

## ABSTRACT

Four commercial dairy products such as Yoghurt, Butter, Cheese and Khoa were investigated for their quality. The parameters studied were: nutritional aspects (pH, acidity, lactose, fat, total nitrogen, casein nitrogen, non casein nitrogen, non protein nitrogen, moisture, ash, protein, free fatty acids, peroxide value, salt and curd), microbial load (in respect of psychrophiles, mesophiles, thermophiles, total coliforms and faecal coliforms), effect of preservative only on the shelf life of Khoa, macrominerals, trace elements, heavy metals and organoleptic attributes.

The chemical composition of these dairy products were slightly changed during storage. Decrease in pH and increase in titratable acidity was observed in all the dairy samples. Similarly, decrease in moisture and increase in ash content was also observed in all the samples of these dairy products. Total nitrogen content remained unchanged at all the incubation temperatures in all the yoghurt samples during twelve days storage. Casein nitrogen and non protein nitrogen decreased while non casein nitrogen increased at all the storage temperatures in yoghurt samples. Fat content remained unchanged at 10°C, while decrease in fat content was observed at 25° and 45°C in all of the yoghurt samples. Similarly, decrease in fat content was also observed in all of the yoghurt samples at 25° and 45°C and remained unchanged at 10°C. Nitrogenous components, protein fat, lactose, salt and curd remained unchanged in butter, cheese and khoa (with and without preservative) samples at all the incubation temperatures during three months storage. Development of rancidity was analyzed at 10°, 25° and 45°C. A remarkable increase in rancidity was observed at 25° and 45°C, at the end of storage period in butter, cheese and khoa (with and without preservative). Similarly, free fatty acids and peroxide values increased remarkably at 25° and 45°C than 10°C. Khoa without any preservative had higher rate of rancidity and increased free fatty acid and peroxide values at all the incubation temperatures as compared to khoa after the addition of preservative. All the dairy products got deteriorated at 45°C.

Microbiologically all the samples stored at 10°C were good in quality and within their recommended bacteriological limits when received from their respective producer. At 45°C their quality deteriorated rapidly in all the samples of these dairy products. Reduction in microbial load was observed in khoa after the addition of preservative and was found to be good in quality at all the incubation temperatures. Faecal and non faecal coliforms were absent in all the samples of these dairy products.

Macrominerals (Na and K), trace elements (Cu and Zn) and heavy metals (Ni, Cd and Pb) were generally within their permissible range. Organoleptic properties at 10° and 25°C were not distinctly different from each other, whereas, a marked deterioration was found during storage at 45°C. Then, all the data were subjected to statistical analysis.