

ANOTE ON THE GROWTH PERFORMANCE OF EXOTIC PURE AND CROSSBRIZD KIDS

**A.M. KHALAFFALLA, AND S.A. ELSHAI-'EI, Kuku Livestock
Research Station - Khartoum Nartft,**

INTRODUCTION

The Nubian and Sudan Desert are the major distinct breeds of Northern Sudan (Mason and Maule. 1960). The Desert Goats are raised mainly under extensive harsh environmental conditions as dual purpose animals. The Nubian goat is the mozt popular breed which is kept mainly for milk production . The goat - keepers feed their milking goats mainly on green forage; and whatever they can collect from garbage. Very rarely goats are offered concentrates (sorghum grains and/ or cotton seed cake). The suckling kids are usually weaned at two to three months of age and the surplus weaned males are slaughtered or sold between four to nine months of age. Research on improvement ofthe local goats for milk and meat production is scarse. In 1976 three exotic pure breeds of goats (Saannen; Toggenburg and Anglo-Nubian) were introduced in the Sudan through the aid of the Ministry of Overseas Development of the United Kingdom for improving goat milk and meat production through crossbreeding with local goats and multiplication of the exotic pure breed. Comparative performance studies between the local goats and the exotic ones were reported by Sulieman and ElShafei, (1984) . In this paper the growth performance and slaughter data of the exotic pure kinds and of their local crosses are reported.

MATERIALS AND METHODS

The data were taken from the records of the goats kept at Kuku Research Station. It comprised the performance records of ten single birth (Oct. 1977) male kids. Five of these were of exotic pure breeds; while the other five were 50% crossbred kids obtained from crossing the exotic bucks with the local does.

Management :

The birth weights were recorded soon after birth. Kids were allowed to suckle their dams freely until finally weaned at three months of age. During this period they also consumed small amounts of the diet offered to their dams (green forages and concentrates composed of 25% cotton seed cake; 25% wheat bran and 50% sorghum grains). During the post - weaning period, the kids were divided into two groups (A and B) of five animals each. Group A comprised of the exotic pure kids; and group B were the (50%) crossbred ones. The animals were fed one and the same diet for 120 days. Ingredients and composition of the diet are given in Table (1). Salt licks and water were available all the time. The animals were fed ad libitum, and the weights of the daily offered feed and the refusals were recorded. The animals were weighed weekly and changes in bodyweights were recorded.

Table (1).
Ingredients Percentage of the experimental ration and their chemical composition.

Ingredient	as fed
Sorghum grain (dura)	25
Cotton seed cake	25
Berseem (M. Satva)	50
	(on dry matter basis)*
Ash	8.0
Ether Extract (E.E)	4.3
Crude fibre (C.F)	30.8
Crude protein (C.P)	18.4
Digestible crude protein (D.C.P)	17.8
Estimated metabolizable energy ME (MJ/kg)	11.64

* Ref : Central Animal Nutrition Research Laboratory - Kuku, Khartoum North.
(C.A.N.R.L. Bulletin I: 1981).

At the end of the feeding period three animals from group A and four animals from group B were slaughtered. The offals were removed and warm carcasses were stored at 0°C in a cold room. Slaughter weight, warm carcass weight and the weights of the body components were recorded separately. Cold carcass weight was recorded after chilling for 48 hours. nesuurs mo DISUSSION The results of preweaning performance of the experimental groups are indicated in Table (2). No significant differences were found in the birth weights, weaning weights and in the daily gain of the two groups. However, smallness of the size of the experiment can not be overlooked.

The birth weight was similar to the finding of Sulieman and ElShafei (1984) for local Nubian and exotic pure kids. It was slightly higher than that reported by Kudouda (1985) for local Nubian and exotic crossbred kids (50") It is however, less than that reported by Igbal, Nath and Chawla (1978) for exotic pure breeds and their crossbred kids in India. In this investigation the preweaning daily gain for the exotic pure bred kids and the crossbred kids were 85.5 15.0 and 86.0 32.0 gram respectively. The post weaning daily gain for the exotic pure bred and the crossbred kids were 56.7 11.6 and 50. 8 20.8 gram respectively, and the differences were not significant. The overall daily gain from birth to seven months of age for the exotic pure bred and the crossbred kids; were 73.0 2.0 and 70.0 16.0 g. respectively, and were not significant. This is similar to the findings of Kudouda (1985) for intact male Nubian kids. It's however, less than that reported by Bello (1985) for local pure Desert goat kids; and the exotic crossbred kids. The intake of food and the feed conversion efficiency is shown in Table (2). It's evident that the crossbred were less efficient than the pure bred in their food conversion efficiency, Results of slaughter weights, hot and chilled carcass_wei~ ghts and the dressing - out percentage of the exotic pure and crossbred kids are indicated in Table (3). No significant difference between the two groups were found. The dressing - out percentage was in the range reported for tropical goats by Devcndera (1967). , The weights of the external and internal slaughter by-products of the two

