

Rearing environment and husbandry practices of Coimbatore sheep

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ABSTRACT

Rearing environment and husbandry practices of Coimbatore sheep in the field were studied through a detailed survey. The climate of the breeding and migratory tracts was hot, semi-arid and tropical in nature with matching vegetation and cultivated crops. Housing was not provided for the migratory flocks and they were penned in the open harvested fields during nights with the help of nylon nets. New-born lambs were housed in the lamb hut up to 15 days and were then allowed for grazing along with their dams. Coimbatore sheep were raised solely on grazing irrespective of the physiological status. Pure breeding was generally practised in most of the flocks. However, 19.7% of the flocks introduced meat-type hair breeds, viz. Ramnad-type (*Pattanam*) and Mecheri rams for crossing to improve body weight. Shearing of fleece was done annually during May–June and the wool was sorted and transported to the villages of the flock owners for weaving *kambli*s or sold as raw wool. The sheep were vaccinated against anthrax, peste des petits ruminants, and sheep pox. Deworming with anthelmintics was done regularly. The study revealed that Coimbatore sheep were reared under traditional method of rearing with less scientific management practices.

Key words: Coimbatore sheep, Breeding, Environment, Feeding, Management, Sheep

Coimbatore sheep are one among the 8 recognized breeds of Tamil Nadu (Ganesakale and Rathnasabapathy 1973, Acharya 1982) and are medium-sized animals having compact body covered with coarse fleece. Distribution, population size, flock composition and breed characteristics of Coimbatore sheep were reported by Devendran *et al.* (2009). However, detailed information on management of Coimbatore sheep is lacking. This paper describes the rearing environment and the husbandry practices of Coimbatore sheep.

MATERIALS AND METHODS

A survey was conducted in the breeding and migratory tracts of Coimbatore sheep in Coimbatore, Erode and Dindigul districts of Tamil Nadu and Palakkad and Thrissur districts of Kerala in 2005 (Table 1). Data on climate, vegetation and crops were collected in the breeding and migratory tracts. Details of housing, feeding, breeding, shearing and other husbandry practices were also collected during the survey.

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RESULTS AND DISCUSSION

Environment of breeding and migratory tracts

The breeding and migratory tracts were mostly in Coimbatore and Erode districts, which lie between 10° 10' and 11° 58' N latitude and between 76° 40' and 77° 58' E longitude. Both the districts are contiguous, bounded by the Western Ghats. The climate is generally hot, semi-arid and tropical in nature. The mean annual maximum and minimum temperatures were 31.9°C and 21.2°C respectively. The mean annual relative humidity ranged between 47.9 and 83.8% respectively. The average annual rainfall was 681 mm received in 45.9 rainy days. The tract received maximum amount of rain during the north-east monsoon.

Vegetation: Major grasses present in the migratory areas were *Cynodon dactylon*, *Heteropogon contortus* and *Cyperus rotundus*. Important edible weeds observed were *Tribulus terrestris*, *Oldenlandia* spp., *Corchorus trilocularis*, *Coccinia indica* and *Eclipta alba*. Cereals cultivated in rainfed and irrigated lands were *Zea mays*, *Oryza sativa*, *Sorghum vulgare*, *Pennisetum typhoides*, *Eleusine coracana*, *Paspalum scrobiculatum* and *Panicum miliare*. Pulses grown under rainfed conditions were *Phaseolus aureus*, *Phaseolus mungo*, *Cajanus cajan*, *Dolichos biflorus*, *Lablab purpureus* and *Vigna sinensis*.

Common trees and shrubs found in the breeding and migratory tracts were *Azadirachta indica*, *Tamarindus indica*,

Table 1. Flock statistics of Coimbatore sheep

Panchayat Union (of native village/ hamlet of Coimbatore sheep flock owners)	Number of flocks		Sheep population
	Migratory	Stationary	
Sulur	297	17	1,61,532
Sultanpet	105	—	50,328
Thondamuthur	31	18	15,163
Madukarai	11	2	5,306
Palani*	6	8	4,697
Kinathukadavu	7	—	3,485
Perianaickenpalayam	1	19	1,906
Kuniyamuthur	6	2	2,205
Coimbatore corporation	3	—	1,600
Total	467	66	2,46,222

*All Panchayat Unions are in Coimbatore district except Palani Panchayat Union, which is in Dindigul district.

