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الملخص الانجليزي

Effect of Adding Microbial Lipase on the Acceleration of UF-Ras Cheese Ripening

Shaimaa M. Hamdy, H. Sh. Mahmoud, **Kh. A. Abbas**, Ratiba A. Beyomi and M. A. Degheidi

Dairy Dept., Fac. of Agric., Fayoum Univ., Egypt.

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Abstract: The effect of the addition of microbial lipase enzyme to UF cheese milk (0, 50.000, 100.000, and 150.000 lipase units/15kg retentate) on some chemical, rheological, and sensory characteristics of UF-Ras cheese was studied during 3 months of ripening. The obtained results indicated that lipase enzyme caused a little effect on the gross composition of cheese during ripening. The level of lipolysis and proteolysis were significantly ($p < 0.05$) higher in the experimental cheeses than those of the control cheese during ripening which means that there are a positive effect of lipase on ripening time. Lipase addition led to increase the rate of lipolysis process about 20–60% in 60 days and treated cheeses of this age had TVFA levels typical of 90 days of untreated cheeses. Enzyme-treated cheese had harder texture than untreated cheeses of the same age. Sensory evaluation showed a significant difference in the total scores of the experimental and control cheeses, with significantly lower-quality scores for the cheeses treated with a high concentration of lipase enzyme. Cheeses with the highest level of lipase (100.000, 150.000U) developed a pronounced bitter taste after 60 days of ripening. The most acceptable cheeses were the cheese treated with lipase 50.000U which was a slightly similar to the control cheeses.

Key Words: Accelerated cheese ripening; lipolysis in cheese, Ultrafiltration.