BREEDING, FEEDING AND HOUSING MANAGEMENT PRACTICES OF MACHERLA BROWN SHEEP[*]

P. VENUGOPAL CHOUDARY[1] ; B. EKAMBARAM[2] AND N. RAJANNA[3]
Department of Animal Genetics and Breeding
College of Veterinary Science, Rajendranagar, Hyderabad-30, India.

ABSTRACT

A study was undertaken to study the breeding, feeding and housing management practices of Macherla Brown sheep in Guntur, Nalgonda, Prakasam and Krishna districts of Andhra Pradesh with sample size of 104 farmers. Study revealed that 62.5 % Macherla Brown sheep farmers in the breeding tract maintained one breeding ram for every 30-50 ewes. Majority (56%) of sheep farmers retained the breeding rams for 3-5 years, while 44% farmers retained breeding rams more than 5 years in their flocks for breeding purpose. 69% farmers followed extensive system of rearing without any supplementation and water was provided during grazing and housing time. 96% of the farmers provided housing to their animals in the form of night shelter. Majority of sheep farmers (61%) used thatched material as roofing material followed by asbestos sheets (31%) and tiles(3%).

Key Words: Breeding, Housing, Feeding and Macherla Brown sheep

Macherla Brown are the local sheep distributed in the villages adjacent to Krishna river in Guntur, Nalgonda, Prakasam and Krishna districts of Andhra Pradesh with specific phenotypic traits and are known for adaptability to hot and humid climatic conditions in the region. No work on cataloguing of management practices followed for the Macherla Brown sheep was attempted earlier and hence, the present investigation was under taken to study the breeding, feeding and housing management practices followed by the sheep farmers.

MATERIALS AND METHODS

The present work was conducted to study the geographical distribution of Macherla Brown sheep located on the banks of Krishna river and Nagarjuna Sagar project Ayacut areas in Guntur, Nalgonda, Prakasam and Krishna districts of Andhra Pradesh.

The information on Macherla Brown sheep for the present study was collected from sheep farmers in the villages located on banks of Krishna river in Guntur, Nalgonda, Prakasam and Krishna districts .Three mandals each in Guntur and Nalgonda districts and two mandals each in Prakasam and Krishna districts were selected for the present investigation in view of the high sheep population. 3 to 4 villages from each of the selected mandal were chosen randomly. From each village, 3 to 4 sheep farmers and about 10 to 12 sheep per farmer were chosen randomly to

record data[12]. Feeding, breeding and health management practices were collected through formal interviews, using a structured questionnaire from the farmers maintaining sheep flocks in the breeding tract. Statistical analysis was done as per the[12].

RESULTS AND DISCUSSION

Breeding Practices

Macherla Brown sheep farmers (62.5%) in the breeding tract maintained one breeding ram for every 30-50 ewes and few farmers (10.58%) maintained one ram for more than 50 ewes (Table 1). The scientific literature suggests that the optimum sex ratio of 20-25 ewes per ram in order to prevent the inbreeding and maintain the reproductive health of the breeding ram .

Earlier workers [10, 7] reported mean ram to ewe sex ratio was 1:20 and 1:24, respectively in Nellore and migratory Coimbatore breeds of sheep.

Most of the farmers (81.73%) used breeding rams at 12-16 months of age while 18.27 per cent farmers used more than 16 months aged rams for breeding for the first time. The findings were in confirmation with previous workers [6, 1] who had reported age at first mating in male ranged from 10 to 24 months.

In the present study it was observed that nearly 56% of sheep farmers retained the breeding rams for 3-5 years, while 44% farmers retained breeding rams more than 5 years in their flocks for breeding. The use of breeding rams over years together in the same flock may lead to reduced productive and reproductive performance of sheep due to inbreeding. This may be due to the lack of availability of superior breeding rams and lack of awareness on ill effects of inbreeding. Total sheep keepers(100%) participated in the study were following flock mating and ram was allowed with the flock throughout the year.

The change of breeding ram was practiced by most (76%) of the farmers. However, some of the farmers were generally reluctant to share his breeding rams due to some socioeconomic reasons and believes.These results were corroborated with the findings of[13, 9].

