

Session (7):

Nutrition, Range & Environment

Some Rumen and Blood Metabolites and Total Bacterial Count in Camels

Hassna, A. Elsayed, M. E. Elimam, Salwa, A. Elbasheer, Noha H. Taleb, Y. A. Sabeel, A. I. Abdelgabar

Goat Research Centre, Faculty of Agricultural Sciences, University of Gezira, P.O. Box 20, Wad Medani, Sudan

ABSTRACT

Camel production is very important in the Sudan due to high population and increasing milk and meat demand and therapeutic value. However, camels are mainly reared in traditional systems based on rangeland with low input and output and their contribution to the national income is less than expected. Nutrition is a main constraint for camel production due to rangeland deterioration and seasonal variations in feeds quantity and quality affecting animals health and performance. In addition modern nutritional concepts are not applied due to lack of information. Consequently, a series of experiments were conducted to furnish the required information. Three rumen fistulated Arabian camels at 5-8 years old and weighing 291- 383kg were used to study some rumen and blood metabolites and total bacterial count (TBC) in the Central Veterinary Research Laboratory (CVRL) in Soba, Sudan. They were housed in individual pens shaded with corrugated iron sheets with feed and water troughs. They animals were fed *Medicago sativa ad lib.* and concentrates at 0 (A), 3 (B) and 1.5 (C) kg daily. Rumen and blood samples were collected at different times (before feeding, during feeding and at 2, 6 and 9hrs after feeding) to study some rumen and blood metabolites and total bacterial count. All parameters varied with time at all concentrate levels and the highest and least times varied among diets. Rumen pH (5.13- 6.17) decreased after feeding and ammonia generally fluctuated with time in all concentrate levels (144.67- 192.27 mg/L) and the change with time was the sharpest in diet B. Rumen urea (24.30-43.10 mg/DL) fluctuated with time in diets A and B, decreased with time up to 2hrs after feeding and then increased in diet C and the change with time was the sharpest in diet A. Blood urea (53.00- 65.73mg/DL) generally decreased with time in diets A and B, fluctuated greatly in diet C and the change with time was the sharpest in diet C. Blood urea was higher than rumen urea. Total bacterial count (3.82- 7.38 log₁₀CFU/ml) was not significantly ($P>0.05$) affected with time and treatments and interaction between treatments and time were not significant ($P>0.05$). It was highly variable in diet A. It increased up to 2hrs after feeding and then decreased in diet B and increased sharply at feeding and decreased with time in diet C. The change with time was the sharpest in diet A. It was concluded that rumen pH, ammonia and urea, blood urea and total bacterial count were affected with feeding time at all concentrate levels and times for the highest and least values varied among diets.

KeyWords: camels, rumen, blood metabolites, bacterial Count