

Application of seaweed (*Kappaphycus alvarezii*) in Malaysian food products

ABSTRACT

Kappaphycus alvarezii is a species of red algae, and one of the most important carrageenan sources for food, cosmetic, and pharmaceutical industries. It is commercially cultivated in the eastern part of Malaysia. Although *K. alvarezii* is rich in nutrients, it is limited in its integration into Malaysian food products. Therefore, the present work was conducted to investigate the quality characteristics, sensorial attributes, and antioxidant activity of *K. alvarezii* in Malaysian food products. Seaweed puree (SP) from *K. alvarezii* at 10%, 20% and 30% concentrations were prepared in the formulations of fish sausages, flat rice noodles and yellow alkaline noodles. Proximate analysis, physicochemical analysis, microbial count, total phenolic content (TPC), sensory evaluation, and consumer acceptance survey of the formulated food were conducted. The incorporation of *K. alvarezii* significantly increased the fibre, moisture, and ash content in formulated foods. In addition, the TPC content of *K. alvarezii* food also significantly increased up to 42 mg GAE/100 g. The presence of SP in food at higher concentration decreased the microbial counts. Sensory analysis confirmed that only fish sausages added with SP was overall acceptable as compared to control. Based on customer survey, functional foods that are “research proven” were the most preferred. In conclusion, *K. alvarezii* has the potential to be incorporated in Malaysian food products and developed as functional food.

Keyword: Seaweed; *Kappaphycus Alvarezii*; Fish sausages; Noodle; Physicochemical properties; Consumer acceptance