

## EFFECT OF DOCKING ON GROWTH AND CARCASS CHARACTERISTICS OF DUBASI DESERT SHEEP

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The growth of 30 docked and 30 intact male Desert lambs was studied to weaning. The mean birth weight, rate of gain, and weaning weight of the docked group were found to be 3.9 kg, 119g/d and 18.5 kg respectively; those for the intact group were 4.1 kg 116 g/d and 18.0 kg in the same order. The group difference regarding the three parameters was non-significant.

The performance and carcass characteristics of 20 docked and 20 intact weaned lambs were studied under feedlot conditions. Daily rate of gain and feed conversion ratio of the docked group were found to be 255 g and 6.49 and for the intact group 238 g and 7.0. respectively. Carcass characteristics were not influenced by docking.

**Key words:** Sheep, docking, growth, carcass characteristics

The Sudan is a country rich in animal resources. Amongst other livestock the Sudan supports some sixteen million sheep (Ministry of Agriculture, Food and Natural Resources, 1976). Though nomadism is the backbone of the husbandry practice, interests in intensive production are developing rapidly. These interests should be matched with investigations to evaluate the production potential of the local sheep. This work was carried out at El Huda Sheep Centre to study the effect of docking on growth and carcass characteristics of Dubasi Desert sheep, a breed described by McLeroy (1961).

### Materials and Methods

The growth of 60 Dubasi single male lambs was studied. The lambs were born during the month of September 1975 and were randomly divided into two groups. One group was docked by rubber rings on the third day after birth. Both the lambs and their dams were grazed on berseem (*Medicago sativa*). Lamb weights were recorded every 15 days to weaning age (120 days).

The subsequent carcass study involved 20 docked and 20 intact weaned lambs. The lambs were treated against internal parasites and a pre-experimental period of 10 days was allowed for adaptation to the ration. The composition of the ration is given in Table 1. Water and salt were freely available. Initial weights at the start of the experiment and the daily feed consumption were recorded. Animals were weighed every 15 days for 60 days when they were slaughtered. The procedure of slaughtering and dissection of the animals reported by Osman and El Shafie (1967) was used. Standard statistical analyses were used according to Snedecor and Cochran (1971).

### Results and Discussion.

Data on average birth weight, daily gain and weight at four months is shown in

Table 2. The average daily liveweight gain of the docked group was slightly higher than the intact, but the difference was not significant. Gain of the docked lambs was slow in the first month which may be due to the disturbance of the docking.

Table 1:  
Ingredients and chemical composition of the ration

Ingredient composition, % air dry basis	
Grain sorghum	66
Berseem hay	33
Salt mixture	1
Chemical composition, % in dry matter	
N x 6.25	13
Nitrogen-free-extract	61.6
Ether extract	1.6
Crude fibre	9.0
Ash	8.0

Table 2:  
Performance of lambs from birth to slaughter

	Docked <sup>1</sup>	Intact	SE of difference	Significance
Birth to weaning (60 lambs)				
Birth weight (kg)	3.9	4.1	0.15	NS
Weaning weight (kg)	18.5	18.0	0.45	NS
Daily gain (kg)	0.119	0.116	0.003	NS
Weaning to slaughter (40 lambs)				
Initial weight (kg)	18.6	18.4	0.69	NS
Final weight (kg)	32.0	29.9	1.24	NS
Daily gain (kg)	0.255	0.238	0.011	NS
Feed conversion ratio <sup>2</sup>	6.49	7.00	.	.

<sup>1</sup> Had their tail removed

<sup>2</sup> Feed conversion - kg feed/kg live-weight gain

Results in the feedlot for the two groups are presented in Table 2. The average daily liveweight gain of the docked and the intact groups were 255 g and 238 g respectively and the feed conversion ratios were 6.5 and 7.0. Both the daily gain and the feed conversion ratio of the docked group were better than the intact group but the difference was not significant. These findings are in agreement with those reported by O' Donovan (1974), Demiruren (1971) and Osman and E1 Shafie (1968).

The mean carcass traits for the two groups are shown in Table 3. The warm dressing percentage was found to be 45.9% and 45.4% for the docked group and the intact group respectively. Similar dressing percentages were reported by Hassan (1969), Osman and E1 Shafie (1968). There were no significant differences between the two groups.

Table 3:  
Effect of docking on carcass characteristics

Item	Docked	Intact	SE
Slaughter weight (kg)	33.8±2.92	32.0±3.99	1.22
Warm carcass wt (kg)	14.2±2.32	13.6±1.18	0.34
Chilled carcass wt (kg)	13.7±1.62	12.9±1.85	0.30
Chilled dressing, %	43.1±4.2	43.1±2.61	1.22
Cooler shrinkage, %Eye	2.7±0.21	2.4±0.27	0.01
muscle area, cm <sup>2</sup>	8.1±0.26	9.4±0.61	0.02
Carcass length, cm	61.2±2.05	60.1±2.45	0.51

Simple correlations between some carcass traits are shown in Table 4. There is a highly significant correlation ( $P < .01$ ) between live-weight and carcass weight ( $r = .59$ ). Live-weight appears to be a good indicator to predict carcass weight because of its high correlation to carcass weight, but it should be noted that all lambs in this experiment were fed on the same ties. Where groups of animals are fed different diets, carcass composition and gut fill differences are likely to cause a reduction in the degree of correlation

Table 4:  
Correlations between some carcass traits.

	Correlation	Regression equation
Slaughter weight and:		
Not carcass weight	0.94	$Y = 6.25 + 1.72x$
Eye muscle area	0.04	
Dressing %	0.15	
Chilled carcass weight and:		
Eye muscle area	0.59	$Y = 7.39 + 0.66x$

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