

Abstract

Iranian fermented soup (Kashk -e Zard) is a product based on lactic fermentation of cereals made by adding yogurt. In this research, for the first time, the effects of the replacement levels of wheat bran (10, 20, 30 and 40% based on wheat flour w/w) were evaluated on the quantitative and qualitative characteristics of prepared samples.

Measurements indicated how these parameters affected pH, TTA, moisture, fat, ash, mineral solute values (Zn, Ca and Fe), protein, protein digestibility, phytic acid, amino acid profiles, fatty acid profiles, total dietary fiber (soluble and insoluble), total flavonoid content, antioxidant properties (DPPH), colorimetric and sensory evaluation (appearance, homogeneity, flavor, viscosity and consistency and overall acceptance) contents in Kashk -e Zard samples. The total viable (TVB), lactic acid bacterial (LAB), and yeast were examined during 12-day fermentation process. The results showed that increasing the replacement level, increased the protein content, ash, dietary fiber, minerals, fat and phytic acid levels ($P < 0.05$). Also the antioxidant properties of the samples improved ($P < 0.05$). The results of sensory evaluation showed that all samples scored above 6. Also microbial populations increased with increasing levels of wheat bran replacement. With regard to the amount of soluble fiber, protein digestibility and phytic acid in samples, Kashk -e Zard sample contain hydrothermal bran at 10% is recommended.

Keywords: Phytic Acid, Soy Protein, Fermentation, Sensory Properties, Kashk -e Zard.



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Title

Effect of Processing and Replacement of Wheat Bran on
Quantitative and Qualitative Characteristics of Yellow
Wheat Soup

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