



البحث رقم (5)

الملخص الانجليزي

Physicochemical, microstructural and sensory impact of fat replacers on low-fat Edam cheese manufactured from buffalo's milk

Safaa A. M. El-Aidie, Ebtisam I. Ghita, Samia M. El-Dieb and **Hosam-Eddin M. El-Garhi**

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The objective of the current work was to evaluate the effect of three different commercial proteinbased fat replacers Prolo®11(PR), Simplesse®100 (SM) and Dairy LoTM (DL) on the physicochemical, microstructural, and sensory characteristics of low-fat Edam cheese (LFEC) made from buffalo's milk during a specific ripening period. LFEC treatments were prepared using different ratios (0.3%, 0.6%, and 0.9% w/w marked I, II and III respectively) for each PR, SM and DL. Cheese without fat replacer was prepared as the control (C). Cheese containing fat replacers had a higher significant moisture content than C. Proteolysis significantly increased in LFEC containing Fat replacers more than C. Firmness decreased gradually with increasing the concentration of the fat replacers. PRIII and SMIII had less firmness. The addition of SM and PR improved texture, flavour and acceptability of the LFEC on the 60th day of ripening. DL treatments achieved the best total scores for sensory characteristics on the 90th day of ripening. Fat replacers affected the microstructure of LFEC especially SM which imparts a desirable texture to cheese, compared to other treatments.