groups and their proportions as percentage of slaughter weight are indicated in Table (4). Similar results were found in the two groups. The gut-fill (as percentage of slaughter-weight) for the exotic pure bred and crossbred kids were 10.8%; and 10.5% respectively. No significant differences were found in the slaughter by-products or gut-fill. The results found in this investigation taken together with the findings of Sulieman and El Shafei (1984) and Kudouda (1985) for Nubian goats and Bello (1935) for pure Sudan Desert Goats; emphasize the importance of further research for improvement of the local goats breeds, and particularly, the Nubian goats. The Nubian goat is the main progenitor of the world famous Anglo-Nubian breed, and is said the only specialized African breed for milk production; and that its surplus kids are valuable for meat production (Devendera and Burns, 1970).

Table (2):**Birth and weaning weights and Prewaning daily gain (±sd)**

Group	Exotic pure bred kids A	Crossbred kids B	S.E.of means
No of animals	5	5	
Birth weight (kg)	2.8 ± 0.22	3.0 ± 0.27	0.16
Weaning weight (kg)	10.6 ± 1.6	11.0 ± 3.6	0.68
Prewaning daily gain (g)	85.8 ± 15.0	86.9 ± 32.0	3.0
Feedlot Performance of kids in post weaning period			
Period (days)	120	120	
Initial weight (kg)	11.3 ± 1.6	11.6 ± 3.0	0.8
Final weight (Kg)	18.1 ± 1.0	17.7 ± 3.5	0.69
Liveweight gain (g/day)	56.7 ± 11.6	50.8 ± 20.8	2.60
Dry matter intake (DMIkg/day)	0.853	0.852	
Feed conversion efficiency			
DMI/kg liveweight gain	15.044	16.771	

Note : all values were not significantly different.

Table (3) :**Mean values (± sd) of slaughter and carcass weight (kg).**

Item	Exotic Purebred Kids	Cross-bred Kids	Level of significance (P 0.05)
No of animals	3	4	
Slaughter weight (kg)	23.3 ± 3.2	23.5 ± 4.3	NS
Hot carcass weight (kg)	11.33 ± 2.1	11.56 ± 2.6	NS
Cold carcass weight (kg)	10.66 ± 1.8	11.06 ± 2.7	NS
Dressing - percentage (hot)	48.6	49.2	
Dressing - percentage (cold)	45.6	47.1	

Table (4) :

Mean values (\pm sd) of slaughter by - products percent of slaughter weight.

	pure bred		Cross bred		Level of significance
	kids (kg)	%	kids(kg)	%	
Head	1.52 \pm 0.28	6.5	1.52 \pm 0.3	0.3	NS
Skin	1.43 \pm 0.43	6.1	1.43 \pm 0.3	6.1	NS
feet	0.39 \pm 0.06	1.6	0.38 \pm 0.15	1.6	NS
Heart	0.11 \pm 0.02	0.48	0.11 \pm 0.02	0.47	NS
Liver	0.49 \pm 0.05	2.1	0.48 \pm 0.04	2.0	NS
Spleen	0.06 \pm 0.02	0.25	0.06 \pm 0.01	0.25	NS
Lungs and trachea	0.43 \pm 0.05	1.8	0.44 \pm 0.09	1.8	NS
Genital organs	0.22 \pm 0.04	0.94	0.27 \pm 0.04	1.1	NS
Alimentary tract (empty)	2.32 \pm 0.23	10.0	2.16 \pm 0.18	9.2	NS
Gut fill	2.52 \pm 0.02	10.8	2.48 \pm 0.17	10.5	NS

NS : Not significant.

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