Pongamia pinnata, *Acacia nilotica*, *Delonix elata*, *Ficus benghalensis*, *Ficus religiosa*, *Borassus flabellifer*, *Vitex negundo* and *Prosopis juliflora*.

Management practices

The flock statistics revealed (Table 1) large number of Coimbatore sheep were owned by farmers in Sulur block of Coimbatore district. Most of the flocks were migratory (87.6 %) which constituted 95.5 % of the population. The average flock size was 503 ± 13 (range 100-900). The average flock size observed was higher than that reported by Acharya (1982) and comparable to the report (522.61) of Rajapandi et al. (2006). In stationary flocks the size ranged between 40 and 120 with an average of 60.

Housing: Housing was not provided for the migratory flocks. The sheep were penned in the open harvested fields during nights. In general Mecheri sheep of Tamil Nadu were also housed in open harvested fields (Thiruvankadan et al. 2006). However, for Deccani sheep both open (77.23 %) and closed (22.77 %) type of housing was practised (Report, 2003). The pen for Coimbatore sheep was fenced with nylon nets of about 4 to 5 feet high supported by iron rods (Fig. 1). The area of fencing for an average flock (size of 500) was 25 X 20 m. Penning site was changed almost every day and during the time of changing, the sheep were let loose in the empty fields. The ewes in advanced pregnancy were also

sent for grazing along with the flock. The new-born lambs were housed in the lamb hut up to 15 days during daytime and were allowed with their dams during night. Then the lambs were joined with the adults. Lamb hut was usually made up of palmyra fronds supported with bamboo or Nochi (*Vitex negundo*) sticks inside (Fig. 2) and was placed within the fence in the migratory flocks. Even during rainy season, no protection was provided to the sheep, goats and shepherds except to the young lambs and kids, which were kept inside the lamb hut. In the stationary flocks, housing was of open-type with the side protection made up of wooden reapers or bamboos.

Feeding: Coimbatore sheep depended solely on grazing (Fig. 3) and they were allowed to graze extensively up to a distance of 5 to 8 km for 7 to 8 h a day in the harvested fields, barren and uncultivable lands, roadsides and forest areas. It is in accordance with the practice followed in Deccani sheep (Report 2006). The main sources of grazing were stubbles, weeds, herbs and grasses. No tree fodder was fed to the sheep, even during periods of scarcity. No concentrate supplementation was given to the lambs or adults. During heavy rainy days, the sheep were not taken out for grazing. Watering was done 2- or 3- times a day based on the season and availability and the sources were canals, ponds or wells. The feeding practices were in general similar to the earlier reports on Muzaffarnagari (Mandal et al. 2000) and Mecheri (Thiruvankadan et al. 2006) sheep.

Breeding: Uncontrolled natural mating took place throughout the year as rams and ewes were grazed and penned together. Pure breeding was generally practised; however, of late the farmers had a tendency to introduce Ramnad-type (Pattanam) or Mecheri rams for crossing (in 19.7 % of the flocks) which might be due to low price for wool and coarse blankets (*kamblis*), drudgery of shearing and higher demand for mutton. Rams were not exchanged between flocks, even if a single farmer owned more than one flock. The only time some exchange might take was when two or more flocks were penned together during nights while on migration. For selecting the breeding rams, 3 to 4 % of ram lambs were retained while selling surplus males around 2 months of age. Males were selected based on growth, body size and health status from 9 to 12 months of age. In addition, a few owners also considered the presence of horns and coat and fleece colour during selection. On an average, one breeding ram was kept for every 24 ewes.



Figs 1–3. 1. Net fencing of Coimbatore flock. 2. Lamb hut. 3. Grazing of migratory Coimbatore flock

Shearing: The fleece was shorn in May - June and sometimes in July, if there were summer rains in June. Shearing was done at intervals of 11 to 13 months and the first shearing was done from 12 to 14 months or at times even later, depending upon the growth of wool while Deccani sheep were shorn twice a year i.e., June-July and December-January (Report 2003). The sheep were washed 1 day prior to shearing. The flock owners and shepherds performed the shearing in the place of migration itself and one person could shear 20 to 30 animals/day. Locally made scissors were used for shearing. The wool was sorted at the time of shearing according to colour and other spinning criteria and transported to the villages for weaving *kamblis* or sold as raw wool.

