

Full Length Research Paper

Effect of the method of processing on quality and oxidative stability of anhydrous butter fat (samn)

Abdalbasit Adam Mariod^{1*}, Rehab Tageldeen Ali¹, Yousif M. Ahmed¹, Siddig Ibrahim
Abdelwahab² and Ahmad Bustamam Abdul²

¹Food Science and Technology Department, College of Agricultural Studies, Sudan University of Science and Technology, P. O. Box 71 Khartoum North, Sudan.

²UPM-MAKNA Cancer Laboratory, Institute of Biosciences, University Putra Malaysia, Kuala Lumpur, Malaysia.

Accepted 14 September, 2009

In this study four samn samples prepared from cow milk using two processing methods (traditional T1, T2 and factory processed T3, T4) were investigated for their physico-chemical properties, fatty acids composition, oxidative stability and sensory properties. The traditionally processed samples showed a significance difference ($p < 0.05$) in peroxide value and acid value in comparison to factory processed ones. The peroxide value was 2.5 meq O₂/kg of samn for both T3 and T4 samples, which was higher than the peroxide value of T1 and T2, which was 1.5 and 2.0, respectively. The acid value of T3, T4, T1 and T2 are 2.58, 2.54, 1.122 and 1.121, respectively. The results showed that the FFA% of T3, T4, T1 and T2 are 1.29, 1.27, 0.6 and 0.6, respectively. The major fatty acids of the four samn samples were palmitic, oleic, stearic, myristic and capric acid. T3 and T4 contain high percentage of palmitic acid 37.29 and 39.23%, respectively. Traditionally processed sample T1 contains high amount of oleic acid (26.1%) in comparison with the other three samples. Method of processing affects samn properties, quality and oxidative stability, where traditionally processed samples were significantly preferred ($P \leq 0.05$) by the panelists for their color, odor, taste and overall acceptability to the factory processed samples.

Key words: Samn, fatty acid, oxidative stability, sensory evaluation.