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Factors affecting annual hair production in indigenous breeds of camels (*Camelus dromedarius*) under farm conditions

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The average annual hair production of indigenous camels is about 0.8 kg/animal (Sahani *et al.* 1996) and keeping in view the camel population of the country (1.5 million kg), the annual availability of the camel hair in the country is around 1.0 - 1.2 million kg. The hair is mainly used for the production of common utility items, viz. bags, mattresses, blankets and ropes. The superior quality camel hair and its products can also be an important source of additional income for camel keepers. There is a need to explore its production potential and quality characteristics for its optimum utilization as pure camel fibre as well as blend with other animal and synthetic waste fibres, in the rural cottage industry.

Data on annual hair production from 174 camels maintained at this centre and belonging to Bikaneri (82), Jaisalmeri (69), and Kachchhi (23) breeds were utilized. The hair were clipped by hand machine during the last week of March. The clipped hair of individual animals were collected in polyethylene bags, after proper removal of dust and other vegetable matter from hair. The individual camel hair were weighed in 5 kg capacity balance with minimum division of 20 g. All the camels were managed under semi-intensive system of management and were daily sent for grazing / browsing for about 6 hr and offered dry moth chara fodder (*Phaseolus aconitifolius*) @ 2% of body weight in the evening at 4 PM after return from grazing. The data were classified according to breed, sex and age effects, and then analyzed using Mixed Model Least-Squares and Maximum Likelihood computer programme PC 1 (Harvey 1987).

Table 2. Analysis of variance to study the effect of age and sex on annual hair production in indigenous breeds of camels

Source	Bikaneri		Jaisalmeri		Kachchhi	
	Mean square	df	Mean square	df	Mean square	df
MU-YM	0.1595	1	0.0050	1	0.0001	1
Age	0.0181	4	0.1148	4	0.0259	4
Sex	0.6282**	1	0.2031	1	0.2533**	1
Remainder	0.0937	76	0.0847	63	0.0233	17

df. Degree of frequency; **, (P<0.01).

Breed, age and sex-wise least-squares means and analysis of variance for annual hair production are presented in Tables 1 and 2. The mean production in Bikaneri was 0.806±0.05 kg, in Jaisalmeri 0.758±0.04 kg and in Kachchhi 0.645±0.05kg. Bikaneri camels indicated higher mean hair production, followed by Jaisalmeri and Kachchhi camels. Similar trend with significant contribution of breed was also reported by Sahani *et al.* (1996) and NRCC, Bikaner (1994-95). Males in all the breeds showed higher production over the females, sex contributed

Table 1. Breed, sex and agewise least-squares means alongwith standard error for annual hair production (kg) in indigenous camels.

Breed	Sex		Age					Pooled
	Male	Female	1 yr	2 yrs	3-4 yrs	5-6 yrs	7 yrs	
Bikaneri (82)	0.895±0.06 (36)	0.717±0.06 (46)	0.826±0.09 (11)	0.690±0.21 (2)	0.853±0.09 (6)	0.806±0.09 (11)	0.855±0.4 (52)	0.806±0.05 (82)
Jaisalmeri (69)	0.820±0.06 (26)	0.699±0.05 (43)	0.645±0.08 (12)	0.613±0.16 (12)	0.908±0.11 (3)	0.790±0.05 (7)	0.834±0.06 (24)	0.758±0.04 (23)
Kachchhi (23)	0.772±0.06 (10)	0.520±0.06 (13)	0.647±0.05 (7)	0.866±0.15 (2)	--	0.633±0.11 (2)	0.688±0.04 (12)	0.645±0.05 (23)

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significantly ($P<0.01$) in Bikaneri and Kachchhi breeds. Among all the breed groups hair production was higher from 2 to 4 years when compared to other age groups. Similar finding was reported by Sahani *et al.* (1996).

These results clearly indicate that for improving hair productivity and quality of hair, efforts should be made to select superior males within indigenous breeds of camel.

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