



EFFECT OF FORTIFICATION ON TEXTURAL, MICROBIOLOGICAL AND PHYSICO-CHEMICAL PROPERTIES OF BREAD

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ABSTRACT

The effect of fortification with *Spinacia oleracea* L. on the physico-chemical, sensory value, textural properties and microbiological analysis of bread was carried out. Breads were made by substituting wheat flour with spinach powder (SP) at 0, 1, 2.5, 5% and Ferrous Sulphate powder (FSP) ($\text{FeSO}_4 \cdot 7 \text{H}_2\text{O}$) at 0.025, 0.05, and 0.10% levels. Addition of different levels of fortificants showed a marginal effect on the textural and physico-chemical properties. Significant increase in iron content was observed even with low levels of fortification. The hardness, chewiness and gumminess of bread samples increased during storage. Total plate count, yeast and mold count showed slight decreasing trend within treatments and an increasing trend during the storage from $0.14\text{-}1.45 \times 10^2$ cfu/g and 1.4 to 2.7×10^1 cfu/g respectively.

Keywords:

Bread fortification;

Spinach powder;

Ferrous sulphate powder; Texture;

Microbiological.