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Effect of Dry Season Supplementary Feeding on Performance of Desert Sheep in North Kordofan State, Sudan

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Abstract

This study was conducted at North Kordofan State, Sudan. The objectives of the study were to investigate the effects of supplementary feeding during mating, late pregnancy and pre-lambing period on ewe productive and reproductive performance for Desert sheep during the dry season. Eighty ewes were selected from the flock of Desert sheep for this study. Ewes were weighed and randomly divided into four groups of 20 ewes each. Group A was supplemented with diet one (40 % sorghum, 35 % groundnut seed cake, 20 % wheat bran, 4 % sheath, 0.25 % salt lick, 0.75 % common salt), group B received diet two (35 % sorghum, 30 % groundnut seed cake, 30 % wheat bran, 4 % sheath, 0.25 % salt lick, 0.75 % common salt), group C received diet three (30 % sorghum, 25 % groundnut seed cake, 40 % wheat bran, 4 % sheath, 0.25 % salt lick, 0.75 % common salt) and group D served as control (un-supplemented with feed intake depending on pasture only, as practice by farmers). Groups A, B and C were offered their respective supplement feed during 30 days before estrus, 30 days after mating, 45 days before lambing and 90 days after lambing, whereby each diet was offered in the evening at 350 grams per ewe and day. Supplementary feeding had a significant ($p < 0.05$) effect on reproductive traits, by increasing conception rate and lambing rate as compared to the control group. Supplementary feeding also significantly ($p < 0.05$) affected abortion rate which was higher in the control group as compared to the supplemented groups. Furthermore, supplementation enhanced prolificacy in the supplemented groups as compared to the control ($p < 0.05$). Supplemented ewes recorded higher ($p < 0.05$) birth weights of lambs (A: 2.32 kg, B: 2.11 kg, C: 2.02 kg, D: 1.80 kg) as well as higher ($p < 0.05$) weaning weights (A: 11.46 kg, B: 10.70 kg, C: 8.82 kg, D: 7.86 kg). In conclusion, supplementation of Sudanese Desert ewes with diet one (group A) during the breeding period most effectively improved the reproductive performance of the ewes.

Keywords: Body change, desert sheep, reproductive, Sudan, supplementation