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Influence of Season and Management on Composition of Raw Camel (*Camelus dromedarius*) Milk in Khartoum State, Sudan

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Abstract

The present study was designed to investigate the influence of seasons (winter and summer) on the chemical composition of raw camel (*Camelus dromedarius*) milk within two different management systems in two different locations around Khartoum State, Sudan. Camel milk samples (n = 112) were collected from Eastern Nile, where a semi-intensive management system is applied by some farmers (keeping some female camels with dairy cattle), and also from Western Omdurman, where traditional management is practised by transhumant farmers (abbala). The two locations were approximately 100 km apart. Major components of milk were determined and compared in both locations and for both seasons. Total solids, lactose and titratable acid were significantly higher ($p < 0.05$) in samples from Eastern Nile, while fat was significantly higher ($p < 0.01$) in samples from Western Omdurman. Differences in ash and protein content of the milk from the two different regions where not significant. Summer milk samples revealed significantly higher protein content in eastern Nile. All the other components of milk were found to be significantly higher in winter milk samples in both locations. The high water content in summer samples negatively affected the milk components compared to the samples collected in winter. In this study, the influence of season was found to be higher than that reported for management. It is concluded that the factor season through heat stress, feed availability, feed quality and water availability strongly affects camel milk composition, particularly the total solids content of the milk as well as the individual components.

Keywords: Camel, chemical composition, Khartoum state, seasonal influence, Sudan

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