



Tropentag, October 5-7, 2011, Bonn

“Development on the margin”

## The Effect of Feed Supplementation on the Productive and Reproductive Performance of Desert Ewes in Rangeland of Kordofan, Sudan

AHMED IDRIS<sup>1</sup>, AMIR SALIH<sup>2</sup>, FAISAL EL-HAG<sup>3</sup>, CLAUDIA KIJORA<sup>4</sup>

<sup>1</sup>*Peace University, Animal Production and Range, Sudan*

<sup>2</sup>*University of Khartoum, Dept. of Animal Nutrition, Sudan*

<sup>3</sup>*Agricultural Research Corporation, El-Obeid Research Station, Animal Nutrition and Range, Sudan*

<sup>4</sup>*Humboldt-Universität zu Berlin, Dept. of Animal Breeding in the Tropics and Subtropics, Germany*

### Abstract

Feeding experiments were carried out with Sudanese desert sheep in Northern Kordofan during the dry season. The aim of the present work was to investigate the effects of supplementary feeding during mating on ewe productive and reproductive performance.

A total of 340 mature ewes maintained under natural rangelands were chosen during the breeding season. The ewes were divided into four groups of similar body weight and age. They were randomly assigned to four supplementary treatments. Group one was used as a control, the second group was supplemented with diet A, the third group was supplemented with diet B and the fourth group with diet C. All ewes in the three supplemented groups were flushed (receiving supplement for 45 days at mating time) and steamed-up (receiving the supplement for 45 days pre-lambing) while the control group received no supplements as in the farmer practice. Eighteen mature rams were introduced to the four groups at the ratio of 1 ram: 20 ewes.

Body condition score of ewes (BCS) were estimated in breeding, mid pregnancy and lambing period. Number of services, number of ewes mated; pregnant, non pregnant, aborted and lambed were recorded. Number of lambs born and weaned was also recorded. The lambs were weighed at birth and each two weeks. The results obtained indicated that, supplementation improved the BCS compared with farmer practice. Ewes supplemented with diet B and C were the higher ( $p < 0.05$ ) body weight and followed by diet A. Supplementation improved ( $p < 0.05$ ) fertility, prolificacy, fecundity, pregnancy, weaned lambs, and abortion rate compared with non supplemented ewes. The reproductive performance was improved as ewe's age increased. This study indicated that, supplementation during mating is an efficient strategy to reduce nutritional stress in desert ewes and increase their productivity.

**Keywords:** Desert ewes, Kordofan, productive, reproductive, Sudan, supplementation