Milk contains almost all kind of nutrients. Due to perishable nature, milk act as a medium for the growth of microorganisms. Milk collected from unhygienic environment will be easily spoiled. Milk quality is directly related to its composition and hygiene. Buffalo milk is receiving attention in many countries due to its rich nutrient content. Compared to cow milk, buffalo milk has a richer taste due to its contents of milk fat, protein, lactose, total dry matter, vitamin and minerals. These properties allow a wider variety for buffalo milk as raw material for milk products like cheese, butter and ice-cream. The products made of buffalo milk like mozzarella cheese, cream, ice-cream and yogurt have commercial importance. As in raw milk, microorganisms could rapidly propagate in buffalo milk due to rich nutrient content. Contamination of milk and milk products mostly results from human factor and unhygienic conditions. Milk is generally contaminated in milk collection places. The most important indicators for microbiological quality include total bacteria number, coliform, yeast and mold count. The microbial numbers detected in this study were transferred to base 10 logarithm values and then statistical data was obtained by SPSS statistics software. One way variance analysis was performed to determine the differences between microorganism numbers and chemical parameters in terms of seasons, and Duncan test was applied to determine differences among the means.

MATERIALS AND METHODS

A total of sixty raw milk samples were collected monthly from 10 small sized family enterprises. Two hundred and fifty milliliter (250 ml) of milk samples were taken from producer under aseptic conditions and transferred in sterile bottles to laboratory in cold chain 4°C and then they were analyzed. Fat, protein, lactose, and ash contents of buffalo milk samples were determined by pre-calibrated Lactoscan milk analyser and the pH was determined by using pH meter. In the analysis, 10 ml of milk was taken from each milk sample and homogenized in sterile bags containing 90 ml of sterile buffered peptone water for 1-2 min and then dilutions were prepared & inoculated on Plate Count Agar (Himedia) using spread plate method in order to determine the number of mean total bacteria count (TBC) in the prepared dilutions. Violet Red Bile Agar (Himedia) was used to determine coliform bacteria count and incubated under aerobic conditions at 37°C for 24 h. Inoculation was done on Potato Dextrose Agar (Himedia) for yeast and mold count and incubated at 25°C for 72 h under aerobic conditions. The microbial numbers detected in this study were transferred to base 10 logarithm values and then statistical data was obtained by SPSS statistics software. One way variance analysis was performed to determine the differences between microorganism numbers and chemical parameters in terms of seasons, and Duncan test was applied to determine differences among the means.
the mean total bacteria count (TBC), coliform bacteria and yeast-mold values \((\log_{10} \text{ cfu/ml})\) were determined as 6.36 ± 0.28, 2.95 ± 0.21, and 2.63 ± 0.25, respectively. Contamination levels of milk with TBC, coliform, and yeast-mold were found lower in winter than in other seasons. The highest contamination levels with these bacteria were observed in summer.

Fat, protein and ash contents were found to decrease in summer months, while lactose content increased. It was found that buffalo milk contain higher nutritious values with higher protein, fat, lactose and TS than cow milk. Different researchers reported that alimentation, lactation period, milking frequency, milking method and season have important effects on physicochemical parameters of buffalo milk\(^4\). In this study, the mean lactose level of buffalo milks (4.19% ± 0.32) was found lower. On the other hand, milk fat is the most changeable milk component. The important factors are seasonal change and lactation period. Fat, protein and ash contents tend to increase in winter, and milk yield is reported to increase in the later periods of lactation, while fat and protein contents decrease\(^1\). It is also reported that habitat and feeding pattern are quite effective on milk fat and protein levels, and milk protein content of animals grazing in summer are higher than those of animals closed-fed in winter\(^2\). In this study, the mean fat (7.04 ± 0.84 %/v/v), total solids (16.38 ± 0.11% w/w) and protein (4.36 ± 0.40% w/w) contents are slightly lower. Total solids, protein and \(pH\) values were significantly higher \((p<0.01)\) in winter than in other seasons. On the other hand, the lactose content was found higher \((p<0.01)\) in summer than in winter and rainy. The mean fat and ash contents were found highest in winter. Similar to milk components, microbiological quality of milk changes by ambient temperature. In this study, the mean total bacteria count, coliforms, and yeast-mold \((\log_{10} \text{ cfu/ml})\) levels were determined as 6.34±0.28, 2.94±0.21, and 2.46 ± 0.25, respectively. TBC was determined as 2.30 \(\times 10^6\) cfu/ml. This level is higher than the standards prescribed by the BIS\(^6\). The main reason for these relatively higher counts of TBC should be ascribed to poor hygiene conditions during milking\(^5\). Microorganisms cause rapid souring, spoilage and defects in milk and thus resulting in poor quality. It is reported that many epidemic disorders of milk origin are caused by dirty hands of workers in milk production, dirty tools and equipment, insects and dirty water sources. Provision of microbiological quality parameters of raw milk and milk products plays an important role in quality control. It is necessary to minimize technological and economic losses in milk processing and obtain a longer shelf life.

**REFERENCES**