
Some observations on reproductive traits in a flock of Sudan Desert sheep

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Introduction

Desert sheep are the most predominant types in the Sudan (McLeory, 1961). They are raised mainly under extensive harsh environmental conditions for mutton production. Most of the published research work on desert sheep covered the growth performance and carcass characteristics (El Khidir *et al.*, 1988; Mansour *et al.*, 1988 and others), but little information is available on reproductive performance (Sulieman *et al.*, 1978 and Sulieman and Eissawi, 1984).

This note presents information on some reproductive traits of desert ewes in a flock located at Kuku Research Station (Khartoum North).

The flock :

It consisted of 31 ewes and 2 rams of desert sheep (Watish, Shugur and Dubasi) kept at Kuku for the period 1983 - 1987. It originated from the stock of ElHuda Sheep Research Station in Gezira. Mature adult (2 years and more) body weight in the present flock was 54 ± 8 kg.

* Deceased on 28 July 1992.

Management of the flock :

All the animals were ear-tagged, monthly weighed and sprayed with Gamatox against external parasites.

The sheep were fed *ad lib.* on a concentrate mixture, composed of 25% Wheat bran, 35% Sorghum grains and 15% Groundnut hulls in addition to Berseem fodder (*Medicago sativa*). Salt licks and water were available all the time. Breeding ewes were penned with the ram (10 - 16 ewes / ram). Late pregnant ewes were group-penned and fed separately till six weeks post-lambing, and then returned to rejoin the main flock.

At lambing, birthweight of lamb and first parturition weight of the ewe were recorded soon after birth. Lambs when born were allowed to suckle their dams freely for the first six weeks, then fed the concentrates separately during the day-time, gradually replacing milk till finally weaned at four months of age.

Breeding of female lambs (i.e. Gimmers mated to ram) was allowed; when they attained a good body size condition.

The reproductive traits; lambing interval and age at first parturition (Lambing) were studied in 26 ewes and 15 ewe-lambs respectively, kept under farm conditions.

Results and Discussion

The mean lambing interval was found to be 284 ± 64 days (range 197 - 470 days). This was shorter than 324 days interval that was reported by Sulieman and Eissawi (1984) for desert sheep under irrigated conditions. Lambing interval consists of gestation and service periods. Variations in the gestation length of sheep is negligible. In the present study

the calculated gestation period from ten observed services was 152.8 days (Coefficient of Variation = 1%). Lambing interval is therefore greatly affected by the service period (i.e. period from parturition to conception).

The service period and consequently the lambing interval depends on management of the animals. The mean age at first lambing was to be 420 ± 47 days (range 330 - 507 days). This was found to be shorter than 605 days reported by Sulieman (1982), for the desert sheep at ElHuda Sheep Research Station.

Age at first parturition depends on early occurrence of puberty, i.e. when full potential of reproduction is reached. In the farm animals, age at puberty is closely associated with the rate of growth, and consequently age at first parturition depends on weight at puberty, rather than chronological age *per se* (Ajmer *et al.*, 1968). The information on age and weight of female lambs from birth to first lambing in the study flock, is shown in the following table :-

	Birth	Weaning	Breeding	First parturition
Age (months)	0	4	6 - 8	14
Liveweight (kg)	4.12 ± 0.29	27.4 ± 2.2	34.6 ± 1.6	43.2 ± 3.7
Percent (%) of adult weight	7.6	50.7	64	80

Rapid growing lambs attain heavier weight and reach puberty earlier than slow growing ones. The role of nutrition on body development and sexual maturity was indicated by Allen and Lamming (1961), Younis *et al.*, (1978) and El Khidir *et al.*, (1979). The age at first parturition and lambing interval in this study were less than that obtained by Sulieman (1982) and Sulieman and Eissawi (1984) for the desert flocks under (Gezira) irrigated conditions. This could be attributed to better feeding and management of animals in small groups like in this flock.

Therefore it could be concluded that adequate nutrition and improved management are essential to attain short lambing interval and early first parturition which are traits of economical importance leading to increased productivity in sheep, such as this desert type flock raised under fatm conditions.

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