

Population status, management and morphological characteristics of Ramnad White sheep

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ABSTRACT

Tamil Nadu state of India is gifted with eight sheep breeds. Ramnad White breed of sheep has unique economic cum cultural importance with special adaptation characteristics to the drought prone areas. The present study was conducted to evaluate the present scenario of Ramnad white sheep in its home tract. A survey was conducted during 2008 in southern districts (Ramanathapuram, Sivaganga, Madurai, Virudhunagar, Tirunelveli and Thoothukudi) of TamilNadu state. The pure stock of Ramnad White sheep appears to be sporadically distributed in Aruppukottai and Sivakasi blocks of Virudhunagar district and Vasudevanallur block of Tirunelveli district. Body colour is predominantly milky white. Black rings around the eye and mouth are typically noticed. Further black colour is seen in switch of the tail, areas of knee joint, hock joint, pastern joint (up to hoof) and in the tip of preputial sheath of males. The least squares means for body weight, height at withers, body length, heart girth, paunch girth, face length, ear length and tail length were 31.05 ± 0.57 kg, 74.22 ± 0.71 , 66.82 ± 0.87 , 81.65 ± 0.82 , 72.43 ± 1.15 , 24.35 ± 0.74 , 12.79 ± 0.28 and 7.84 ± 0.25 cm, respectively in males and 23.50 ± 0.27 kg, 69.88 ± 0.33 , 59.19 ± 0.41 , 73.44 ± 0.39 , 69.96 ± 0.54 , 18.23 ± 0.35 , 12.27 ± 0.13 , 7.81 ± 0.12 cm, respectively in females.

Key Words: Distribution, Morphology, Husbandry practices, Ramnad White, Sheep

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INTRODUCTION

Tamil Nadu is endowed with eight well-recognized sheep breeds (Ganesakale and Rathnasabapathy, 1973). It ranks highest next only to Rajasthan in number of sheep breeds. The sheep farming community of Tamil Nadu, with the sole aim of improving the live weight of their stock, had resorted to indiscriminate breeding over the past few decades, which resulted in dwindling population sizes of some of the indigenous breeds of sheep. Due to this, the habitat and morphological characteristics of the existing breeds have also changed considerably. Ramnad White is one such breed, having unique economic and cultural importance with special adaptation characteristics to the drought prone areas of the erstwhile Ramanathapuram district. In this context, the present study was conducted to evaluate the present status of Ramnad white sheep in its native tract.

MATERIALS AND METHODS

Survey was conducted in six districts viz., Ramanathapuram (Blocks 7; villages 64), Sivaganga (Blocks 5; villages 25), Madurai (Blocks 2; villages 14), Virudhunagar (Blocks 3; villages 12), Tirunelveli (Blocks 3; villages 24) and Thoothukudi districts (Blocks 3; villages 31). During survey, a total of 291 farmers (flocks comprising 37,891 sheep) were interviewed as per standard questionnaire prepared by NBAGR. The information regarding distribution and characteristics of Ramnad White sheep, reasons for disappearance in the home tract, name of the present sheep population, difference between Ramnad White and Pattanam Aadu, details of management and migration etc., were collected. The study areas were selected based on priority to rear Ramnad White sheep rearing, influence of cross breeding and known existence of pure Ramnad white flocks. Within each locality, sheep farmers were randomly selected. Information was collected using formal questionnaire and informal discussion with key informants, principally the elderly members of sheep keepers. Animals of both

sexes were measured using a standard measuring tape. A total of 272 adult ewes and 14 rams were measured for different parameters like height at withers, body length, heart girth, paunch girth, face length, ear length and tail length. The data collected were subjected to least squares analysis using standard statistical procedure (Harvey, 1990).

RESULTS AND DISCUSSION

Habitat and distribution: According to the earlier reports (Ganesakale and Rathnasabapathy, 1973 and Acharya, 1983), the Ramnad White sheep was found in Ramnad and adjoining areas of Tirunelveli district. The habitat areas of Ramnad white lie in southern agro climatic zone of Tamil Nadu at $9^{\circ}30$ N latitude, 78.25° E longitude with 100-550 m above MSL. The climate of the area is hot, semi arid with shallow and peak summer (up to 39.5° C) and winter (up to 17.0° C) with RH ranging between 43-89 per cent. The average annual rainfall is 737.7 mm received in 43.1 rainy days.

During the survey conducted in the year 2008, it was surprising to notice that the sheep with its earlier described morphological characteristics were not found in the above said areas, and those present were uniformly dull white in colour with black shade in the ventral region particularly the inner side of the jowl extending up to the inguinal region resembling Nellore (Jodipi type) sheep, which is native of adjoining state of Andhra Pradesh. The flock holders popularly call these sheep as "Pattanam Aadu". On interaction with elderly experienced flock men, it was learnt that the name was derived from a small hamlet of Pattanam en route Rameswaram, where a progressive farmer was keeping a flock of Nellore sheep during early 1980s. Subsequently, rams from his flock were dispersed among other flocks for breeding and thus the genotype has changed. The overall opinion of the farmers was that the present stock seen in the breeding tract of Ramnad white sheep is not that of original Ramnad White but Pattanam

Aadu. This dramatic change has occurred during the past two and half decades.

However, the sheep with original Ramnad white characteristics were found to be sporadically distributed in Aruppukottai and Sivakasi blocks of Virudhunagar district and Vasudevanallur block of Tirunelveli district. The breeding tract had shrunk to a small geographical area and restricted to few villages of three blocks. Still, the purebred flocks of Ramnad white sheep were found to exist in villages like Thuraisamiyapuram, Thenmalai, Kothukundu, and Menmeni etc.

