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Development and characterization of k-carrageenan (*Kappaphycus alvarezii)* incorporated bun

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Functional foods with elevated levels of fibre content are of high demand because of its several health benefits. A study was conducted for the development of fibre enriched bakery products. As a part of this study fibre enriched bun was developed using k-carrageenan (*Kappaphycus alvarezii)* as the source of fibre. The bun was prepared with the incorporation of various concentrations (2-8%) of κ-carrageenan powder. Comparative analyses of the physical, chemical, textural, structural and sensorial characteristics of bun were conducted. The highest concentration of k-carrageenan that was sensorily acceptable for incorporation in bun was 6 per cent, beyond which sensory parameters like taste and texture showed unacceptability. Radical scavenging activity assays revealed an improved activity with increased concentration of k-carrageenan.The shelf-life analysis of the sample was done after packing in low density polythene (LDPE) pouches. The present study has demonstratedthat k-carrageenan can be used as a competent constituent for the fortification of bun to utilize the health benefits of marine fibre.

Key Words : k-carrageenan, Bun, Fibre, Antioxidant activity, SEM, Texture profile analysis

Abbreviations : ABTS- (2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonate)), DPPH -2,2-diphenyl-1-picrylhydrazyl; di(phenyl) - (2,4,6-trinitrophenyl) iminoazanium), UV - Ultra violet, Vis- Visible

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