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Effect of the age of the animal through the transition period on various physico-chemical, compositional and microbiological characteristics of bovine colostrum

Tahir Nazir, Mohammad Ashraf Pal, Sheikh Rafeh Ahmad, Sarfaraz Ahmad Wani, Asif Hassan Sofi, Altaf Hussain Malik, Sheikh Shafat Hussain, Ashaq Manzoor
SKUAST-Kashmir, India

Colostrum is defined, as the secretion of the mammary gland which is produced during first few days after parturition, it differs significantly in composition from the milk which is produced later on in lactation, indicating a difference in the biological function of the two materials. The current investigation was undertaken with the aim of studying the effect of the age of the animal through the transition period on various physico-chemical, compositional and microbiological characteristics of bovine colostrum. In this study the data was generated using the colostrum obtained from animals of different ages. The animals were grouped into three different groups viz., group I, group II and group III according to their ages, Group I – animals of 2-4 years of age; Group II – animals of 5-7 years of age; Group III – animals of 8-10 years of age. The specific gravity, fat, whey proteins and total solids of the colostrum samples of group I animals was significantly ($p \leq 0.05$) lower compared

to group II animals. The total protein content of group I animals was significantly ($p \leq 0.05$) lower than both group II and group III animals which among themselves possessed comparable values for total protein. The ash content of the colostrum samples the group I animals showed significantly ($p \leq 0.05$) lower values compared to group III animals while the ash content of group II animals was comparable to both group I as well as group III animals. The total plate count (TPC) of group II animals was significantly ($p \leq 0.05$) lower than both group I and group III animals which among themselves possessed comparable values for total plate count (TPC). Casein protein, lactose, solids not fat, ash and electrical conductivity possessed comparable values having no significant ($p > 0.05$) difference among different age groups.

thrnzr@gmail.com