Morphological characteristics: The pure stock of Ramnad White sheep is medium sized, strong and hardy having wide chest, medium legs and good posture. Body colour is predominantly milky white. Black rings around the eye and mouth are typically noticed. Further, black colour is seen in switch of the tail, areas of knee joint, hock joint, pastern joint (up to hoof) and in tip of preputial sheath of males. Head is slightly convex. Fore head is medium to broad in size. The nose is slightly Roman type. Ears are medium to long and semi pendulous. The males have medium to long (16-36 cm) curling horns, running backwards and downwards. Horns are black or light to dark grey in colour. Comparatively long hair from lower jaw to brisket in males is present. The ewes are polled. The neck is short, thick in males and slender in females. Legs are medium sized, straight and squarely placed. The hooves are black or dark grey in colour. Tail is short (Range: 6-10 cm) and thin. The present observations coincide well with that of Ganesakale and Rathnasabapathy (1973) and Acharya (1982).



Figure 1. Ramnad White Ram

Following distinct characteristics were noted which distinguished Ramnad White from Pattanam Aadu. Ramnad White is medium sized animal, predominantly milky white in colour. Black rings around the eye and mouth are typically noticed. Black colour patches is also seen in switch of the tail, areas of knee joint, pastern joint (up to hoof) and in tip of preputial sheath of males. Whereas, Pattanam Aadu are large sized animals uniformly dull



Figure 2. Ramnad White Ewe

white in colour with black shade in the ventral region particularly the inner side of the jowl extending up to the inguinal region resembling Nellore jodipi strain.

The least squares means for body weight, height at withers, body length, heart girth, paunch girth, face length, ear length and tail length were 31.05 ± 0.57 kg, 74.22 ± 0.71 cm, 66.82 ± 0.87 cm, 81.65 ± 0.82 cm, 72.43 ± 1.15 cm, 24.35 ± 0.74 cm, 12.79 ± 0.28 cm and 7.84 ± 0.25 cm, respectively in males and 23.50 ± 0.27 kg, 69.88 ± 0.33 cm, 59.19 ± 0.41 cm, 73.44 ± 0.39 cm, 69.96 ± 0.54 cm, 18.23 ± 0.35 cm, 12.27 ± 0.13 cm, 7.81 ± 0.12 cm, respectively in females.

Management practices: Under field conditions in stationary flocks the animals were reared exclusively on grazing from 8.00 A.M to 5.00 P.M. Sheep were maintained under extensive management system. Some resourceful farmers adopt semi-intensive system of management by providing temporary shelter. Flock size varied from 10-150. Rams move with the ewes freely. The breeding rams were used for 2-3 years in a flock and then either exchanged with other farmers or culled. The best males are selected based on vigour, growth, colour and general appearance and kept in flock for breeding in view the number of females present. The surplus males were then disposed through sale. Ewes are bred throughout the year. Lambing is recorded round the year with high frequency in August and September. The litter size is predominantly single. The sale of the animals is made in the village and 80 per cent of the male lambs are in 3-5 month of age. The farmers opined that disease outbreaks (Bluetongue, PPR and Anthrax), shrinkage of grazing lands and prevention of grazing sheep in reserve forest were the main constraints in sheep rearing in the study area.

Population dynamics: According to the 1972 census, the total Ramnad White population was 7.82 lakhs, which reduced to 7.50 lakhs as per 1977 census. In the latest survey (2008) less than 500 (272 in field+180 in Government farm) breedable females only could be enumerated as pure Ramnad White sheep population, distributed in the areas other than earlier described home tract. Even a single pure flock of Ramnad White could not be traced in its

home tract. There was a real shortage of quality rams in the field for breeding. The declining population trend is alarming as the breed is in critically endangered category and may become extinct soon if suitable measures for its conservation not employed immediately.

Reasons for declining population: Several factors have contributed to the rapid decrease of the breed in its traditional breeding tract.

1. Migration and breeder's preference: Migration was very popular and predominant system of sheep production in Ramnad district. The flocks migrate up to Ranipet (Vellore district), which is very near to Andhra Pradesh. The flock owners are always attracted by the larger size of Nellore rams and usually opt for crossing with ewes of Ramnad White resulting in the loss of its breed identity. Two types of sheep were replaced by the home tract of Ramnad White. Major proportion (68%) of the sheep in the area was Pattanam Aadu (Nellore Jodipi) and small proportion (32%) contributed by the crossbred sheep (Pattanam cross, Vembur cross and Kilakarsal cross in the order of merit)

2. Absence of breeding network: Even though a well established organized unit of Ramnad White sheep is under operation at District Livestock Farm, Pudukottai and breeding rams are distributed to the farmers flock for years, the pure germplasm could not be established in the field mainly due to the lack of concerted efforts through associated breeding network like registration of flocks, supply of elite breeding rams to them and recording of performance of progenies. Organized breeding programme like ONBS will be of great help to conserve the breed.

3. Lack of breed wise population data: Since long back, livestock censuses have concentrated only in enumeration of animals species wise rather than breed wise within the species. Hence, lack of breed wise population data has remained a major constraint in determining the status of such important breeds in the tract.

CONCLUSION

Ramnad White is our patrimony. Efficient converters of coarse feed in to animal protein. If immediate attempts are not made for the conservation and improvement of the breed then the valuable germplasm may be lost. Therefore it is the solemn duty of all those concerned to take necessary steps to conserve and multiply Ramnad White sheep not only for benefit of the present day sheep farmers but also for the future generations to cherish.

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