General management: In each flock (of an average size of 500), 3 or 4 shepherds were employed. Head shepherd attended day-to-day flock management including treatment of sick animals. The flock owner or one of his male family members regularly visited the flock once in a week, stayed with the flock for one to two days and arranged for the new penning site. However, during the shearing of wool, lambing season, sale of sheep and outbreak of diseases, he stayed with the flock for longer duration. Every day, the routine started around 6 am. One or two shepherds were involved in the preparation of food for their breakfast and supper near the penning site. The remaining shepherds were engaged in shifting of fence to the new penning site, treatment of sick animals and feeding of weak young lambs with milk from other ewes. Sheep were taken out for grazing around 9 am and brought back in the evening around 6 pm after continuous grazing and the shepherds remained with the flock throughout night. The fencing materials, cooking utensils, clothes, bedding etc., along with young lambs were transported in mini-van whereas the adults were walked all the way to far off places where grazing was available.

Prevalence of disease and healthcare: The mean annual mortality rates were 20.8 and 10.2% respectively for lambs (0–12 months) and adults. The mortality was higher in rainy season, especially in lambs between 0 and 3 months of age. When compared to other breeds in the southern India, lamb mortality in the present study was similar to Tiruchy Black and Bellary, higher than that reported for Mecheri and Ramnad White and less than that of Kilakarsal sheep. In adults, the mortality in Coimbatore sheep was almost same as that of Ramnad White, higher than in Mecheri, Kilakarsal and Deccani and less than in Tiruchy Black and Bellary sheep (Report 2003, Report 2006, Thiruvankadan *et al.* 2006).

The study revealed that Coimbatore sheep were reported

to be affected by anthrax, enterotoxaemia, blue tongue, peste des petits ruminants (PPR), sheep pox and foot-and-mouth disease. The severity of sheep pox was known to be generally less than that reported for Mecheri sheep (Thiruvankadan *et al.* 2006). Incidence of tetanus after shearing and infestation with ecto-parasites was less common. Coimbatore sheep were generally vaccinated annually against anthrax, enterotoxaemia, PPR and sheep pox. They were almost drenched regularly with anthelmintics once in 3 or 4 months to reduce the burden of endo-parasitic infestations. It is in accordance with the report of Rajapandi *et al.* (2006). In Deccani sheep, the shepherds dewormed the animals in 78.15% of the migratory flocks (Report 2003).

The study on the husbandry practices of Coimbatore sheep revealed that the farmers were adopting mostly traditional method of sheep rearing and were following little scientific management. Hence farmers should be given periodical training on improved scientific breeding and management practices.

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REFERENCES

- Acharya R M. 1982. *Sheep and Goat Breeds of India*. FAO Animal Production and Health Paper **30**, Food and Agriculture Organization of the United Nations, Rome. viii+190 pp.
- Devendran P, Kandasamy N, Panneerselvam S and Thiruvankadan A K. 2009. Distribution and breed characteristics of Coimbatore sheep. *Indian Journal of Animal Sciences* **79**: 178–81.
- Ganesakale D and Rathnasabapathy V. 1973. Sheep breeds of Tamil Nadu. *Cheiron* **2**: 146–55.
- Mandal A, Singh L B and Rout R K. 2000. The Muzaffarnagari sheep, a mutton breed in India. *Animal Genetic Resources Information* **28**: 19–25.
- Rajapandi S, Kumar, V R S, Jagatheesan P N R and Viswanathan K. 2006. Distribution pattern and management practices of Coimbatore sheep. *Indian Veterinary Journal* **83**: 891–92.
- Report. 2003. *Final Report*. Network Project on Survey, Evaluation and Characterization of Deccani Sheep Breed. BAIF, Maharashtra.
- Report. 2006. *Final Report*. Network Project on Survey, Evaluation and Characterization of Coimbatore Sheep Breed, Tamil Nadu Veterinary and Animal Sciences University, Chennai, Tamil Nadu.
- Thiruvankadan A K, Purushothaman M R, Karunanithi K and Gurmej Singh. 2006. Husbandry practices of Mecheri sheep in its breeding tract of Tamil Nadu. *Indian Journal of Animal Sciences* **77**: 489–93.