The practice of castration was not followed in the breeding tract and 27 per cent of farmers followed the selection of breeding animals only. The awareness need to be created among the farmers about the importance of selection of breeding rams and ewes for the genetic improvement. An insight into the culling focused that old age, animals with reproductive problems and diseases are reasons perceived by shepherds.

The present study revealed that August-October as main breeding season, followed by April-June months (24.04%) and November to January (17.31%) months. The findings gained the support of[4, 5].

Feeding Practices

Majority of the farmers (69%) followed extensive system of rearing without any supplementation (Table 2). A total of 30.77 per cent farmers adopted grazing and supplementation. The practice of grazing and supplementation is essential for maintaining good health and reproduction. The findings were in conformity with [8,13].

About 31 per cent of farmers provided supplementation in the form of green (34%), dry fodder (25%) and concentrates (40.63%). This might be due to cropping pattern in the area and awareness about supplementary feeding among shepherds. Majority (59%) of farmers purchased the fodder in order to supplement their animals. The findings were in conformity with[2,11].

The study indicated that more than 8 hours grazing time was adopted by 62% of the famers and followed by 6-8 hours (38%). It could be interpreted that exhaustion of locally available grazing lands and tend to walk longer distance in search of grazing material. The present findings were in agreement with earlier reports of [5, 6].

Majority (63%) of the shepherds informed that community lands, waste barren lands, road sides and harvested fields, forest lands were being utilized as grazing resources for sheep. The findings were similar to the results of earlier workers[3].

In the present study it was observed that water was provided during grazing and housing time. Most of the farmers (97%) did not adopted the important weaning management practice.

Housing

A majority (96%) of the farmers in the present study area provided housing to their animals in the form of night shelter to prevent attacks from the wild animals and thieves (Table 3). It was observed that majority (61%) of the farmers maintained animal house as a part of their residence and the remaining (39%) respondents maintained animals in separate houses. Among those who provided housing to the sheep 58 per cent shepherds provided open housing type and 42 per cent provided closed housing. The present findings were in conformity with reports of [9, 7].

Majority (68%) of sheep farmers provided kutcha type of floor in sheep sheds in the study area. In villages kutcha floor was prepared with locally available *morram* and earthen gravel at a cheaper price, which gives coolness in summer and warmness during winter seasons as well as quick absorption of moisture during urination and defications. The results in the study area were in conformity with [11].

In the study area 61% of sheep farmers used thatched material followed by 31 and 3 per cent farmers used asbestos sheets and tiles, respectively as roofing material. This might be due the availability of local materials like paddy straw, tunga, maize and jowar straws, Palm tree leaves. The thatched roof will help proper heat absorption and dissipation of heat and helps in maintaining proper temperature in different seasons. The findings were in concurrence with [4, 2] who had reported thatched material as roof.

Table 1. Details of breeding practices of Macherla Brown sheep

Sl.No	Breeding	Category	n	%
1	Sex ratio (Ewes per ram)	upto 30	28	26.92
		30-50	65	62.50
		>50	11	10.58
2	Age at 1st mating	12-16 months	85	81.73
		>16 months	19	18.27
3	No of years ram retained for breeding	3 - 5 Yrs	58	55.77
		>5 Yrs	46	44.23
4	Type of mating system adopted	Hand mating	nil	-
		Flock mating	104	100.00
5	Change of ram	Practiced	79	75.96
		Not practiced	25	24.04
6	Practice of castration	Practiced	nil	-
		Not practiced	104	100.00
7	Selection of breeding animals	Practiced	28	26.92
		Not practiced	76	73.08
8	Practice of culling	Practiced	62	59.61
		Not practiced	42	40.39
9	Breeding seasons	April to June	25	24.04
		August to October	61	58.65
		November to January	18	17.31

n = number of farmers

3

Table 2. Details of feeding pattern of Macherla Brown sheep

Sl.No.	Feeding	Category	n	%
1	Feeding practice adopted	Grazing	72	69.23
		Stall feeding	Nil	-
		Grazing & supplementation	32	30.77
2	Form of supplementation	Green fodder	11	34.37
		Dry fodder	8	25
		Concentrates	13	40.63
3	Grazing time per day	6-8 hr	40	38.46
		More than 8 hr	64	61.54
4	Type of grazing lands available	Community lands	24	23.08
		Forests	3	2.88
		Waste lands	11	10.58
		All	66	63.46
5	Source of fodder for supplementation	Home grown	13	40.63
		Purchased	19	59.38
		Collected from fields	Nil	-
6	Watering	at housing	1	0.96
		at grazing	50	48.08
		Both	53	50.96
7	Practice of Weaning	Yes	3	2.88
		No	101	97.12

