

Husbandry and traditional practices in field flocks of Madras Red sheep

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ABSTRACT

A survey was conducted on the husbandry and traditional practices followed in 107 Madras Red sheep flocks belonging to beneficiaries of ICAR-Network Project on Sheep Improvement-Madras Red field unit (NWPSI). The flocks were maintained under extensive system of management, with flock size ranging from 25 to 180 and majority having between 30-60 breeding females. More than half of the farmers surveyed (52.4%) housed their flocks in thatched sheds, while the remaining left their animals in open areas fenced with chain-link or thorny bushes. Several farmers (68.2%) owned agricultural land. Natural mating was the norm, with an average sex ratio (ram/ewe) of 1 ram per 38 ewes (2.64%). Identification of animals was practised in some flocks using paint or ear notching. Aged ewes were usually disposed by selling to the butcher, with very few farmers maintaining them until death. The main source of income was from sale of ram lambs through middlemen. In addition to sheep, farmers also reared other livestock such as goats, buffaloes, cows and poultry species or a combination of these. The water sources for the animals were lakes, bore wells, ponds and wells. None of the farmers maintained records, insured their animals or cultivated fodder. Traditional treatment practices were followed by the majority of the farmers. Scientific management practices were followed by all the farmers as the inputs were provided by the NWPSI. Superstitious beliefs still exists among the farmers. Shrinking of grazing area, disease, predation by feral dogs and safety for the women grazers were some of the problems encountered.

Keywords: Management; Extensive system; Sheep; Reproduction

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INTRODUCTION

The total sheep population in India is 65.06 million, of which Tamil Nadu has 4.79 million sheep (19th livestock census, 2012). Tamil Nadu is home of ten recognized sheep breeds (Ganesakale and Rathnasabapathy, 1973; Acharya, 1982), of which Madras Red sheep is a medium-sized hairy sheep well adapted to the agro-climatic conditions of the North-Eastern region of Tamil Nadu (Acharya, 1982). It is a meat type breed mainly distributed in Thiruvallur, Kancheepuram, Chennai, Vellore and Villupuram districts of the state (Raman *et al.*, 2003). They serve as a source of livelihood for several small, marginal and landless farmers. It is important to study the actual husbandry and traditional practices followed by the farmers in field conditions. Such information will help in formulation of breed improvement programmes and suggesting suitable

scientific managemental practices.

MATERIALS AND METHODS

Information on 107 beneficiary flocks under the ICAR funded Network Project on Sheep Improvement-Madras Red field unit (NWPSI), functioning at the Postgraduate Research Institute in Animal Sciences (PGRAS), Kattupakkam was utilised for the study. Information was available for the period from 2015 – 2017.

Data on housing pattern, type of mating, management practices, flock size, sex ratio, time of grazing, type of grazing, additional feeding practices, landholdings, other livestock maintained, traditional practices followed for treatment and identification of animals, scientific management practices followed, disposal of adult females, mode of disposal of ram lambs, insurance, fodder cultivation, record maintenance, management of orphan lambs, source

of water and superstitious beliefs were recorded from the beneficiary flocks. The trend in the flock size over the months was also studied. Statistical analysis was done as proportions for various parameters.

RESULTS AND DISCUSSION

The details of parameters obtained through survey are presented in Table 1. All the farmers followed extensive system of management. Sheep were solely dependent on grazing (in natural range lands during rainy season and harvested fields during summer). Most of the indigenous breeds of sheep are maintained under extensive system of management (Devendran *et al.*, 2010; Balasubramanyam *et al.*, 2012).

The flock size in the present investigation ranged from 25 to 180 with an average of 53 breedable females. According to Rao *et al.* (2008), in a study carried out in Chittoor district of Andhra Pradesh, the flock size of Nellore sheep in field conditions ranged from 10 to 183, with majority of the farmers

having a flock size ranging between 25 to 50 (50%). In stationary flocks of Coimbatore sheep, the flock size ranged from 40 to 120 with an average of 60 (Devendran *et al.*, 2010). The Dhargar pastoralists of Maharashtra maintained a variety of livestock in herd along with sheep and the flock size ranged between 15 to 400 sheep (Patil *et al.*, 2012). The trend of flock size including adult females and lambs (Figure 1) showed an increase from September, reached maximum during May and decreased to

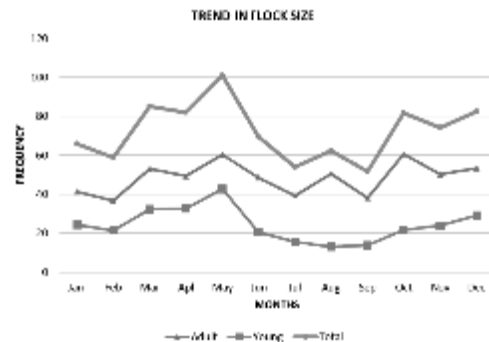


Figure 1. Flock size over the months

Table 1. Management practices in field flocks of Madras Red sheep

Land Holding (%)	Land holding 68.2	No land holding 31.8		
Grazing Time (%)	Eight hours 66.4	Six hours 33.6		
Nomadic System (%)	Stationary 86.9	Nomadic 13.1		
Housing (%)	Thatched shed 52.4	In open 47.6		
Identification (%)	None 86	Paint 12.1	Ear notching 1.9	
Disposal of Aged Animals (%)	Sold 98.1	Maintained until death 1.9		
Mode of Sale of Ram Lambs (%)	Middlemen 95.3	Butcher 3.8	Slaughter 0.9	
Rearing of Other Livestock (%)	Goats 78.4	Cow 53.8	buffalo 27.7	Poultry 22.4
Water Source (%)	Lakes 68.3	Bore wells 29.9	Ponds 0.9	Wells 0.9

lowest during September. This was synchronous with the lambing season and marketing of ram lambs during festival seasons in the region. The main lambing season was during October to January and Bakrid, one of the important festivals for sale of ram lambs, falls during September.

