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Management practices followed by sheep farmers in Tonk district of Rajasthan

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Abstract

The study was conducted in Tonk district of Rajasthan. It comprised of 8 tehsils, out of which one tehsil was selected randomly. The selected tehsil was Malpura. Further, four villages selected tehsil was identified from each village 20 respondents were selected randomly. Thus, the entire sample consisted 80 respondents from selected four villages in one tehsil of the district. The management practices of breeding, feeding & grazing, housing, lamb management and health care were studied of all the respondents and revealed that Majority of the sheep farmers (81.25%) selected for the study were having knowledge on the heat signs exhibited by the animals. Grazing was practiced by all the sheep farmers and most of them (80.00%) sent their flocks for 8-10 h of grazing. It was also observed that 73.75% of the farmers provided housing to their animals and 95.00% of the farmers were cleaning the lambing area at the time of lambing. Most of the farmers were aware of the health status and diseases affecting sheep and the regularity of vaccination, deworming and found that all herders were regularly vaccinating and deworming their flocks.

Keywords: sheep, management practices, farmers, tonk

Introduction

Livestock is one of the fastest growing agricultural sub sectors in developing countries and indispensable to the economic, nutritional, and social well-being of the farmers. Livestock and poultry are important contributors to the national economy. Livestock generated output worth of Rs. 5,91,691 crores, which comprised 4.11 per cent of the GDP and 25.6 per cent of the agricultural GDP (DAHDF, 2016-17). Animal husbandry is an integral part of Indian agriculture providing livelihood support to more than two third of the rural population. Animal husbandry along with agriculture has not only contributed to the food basket but also by maintaining ecological balance.

Rajasthan state has livestock population of 56.80 million (11 per cent) of India contributing nearly 41.5 million Kg. of wool and 187 million tons of milk and 7.4 million tons of meat production to the country during year 2019. In Rajasthan, livestock population comprises large and small ruminants. Cattle and buffaloes are the main large animals while sheep and goats are the major small ruminants. According to estimates of the recent Livestock census, the share of cattle population was about 21 per cent and buffaloes constitutes about one-fifth of the total population.

Animal products play a pivotal role in the human nutrition and food security. Though the consumption of animal products is criticized on the ground that the animals being poor converters of plant protein to animal protein, yet their consumption is desired to produce balanced diet at national level and animals play a complimentary role in crop production for achieving nutrition and food security. Livestock products not only represent a source of high-quality food, but equally important they are as main source of income for many small farmers in developing countries for purchasing food as well as agricultural inputs.

Sheep is a warm-blooded animal and sheep have a unique quality among the domestic animals and are adaptable to a wide range of environmental conditions. Wool is a very valuable product, since it is relatively non-perishable, capable of being stored and transported to markets. Sheep meat is the most palatable and rich in nutrient than any other meat. It is rich in proteins (26-28 per cent), calories, minerals (phosphorous and iron) and vital vitamins (B1, B2, B12 and Niacin). Sheep dung is an important source of plant nutrients such as Nitrogen (0.6 per cent), Phosphorous (0.5 per cent) and Potash (0.65 per cent). An Australian farmer says "take care of the sheep and the sheep will take care of you".

The Rajasthan state has 7.9 million sheep as per 20th livestock census and ranks 4th in India. During 2001-02 wool production stands at the modest level of 19.67 million kg and from that year to present year (2012- 13) there was a continue decrease (14.07 million kg) in the wool production. Because there was continues decrease in the sheep population in the state and demand for the sheep meat is increasing day by day. Sheep forms a key component of Indian livestock biodiversity. They are lifeline for many marginal farmers and landless labourers surviving in adverse climatic conditions (Arora *et al.* 2011) [2]. The production of wool, meat and manure provides different sources of income generation to the shepherd.

Most of the farmers used to rear sheep for their subsistence and hence rarely adopt scientific management practices due to lack of awareness and lack of access to veterinary services.

