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## Effect of Management and Feed Supplement on the Performance and Fertility of Desert Sheep Raised under Range Conditions of Kordofan

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### Abstract

The study was conducted in North Kordofan State, Sudan with the objective to study management effects and addition of concentrates on desert ewes' fertility, lambs' body measurements, and birth weight as well as live weight changes of lambs grazed on natural pasture.

The study used (80) Hammari desert ewes and three rams by the rate of 1 ram per 27 ewes, the ewes were randomly divided into four equal groups of 20 ewes. No significant differences were detected among groups at the beginning of the experiment. The first group left to graze natural pasture from 6: pm to 7: am, stayed under shade from 8: am to 5: pm and were watered once every 3 days, the second group was allowed grazing natural pasture from 6: pm to 7: am, stayed under shade from 8: am to 5: pm and drank daily, the third group was also kept on natural pasture from 6: pm to 7: am stayed under shade from 8: am to 5: pm, drank daily and received a concentrate at the rate of 1 kg per ewe and day, while lambs in the same group were offered concentrate at the rate of 250 g per head and day, and the fourth group was left on the natural pasture all the day long and watered once every five days (control: as simulating the traditionally management method).

The birth weight, weekly body weight of the lambs, and the monthly body weight of the ewes was recorded. Also number of pregnant and non-pregnant ewes, and the number of delivery and abortion was recorded.

The results showed that the supplemented ewes of the third group recorded higher fertility rates, number of twins, weaning percentage and low abortion percentage compared to the control. The results also revealed that the third group lambs had the highest birth weight. Type and sex of birth of lambs had positive effects on birth weights so that single birth lambs were heavier than twins and the birth weight of males was higher than that of females.

**Keywords:** Feed supplementation, Fertility, Kordofan, management, Performance