n = number of farmers

Table 3. Housing pattern of Macherla Brown sheep

Sl.No.	Housing	Category	n	%
1	Provision of housing	Yes	100	96.15
		No	4	3.85
2	Housing provided during	Day time	2	2
		Night time	92	92
		Both (day &night)	6	6
3	Nature of Housing provided	Separately	39	39
		Part of Residence	61	61
4	Type of housing provided	Open	58	58
		Closed	42	42
5	Floor type of the houses	Kutcha	68	68
		Pucca	24	24
		Others	8	8
6	Roof type of the houses	Asbestos	31	31
		Thatched	61	61
		Tiles	3	3
		Others	5	5

n = number of farmers

CONCLUSION

The study on feeding, breeding and housing management practices of Macherla Brown sheep revealed that all the practices followed by the sheep farmers were traditional in nature. The feeding source of sheep was mainly community, barren and other waste lands.

31 % of farmers provided supplementation in the form of green (34%), dry fodder (25%) and concentrates (40.63%). Majority (61%) of the farmers maintained animal house as a part of their residence and 61% of sheep farmers used thatched material as a roofing material for shelters.

REFERENCES

1. Anandarao K, Sarjan Rao K, Jagadeeswara Rao S, Ravi A and Anitha A 2010 Studies on reproductive performance of sheep in migratory and semi migratory production systems.*Indian Journal of Animal Production and Management*. 26 (3-4) 114-117.

2. Arora A L, Prince L L L and Mishra A K 2007.Performance evaluation of Jaisalmeri sheep in farmer's flocks. *Indian Journal of Animal Sciences*: 77(8)759-762

3. Devendran P, Kandasamy N, Panneerselvam S and Thiruvenkadan A K 2010 Rearing environment and husbandry practices of Coimbatore sheep.*Indian Journal of Animal Sciences* 80 (5): 470–72

4. Dineshkumar Yadav, Reena Arora, Bhatia S and Gurmej Singh 2011. Morphological Characterization, Production and reproduction status of Munjal- A threatened sheep population of North-West India. *Indian Journal of Animal Sciences* 81 (9): 943-945.

5. Gopaldass 2007. Production performance and management practices of Pugal sheep in the home tract. *Indian Journal Animal Sciences*. 77(8): 763-66.

6. Gurmej Singh, Anand Jain and Dinesh Kumar Yadav 2007. Evaluation of Nali sheep under field conditions.*Indian Journal of Animal Sciences.* 77(11): 1158-1160.

7. Kandasamy N Pannerselvam S, Devenran P and Thiruvenkadan 2006 Final report on survey, evaluation and characterization of Coimbatore sheep breed, Department of Animal Genetics and Breeding, VC&RI, Namakkal.

8. Mehta S C, Vij P K, Nivsarkar A E and Sahai1 R 1995b Sheep husbandry practices in Sonadi and Malpura breeding tract. *Indian Journal of Small Ruminants* 1(1):1-7.

9. Rajapandi S 2005 Distribution and management practices of Coimbatore sheep. M.V.Sc. Thesis Veterinary College and Research Institute, Namakkal, Tamil Nadu.

10. Saravanakumar A K 2003 A study on the migratory pattern of Nellore sheep and their performance. M.V.Sc., Thesis submitted to Acharya N.G.Ranga Agricultural University, Hyderabad, Andhra Pradesh.

11. Sharma M C, Pathodiya O P, Jingar S C and Mitesh Gour 2007 study on Socio-economic status of goat rearers and adoption of management practices. *Indian Journal of small ruminants* 13: 75-83.

12. Snedecor G W and Cochran W G 1994 Statistical methods. 8th Edn.Iowa, State University Press, Ames, Iowa.

13. Sushilkumar R, Sharma C, Mishra A K and Arora A L 2003 Production performance of sheep and certain management practices in farmers flocks of south east Rajasthan. *Indian Journal of Small Ruminants* 9(2):103-105.

★ ★ ★