Research Methodology

The study was conducted in Tonk district of Rajasthan. which was selected randomly. Tonk district comprises of 7 tehsils, out of one tehsil “Malpura” was selected from the district because sheep farming is major source of income in malpura tehsil. Further, five villages selected from tehsil were identified. From each village 20 respondents were selected randomly. Thus, the entire sample consists of 80 respondents from selected four villages in Malpura tehsils of the district. A list of Sheep owners of selected villages was prepared with the help of village Sarpanch and Patwari with the criteria to select from all strata, was divided in three categories according to Flock size viz. small, medium, large.

For the study about management practices followed by sheep farmers, a face-to-face interview method by using an interview schedule was prepared with the help of Department of Animal Husbandry and Dairying, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj (U.P.) and Rajasthan Cooperative Dairy Federation, District Animals Husbandry Department and experts on the subject. The data was collected through personal interview technique from each selected respondent.

To analysis the collected information, several basic statistical tools and methods were used. The following statistical treatments were used for interpretation of data: -

Frequency

Distribution The total numbers of respondents in the survey.

Percentage

Simple comparisons were made on the basis of percentage.

Chi Square (χ^2)

Chi square analysis was done to study independence of attributes as per Snedecor and Cochran (1967).

Results and Discussions

The management practices of breeding, feeding & grazing, housing, lamb management and health care were studied of all the 80 respondents and the different practices have been described in the following sub sections.

1. Existing breeding management practices

Breeding management practices followed by the shepherds were analyzed and are presented in the Table 1.

Majority of the sheep farmers (81.25%) selected for the study were having knowledge on the heat signs exhibited by the animals. The chi-square statistic is 0.5378. The result is significant at $p < .05$ while 92.50% were aware on ram to ewe ratio. All the farmers surveyed were not adopting separation of males and females, flushing of breeding stock and restriction on mating. All the sheep farmers were resorting to flock mating whereas only 72.50% of them were following ram rotation. Majority of the farmers (40.00%) were rotating their rams after a period of 5 years and above, small number of farmers (5.00%) after 3 years. The chi-square statistic is 0.6006. The result is significant at $p < .05$. Method of ram rotation followed by most of the farmers was either by purchase (81.25%) or by exchange (18.75%). The chi-square statistic is 0.9207. The result is significant at $p < .05$. In the present study, it was revealed that the major breeding season was from June to August and minor was from January to March. The chi-square statistic is 1.3889. The result is significant at $p < .05$.

These findings are in line with the findings of Rajanna *et al.* (2014) [7].

Table 1: Existing breeding management practices

Practices	Households (Flock size)			Overall	χ^2 Value
	Small	Medium	Large		
Knowledge on heat signs					
Yes	17	28	20	65(81.25)	0.54 ^S
No	3	8	4	15(18.75)	
Male & female kept separately					
Yes	0	0	0	0	----
No	20	36	24	80(100)	
Mating practices					
Hand mating	0	0	0	0	----
Flock mating	20	36	24	80(100)	
Awareness on ram to Ewe ratio					
Yes	18	33	23	74(92.50)	0.60 ^S
No	2	3	1	6(7.50)	
Restriction on mating					
Yes	0	0	0	0	----
No	20	36	24	80(100)	
Flushing					
Yes	0	0	0	0	----
No	20	36	24	80(100)	
Breeding season					
June -Aug	12	27	17	56(70)	1.39 ^S
Jan-Mar	8	9	7	24(30)	
Ram rotation					
Yes	18	29	20	67(83.75)	0.85 ^S
No	2	7	4	13(16.25)	
Period of Rotation					
3 Yrs	2	4	3	9(11.25)	4.81 ^{NS}
4 Yrs	10	11	5	28(32.50)	
5 Yrs & above	6	14	12	37(40.00)	
Not followed	2	7	4	15(16.25)	
Ram rotation method					
By exchange	4	8	3	15(18.75)	0.92 ^{NS}
By purchase	16	28	21	65(81.25)	

