significantly higher than those of the oven-dried seaweed samples ($p < 0.05$). Thus, the results show that the nutritional composition of seaweeds *S. polycystum* and *K. alvarezii* are greatly affected by different drying methods.