Ultrafiltrated soft cheese as affected by soymilk, *lactobacillus acidophilus* starter and certain flavour additives

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ABSTRACT

The effect of soybean milk, *lactobacillus acidophilus* and other additives such as hot green pepper juice (HGPJ), cayenne pepper, paprika (p) and artificial green pepper flavour (AGPF) was studied. The chemical, reologicial, microbiological and organoleptical properties of ultrafiltered (UF) white soft cheese during 25 days at 4 ± 1°C were investigated. Results of the study clearly indicated that, the changes in the chemical composition of cheese samples with or without soybean milk were similar and almost of the same trend during storage. Fresh and stored cheeses prepared with *lactobacillus acidophilus* had the lowest PH values and soluble nitrogen compared to that of other treatments. The highest cholesterol content was in control followed by cheese contained starter and those contained soybean milk without starter, however the lowest cholesterol content was detected in treatment contained soybean milk and starter. Addition of starter culture led to a significant decrease (P ≤ 0.01) in cholesterol content of fresh and during storage of UF-soft cheese. Rate of syneresis was highly significant (P ≤ 0.01) during storage. The penetration and syneresis of cheese samples increased with adding HGPJ to retentate. The addition of starter improved the keeping quality of UF-soft cheese. The count of *lactobacillus acidophilus* significantly increased (P ≤ 0.01) during storage at 4 ± 1°C and reached to its maximum number after 8 days. However the viable counts at the end of storage were still enough for cheese to be successful probiotic, especially when added HGPJ. Statistically, there is significant differences (P ≤ 0.01) between treatments containing soymilk + starter and control in total scores. The results of sensory evaluation indicated that out of 12 formulas used to manufacture UF-soft cheese, five treatments showed good organoleptic properties (total score ranged between 91 and 95.3). The best results were shown by two formulas that contained CP and HGPJ, respectively.

Key words: ultrafiltration process - soybean milk - *lactobacillus acidophilus* - artificial Flavour - green pepper – probiotic.