

INFLUENCE OF STORAGE ON CHEMICAL AND MICROBIOLOGICAL ATTRIBUTES OF FOXTAIL MILLET (*SETARIA ITALICA*) FLOUR INCORPORATED COMPLEMENTARY FOOD

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ABSTRACT

A complementary food was formulated by dry blending of malted foxtail millet (*Setaria italica*) and wheat flours at 30 and 40 parts, skimmed milk powder 30 parts, ghee 7 parts, sugar 12 parts and 2 per cent whey protein concentrate (CF₁) and another without WPC (CF₂). A wheat based Commercial complementary food was used as control. To study the influence of storage on chemical and microbiological attributes all the complementary foods packed in separate low-density polyethylene pouches and stored at 27±2°C for 60 days. The influence of storage on the chemical parameters viz., per cent FFA, per cent soluble nitrogen and HMF determined at every 15 days interval of time showed gradual increase in these parameters from 0.24 to 1.83 and 0.26 to 1.92 percent oleic acid, 0.21 to 2.96 and 0.24 to 3.08 per cent soluble nitrogen, 9.4 to 17.96 and 9.56 to 18.24 µmole/ 100g for CF₁ and CF₂ respectively. The total bacterial counts increased from 3.39 to 4.05 and 3.44 to 4.12 log₁₀cfu per gram for CF₁ and CF₂ respectively. The yeast and molds were absent until 45th day of storage and appeared on the 60th day, whereas the coliforms were absent in all the three complementary foods throughout the storage period. Hence, the foxtail millet based complementary food, developed may be stored for 45 days without any significant deterioration which can still have the microbial counts within the prescribed legal standards and safe for consumption.

KEYWORDS: Complementary Food, Foxtail Millet, Free Fatty Acids, Proteolysis and Hydroxy Methyl Furfural

Original Article

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