

The effect of seaweed composite flour on the textural properties of dough and bread

Abstract

Seaweeds as food and seaweed-derived food flavors, colors, and nutrients are attracting considerable commercial attention. In the baking industries, hydrocolloids are of increasing importance as bread making improvers, where their use aims to improve dough handling properties, increase the quality of fresh bread, and extend the shelf life of stored bread. Seaweeds contain a significant amount of soluble polysaccharides and have the potential function as a source of dietary fiber. In this study, red seaweed (*Kappaphycus alvarezii*) powder was incorporated (2–8%) with wheat flour and used to produce bread. The effect of seaweed composite flour on dough rheological properties and the quality of bread was investigated using various techniques. Farinograph tests were applied to determine the effect of seaweed powder on the rheological properties of wheat flour dough, while texture profile analysis (TPA) was used to measure the textural properties of dough as well as the final product. The results showed that the additions of seaweed powder (2–8 %) increased the water absorption of the dough. TPA results showed that the addition of seaweed powder decreased stickiness properties. Bread produced with seaweed composite flour showed higher values of firmness