



المخلص الانجليزي للبحث رقم (٨)

Impact of Bee Pollen Addition on the Quality Characteristics of Probiotic UF-Soft Cheese

Khaled A. Abbas, Fathia A. Othman, Mahmoud A. Degheidi and Hani S. Abdelmontaleb

Dairy Department, Faculty of Agriculture, Fayoum University, BP 63514 Fayoum, Egypt

Egyptian Journal of Food Science, 51(1):33-45 (2023)

مكان النشر

Abstract:

This study aimed to evaluate adding bee pollen in different levels (0, 1.0, 2.0 and 3.0%) in the quality characteristics of probiotic UF-soft cheese. The samples were analyzed for physicochemical, biochemical, minerals (Iron, Manganese and Zinc), total phenolic, antioxidant activity, free fatty acids, free amino acids, textural, viability of ABT probiotic bacteria (*Lactobacillus acidophilus* LA-5, *Streptococcus thermophiles* and *Bifidobacterium* BB-12), and sensory properties of UF-soft cheese during the 30 days of storage. Bee pollen addition in UF-soft cheese significantly increased acidity, fat, protein, ash, phenolic compounds (50% more), as well as the antioxidant activity. Moreover, bee pollen-added cheese were characterized by high contents of Fe, Mn, Zn, free fatty acids, free and total amino acids. Hardness, gumminess, and chewiness of cheese samples with bee pollen were higher than control cheese. The amount of total free amino acids in UF-soft cheese with bee pollen was almost two times higher in comparison with control cheese. Bee pollen addition caused an increase of unsaturated fatty acids, mainly ω_6 and ω_3 in UF-soft cheese. Tyrosine, glutamic, methionine, phenylalanine, isoleucine, and leucine acids were generally in high proportion in UF-soft cheese with bee pollen. The viability of ABT culture was significantly higher in bee pollen-added cheese than control cheese. Significant improvement was observed in sensory parameters (flavor and texture) for UF-soft cheese with 1.0 or 2.0% bee pollen. It can be concluded that, probiotic UF-soft cheese with 1 or 2% bee pollen maybe proposed as new-functional cheese.

Key words: UF-soft cheese, Bee pollen, Probiotic cheese, Functional food.