SENSORY, CHEMICAL AND BIOLOGICAL EVALUATION OF SOME PRODUCTS FORTIFIED BY WHOLE FLAXSEED

AHMED, M. GAAFAR[1], E. A. HEADER[2], FATMA. A. EL-SHERIF[2], M. S. EL-DASHLOUTY[2] AND S. A. EL-BROLLOSE[2]

1. *Special Food and Nutrition dept. Food Tech. Res. Ins., ARC, Giza*
2. *Nutrition and Food Science Dept. Faculty of Home Economics, Minufiya University*

(Manuscript received 16 December 2010)

Abstract

The purpose of this study was to develop a mainstream food item using whole flaxseed and test the consumer acceptability, chemical and biological evaluation of the products. Chemical composition of flaxseed showed that contents of moisture was (7.06 %), protein (24.87 %), fat (39.64 %), crude fiber (8.74%), ash (3.51 %) and total carbohydrate (23.19 %). Flaxseed oil was have high content of unsaturated fatty acids. oleic acid (17.11%), linoleic acid (15.56%) and linolenic acid (58.68 %). Sensory evaluation of (pan bread-pizza-Tahina) showed that all were acceptable of eating qualities. Also, results showed that addition of flaxseed to wheat flour by 15% increased the protein content, fat, fiber, and ash. Meanwhile, the content of carbohydrates was decreased in the bread and pizza. Carbohydrates increased and fat decreased for Tahina 50% flaxseed. Data indicated that feed efficiency ratio of rats fed on diets containing flaxseed products were higher than rats fed on diets without flaxseed and results indicated also that, the diets containing flaxseed decreased concentration of serum total cholesterol compared to diet with no flaxseed. Flaxseed diet increased the level of serum HDL-C while serum LDL-C and VLDL-C significantly decreased.

Key word: Flaxseed, Chemical composition, Flaxseed oil, Pan Bread, Pizza, Tahina, Biological Evaluation.