

Abstract

Considering the huge population of sheep and goat in Iran, especially in Sistan and Balouchestan as well as specific geographical conditions and rangelands Baluchi sheep and Pakistani goat are appropriate animals regarding the conditions of this realm. On the other side small ruminants such as sheep and goats are preferred due to their small size and their higher fertility rate in arid and semi-arid, compared to large ruminants. Additionally, minerals, nutrients and vitamins in goat's milk and sheep's milk are much more than cow's milk.

In this study the shelf-life and nutritional quality of Baluchi sheep and Pakistani goat' raw milk of Sistan area during keeping in 4 °C was evaluated. The Baluchi sheep and Pakistani goat' milk samples were obtained in sterile condition and were placed in flasks full of ice. Then the samples were transferred to laboratory. The amount of protein, fat, lactose, density, non-fat containing solid material, freezing point, Ash, water, pH, total bacterial count, alcohol test color test and Dornic degree were repeated in different days. Protein, fat, lactose, density, non-fat containing solid material, Ash, water and freezing point were measured in sheep and goat' milk in days 0, 1, 3, 6, 9, 12 and 15 by DAIRY SCAN milk analyzer which the amount of these eight parameters in sheep' milk were 5.1, 7.74, 4.82, 1.031, 11.47, 0.82, 82.35, -0.610 and in goat' milk were 3.65, 4.44, 4.59, 1.030, 9.08, 0.74, 87.34, -0.571 on average, respectively. The rate of pH was calculated in days 0, 1, 3, 6, 9, 12 and 15 by pH meter and the average of it in sheep' milk were 6.34 in day 0 and 6.25 in day 15 and in goat' milk were 6.32 in day 0 and 6.22 in day 15. The alcohol test, color test and Dornic degree were assessed within 7 days. Dornic degree possessed the least mean of 21 in day 0 and the most mean of 26 in day 15 in sheep' milk and the least mean of 20 in day 0 and the most mean of 25 in day 15 in goat' milk. The alcohol test and color test suggested statistically different results in sheep and goat' milk in various days ($P < 0.001$). For the aim of total bacterial count, the samples were cultured in Brain Heart Infusion (BHI) Agar medium in days 0, 1, 3, 6, 9, 12 and 15 and the logarithm resulted from colony count was recorded and the mean was reported in sheep' milk 4.35, 5.44, 6.47, 7.78, 9.08, 10.8, 11.86 and in goat' milk 4.34, 5.33, 6.37, 7.48, 8.81, 10.15, 11.28 in these days, respectively.

Data analysis was performed by Repeat Measure statistical test and Anova test and in the case of alcohol test and color test it was accomplished by Chi-Squared test. The results obtained from our data indicated to significant changes.

Key words : milk, Baluchi sheep, Pakistani goat, shelf-life, nutritional quality



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**The study of shelf life and nutritional quality of Baluchi
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