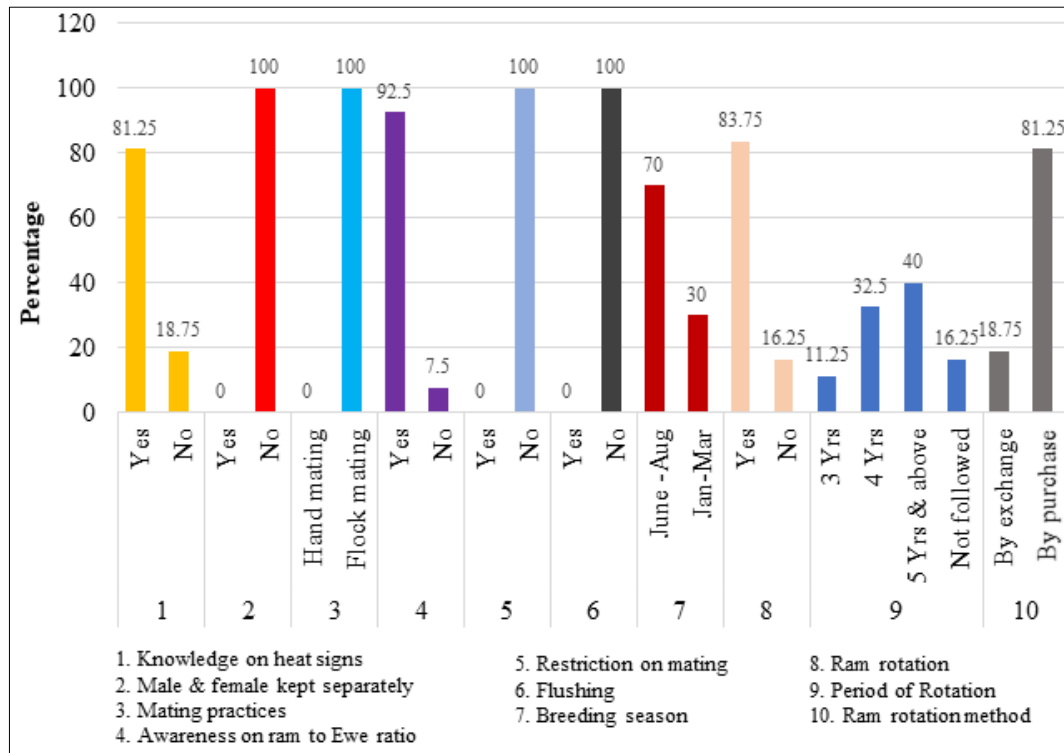


Fig 1: Existing breeding management practices

2. Existing feeding and grazing management practices

The results showing various grazing practices are presented in Table 2. In the present study, it was observed that practice of migration was not a common among the sheep farmers of Tonk district irrespective of the division. Further, it was observed that farmers practicing migration was less in Malpura division.

Rainy season was the only season during which farmers went on local migration and was mainly due to presence of crops in all the agricultural lands.

Grazing was practiced by all the sheep farmers and most of them (80.00%) sent their flocks for 8-10 h of grazing. The chi-square statistic is 1.1956. The result is significant at $p < .05$ and the distance covered during grazing was mostly 2-4 Km. The chi-square statistic is 0. The result is not significant at $p < .05$ and a small number of farmers (30.00%) covered a distance of 4-6 Km. All the sheep farmers studied, sent their sheep for grazing on common lands like bunds of canals, tanks and none on private lands. The present investigation revealed that most of sheep farmers used change regularly in grazing (73.75%). None of the farmers were feeding mineral mixture and only very few were giving supplementary feeding.

These finding are supported by Sushil Kumar *et al.* (2003) [10], Thiruvankadan *et al.* (2004) [11], Kuldeep Porwal *et al.* (2006)

[5] and Gopaldass (2007) [4].

Table 2: Existing feeding and grazing management practices

Practices	Households (Flock size)			Overall	χ^2 Value
	Small	Medium	Large		
Grazing Duration					
6-7 Hrs	3	5	2	10(12.50)	1.19 ^{NS}
8-10 Hrs	15	29	20	64(80.00)	
More than 10 hrs	2	2	2	6(7.50)	
Grazing Distance					
2-4 Kms	10	20	15	45(56.25)	---
4-6 Kms	7	11	6	24(30.00)	
6-8 Kms	3	5	3	11(13.75)	
Routine Grazing lands					
Private lands	0	0	0	0	---
Common lands	20	36	24	80(100)	
Direction of grazing					
one side	6	9	6	21(26.25)	0.24 ^S
change regularly	14	27	18	59(73.75)	
Supplementary feeding					
Yes	4	7	5	16(20)	0.02 ^{NS}
No	16	29	19	64(80)	
Min Mix feeding					
Yes	0	0	0	0	---
No	20	36	24	80(100)	

