



Tropentag, September 16-18, 2015, Berlin, Germany

“Management of land use systems for enhanced food security:
conflicts, controversies and resolutions”

The Effect of Management System on Camel Milk Yield, Composition and Reproductive Performance in Sudan

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Abstract

This study was carried out in rain fed-cultivation areas of Central Sudan. The aim of this study was to evaluate the impact of farming system on she-camel milk yield, to assess the effect of seasonal variation on milk components, and to calculate calving intervals. Thirty six lactating she-camels and their calves were selected (Arabi breed): they were maintained under intensive, semi-intensive and traditional system. The animals were divided into three groups (12 for each group). The first group was managed under semi intensive system in which the animals were herded during night in closed pen and set free during mid-day and supplemented in the evening with 3 kg head per day of concentrate and 6 kg head per day roughages for dams. The second group was intensive system; animals were kept in the experimental farm during the day and offered 15 kg head per day roughages and supplemented with 3 kg head per day concentrate. The third group served as a control (traditional system), the animals were brought to grazing areas where they selected feed by themselves from the available plants, agricultural-residues and allowing no supplemented feeding. Data of milk yield and milk chemical composition was collected. Blood samples were collected for determination of progesterone concentration hormone by using radio immune-assay (RIA) kits. The study concluded that improved management (intensive and semi-intensive system) increased ($P \leq 0.05$) milk yield 3.2 times as compared to the traditional management systems. Milk composition was significantly different among the three production systems and during the seasons. The level of progesterone hormone in camels reared under intensive and semi-intensive increased during the eight months postpartum and reached a peak at 13th and 14th months postpartum. In contrast the progesterone concentration in the traditional system increased till the 12th month post-partum. The results of the present study reflect clearly the significant contribution of the farming systems on productive and reproductive performances of dromedary camel. The long calving interval in the camel under traditional system is mainly due to the general lack of fodder and the poor nutritive value of the natural pastures, and water scarcity.

Keywords: Management systems, milk composition, progesterone, she-camel