

The Influence of Seaweed Composite Flour on the Physicochemical Properties of Muffin

ABSTRACT

Seaweed has a great potential to be used as an important ingredient in food processing, as it contains a significant content of soluble polysaccharides and has a potential function as a dietary fiber. In this study, seaweed powder (*Kappaphycus alvarezii*) was incorporated (2–10%) with wheat flour for the production of muffins. The effect of seaweed composite flour on the quality of muffins was investigated using various techniques, such as texture profile and proximate analyses, as well as sensory evaluation. Modification of the muffin formulation to include seaweed powder improved the composition of ash, crude fiber, and moisture content, while the protein and carbohydrate levels decreased, compared to the control sample. An increase in the seaweed component reduced the muffin height, volume, and specific volume. According to the experimental texture profile analysis data, the seaweed affected the textural characteristics of the muffins, increasing the hardness and decreasing the springiness. Sensory evaluation revealed that seaweed powder could be used in the muffin formulation up to 6%, without significantly impacting the color, aroma, and taste attributes relative to the control sample. For overall acceptability, however, the panelists preferred muffins without seaweed powder.