

Short Communication

Goat Milk Contribution in Arid Fringes of Rajasthan

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The state of Rajasthan, owing a goat population of 16.8 million, contributed 26.66% to the total goat milk produced in the country (Government of Rajasthan, 2007). Goats are of special consideration in arid and semi-arid areas, where they significantly contribute to the agrarian economy and play a vital role in the livelihood security of the small and marginal farmers and landless laborers. Goats can be milked any time of the day, and are often referred as the moving refrigerators. Goat milk is naturally homogenized and contains greater proportion of small fat globules. Goat milk is prescribed for children, old and sick as it is easily digestible and has medicinal value (Singh, 2006). Goats provide marketable commodities like, milk, meat, fiber, manure, etc. The famous Marwari breed is reared in Pali district, and its daily optimum milk productivity is 1.75 L with lactation length of 210 days

(Rohilla and Patel, 2003). In view of the importance of goat milk, the milk yield was assessed in Pali district.

One sample village was randomly selected from each of 9 tehsils of Pali district. Further, ten goat rearers were selected randomly from each village, thus total sample consisted of 90 goat rearers. Primary data on size of flock, number of male, female and kids in the flock, no. of goats in milk, annual milk produced, etc., were collected using pre-tested interview schedule by personal interview method. The flock size varied from 38 to 112 goats per farmer. To analyze the differences, flocks were classified into three categories viz. small, medium and large; wherein flock size was <50 goats, 50 to 100 goats and >100 goats, respectively (Table 1). The data were analyzed using statistical techniques (Snedecor and Cochran, 1975).

Table 1. Population of goats on different flock sizes (No. per household)

Category	Goat population			
	Male	Female	Kids	Total
Small (<50)	1.5	25.0	10.7	37.3
Medium (50-100)	3.6	57.5	23.6	84.7
Large (>100)	4.8	75.0	32.1	111.9
Overall	3.3	52.5	22.1	78.0
Per cent share in goat population	4.2	67.3	28.4	100.0

Table 2. Category wise lactating goats and milk yield

Category	Lactating goats (Nos.)	Lactating goats as per cent of total female goats	Daily milk yield (L) based on	
			Range grazing	Supplementary feeding
Small (<50)	10.35	41.40	0.875	1.400
Medium (50-100)	22.88	39.78	0.638	1.155
Large (>100)	29.83	39.78	0.783	1.383
Overall	21.02	40.32	0.765	1.313

Goat population on different flock size categories ranged from 37.3 to 111.9 units (Table 1). The population was sub-divided into male, female and kids. Female goat had highest population with 67.3% share as they are required for increasing flock size and milk production. Kids, share was 28.4% and farmers generally sale the kids in the age group of 5-6 months. Adult male, mainly used for breeding purpose, had 4.2% share. Larger flocks of goat were mainly found in Raipur, Bali and Marwar Jn. Tehsils; where common grazing lands are comparatively in better condition.

Among females in the flock 40% of goat population was observed in lactation (Table 2) producing annually about 100 L milk goat⁻¹. Out of which 10% of the goats were given supplement feeding (using guar churi, pala, khejri loong, bajra, fodder tree leaves and other crop-straws/stovers, etc.), for first two months after kidding only; while remaining 30% lactating goats were maintained on grazing alone. Average milk yield was significantly ($P < 0.05$) higher in goats offered supplement feeding (1.313 L day⁻¹) as compared to those maintained on natural grazing (0.765 L day⁻¹) on CPRs viz., oran, gochars, johads, river banks, railway tracks, harvested fields, etc.

With an average number of 21.0 lactating goats in a flock, annual milk production

was estimated to be 2102 L per household. The lactation length of goats is shorter than cow or buffalo and it provided milk only for 3-4 months in a year. Goat farmers kept 1.5 L of goat milk for home consumption in the study area. The share of goat milk in total returns from goat rearing and family's total income was estimated to be about 44 and 40%, respectively.

It is concluded that goats are important milk contributor in Pali district of Rajasthan, but they are poorly managed. By offering supplement feeding to arid goats (available crop residues), annual milk yield could possibly be enhanced up to a tune of 130 L goat⁻¹ that would strengthen the livestock farmers' economy in arid region, who are mostly dependent upon this occupation having either meager agricultural land or no land at all.

References

- Government of Rajasthan 2007. <http://www.animalhusbandry.rajasthan.gov.in>.
- Kumar, Shalander and Singh, N.P. 2006. Status and prospects of commercial goat farming in India. *Souvenir-cum-Proceedings National Workshop-cum-Seminar on Commercial Goat & Sheep Farming and Marketing*, Makhdoom, Mathura, pp. 35-45.

- Rohilla, P.P. and Patel, A.K. 2003. Marwari goat breed of Rajasthan. *Indian Journal of Animal Sciences* 73: 705-709.
- Singh, N.P. 2006. Technological advances for commercial goat production. *Souvenir-cum-Proceedings National Workshop-cum-Seminar on Commercial Goat & Sheep Farming and Marketing*, Makhdoom, Mathura, pp. 1-17.
- Snedecor, G.W. and Cochran, W.G. 1975. *Statistical Methods*. Oxford and IBH Publishing Co., London.