More than half of the farmers surveyed housed their flocks in thatched sheds (52.4%), while the remaining left their animals in open areas fenced with chain-link or thorny bushes. Nearly 88% farmers in Chittoor district possessed kutch house, a temporary house with mud walls and roof made up of tree leaves and other waste materials (Rao *et al.*, 2008). For Coimbatore sheep, housing was of open type with the side protection made up of wooden reapers or bamboos (Devendran *et al.*, 2010). No additional feeding was done for the Coimbatore sheep, even during periods of scarcity (Devendran *et al.*, 2010), which was also the case with Madras Red sheep. Nevertheless, 68.2% of farmers owned agricultural land and made use of the harvested field for grazing, while a few farmers fed crop residues like groundnut haulms to their animals during lean months of summer. Accordingly, grazing time in most of the flocks (66.4%) was from 12 noon to 6 PM. Farmers took the sheep for grazing after completion of the agricultural operations. The water source for the animals while grazing included lakes (68.2%), bore wells (29.9%), ponds (0.9%), and wells (0.9%).

Natural mating was the norm, with rams maintained in the flock throughout to exploit the advantages of the two breeding seasons to the maximum. In Chittoor district, only one fifth of the farmers were aware of ram rotation whereas this is not the case with the farmers of NWPSI, as it is mandatory to rotate the rams among the farmers once in two years. Sex ratio (ram/ewe) ranged from 0.59 to 9.09% and the average was found to be 2.64% which is one ram per 38 ewes. NWPSI recommends a sex ratio of one ram per 40 ewes in field flocks of sheep (Report, 2016). According to Vivanco (1985), during the normal ovulatory season and when the rams are allowed to remain permanently with the ewes, a sex ratio of one ram per 40 ewes was sufficient.

Identification of animals was practised in some

flocks using paint (12.1%) or ear notching (1.9%). This was practiced by farmers to help in identification of animals which get inadvertently mixed with other flocks while grazing. Disposal of aged ewes was by selling to the butcher (98.1%), while some farmers (1.9%) maintained them until death. The main source of income was through sale of ram lambs, which was done through middlemen (95.3%) or directly to the butcher (3.7%). Very few farmers (0.9%) slaughtered the animals for sale of mutton themselves. Rao *et al.* (2008) concluded that farmers, to a greater extent, were exploited by middlemen or butchers. Hence, there is an urgent need to educate the sheep farmers and prevent them from exploitation. They recommended establishment of co-operative and contract farming as ways to come out of the clutches of middlemen.

Integration of other agricultural activities was noticed. In addition to sheep, farmers also reared other livestock such as goats (78.4%), cows (53.8%), buffaloes (27.7%), poultry species (22.4%) and a combination of these (67.2%). Rao and Saxena (1994) reported that a large proportion of livestock was raised under the mixed cropping system in Indian Himalaya. Sheep constituted 10.4% in mixed crop farming systems in the central and eastern Himalayas (Sati and Singh, 2010). Nomadic system of grazing was practised only by few farmers (13.1%), who shifted their flocks during months of scarcity in summer. Most of the Madras Red farmers maintained stationary flocks, as they owned agricultural lands and harvested fields were a good source for grazing during scarcity months. Seasonal migration of sheep from their native tracts to different places, where sufficient water and grazing is available, is an important feature of sheep management which is practiced for the other breeds of sheep from southern parts of Tamil Nadu (Singaravadivelan *et al.*, 2014). None of the farmers maintained records, insured their animals or cultivated fodder.

Traditional treatment practices like use of kumkum for cataract, hot iron for convulsions, camphor and neem oil for maggot wound, lard for oral lesions of foot and mouth disease, application of hot oil for dog bite wound, to name a few, were followed by farmers

in general. Some of these practices were beneficial, while most of them like use of hot iron, hot oil etc., for ailments result in loss due to death of animals. Scientific management practices like provision of salt licks, mineral mixture supplementation, hoof trimming, deworming, vaccination and spraying of drugs for ectoparasites was followed by all the farmers, as the inputs were provided by the NWPSI. These flocks were regularly dewormed and vaccinated by NWPSI. Rao *et al.* (2008) emphasised the importance of modern scientific practices in improving the production of sheep. Superstitious beliefs among the farmers included selling of twinning and early lambing ewes and maintaining one black coloured animal in the flock. Shrinking of grazing area, disease, predation by feral dogs and safety for the women grazers were some of the problems encountered by these sheep farmers. The information on the existing sheep husbandry scenario obtained through this study will help formulate the strategies for adoption of better husbandry practices. Assistance in marketing of sheep could help increase income for the farmers. Practices like record maintenance, insurance cover for animals and cultivation of fodder could further improve income from their sheep enterprises.

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