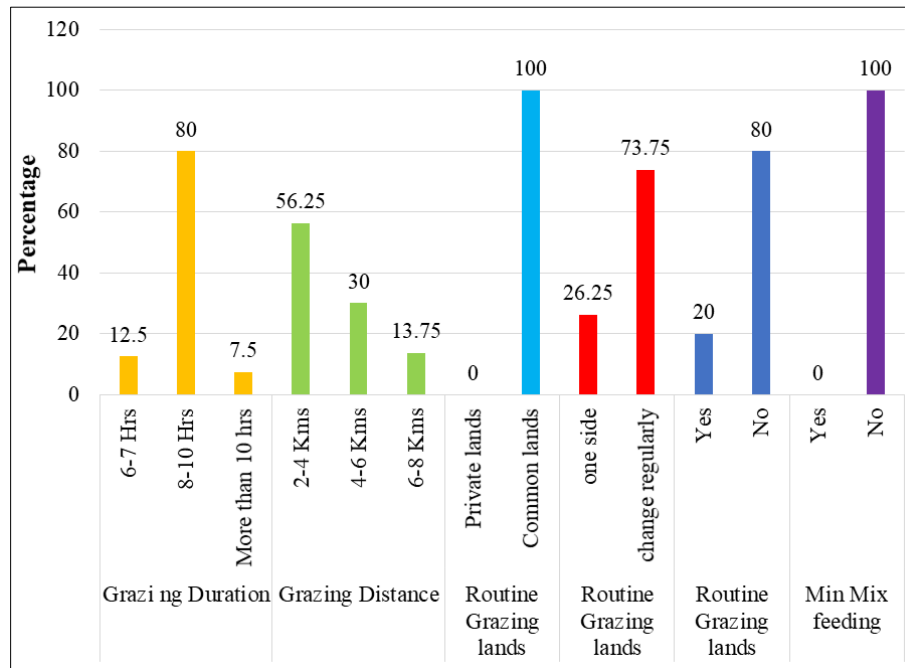


Fig 2: Existing feeding and grazing management practices

3. Existing housing management practices

In the present study an investigation has been made to study the housing management practices followed by the farmers in the Malpura tehsis of Tonk district. Housing management practices followed by the farmers were analyzed and are presented in the Table 3.

In the present study, it was observed that all the farmers surveyed in the Tonk district were following extensive system of rearing of sheep. It was also observed that 73.75% of the farmers provided housing to their animals. Out of the farmers providing housing majority (66.25%) had their animal houses located near their houses and the remaining (33.75%) had their animal houses located away from their houses. The chi-square statistic is 0.51556. The p-value is .784556. The result is not significant at $p < .05$.

Out of all the farmers providing housing, 56.25% of the farmers provided thatched roofs while the rest of the farmers did not provide any roof and it was observed that none of the farmers provided pucca roof. 87.50% of sheep farmers had mud floors and 12.50% of them were of slab floors. Majority of the farmers (88.75%) had enclosures made with bio fence material or by bamboo poles laden with thatches, whereas those of the remaining were made of wall (11.25). The chi-square statistic is 0.2663. The result is significant at $p < .05$. Majority (80.00%) of the farmers were cleaning the animal houses daily and very few (20.00%) were cleaning them once in 2-3 days. The chi-square statistic is 0.27778. The p-value is 0.875087. The result is not significant at $p < .05$. All the farmers in Malpura divisions had no provision either for watering or for feeding in the sheds. No provision was made to keep the males and females separately. Dinesh Kumar *et al.* (2006) [3] Virojirao *et al.* (2008) [12].

4. Existing lamb management practices

Lamb care and management practices followed by the sheep farmers were analyzed and are presented in the Table 4.

In the present study, it was observed that 95.00% of the farmers were cleaning the lambing area at the time of lambing. The chi-square statistic is 0.3814. The result is significant at $p < 0.05$ and care of the lamb was taken by both

women and children. The chi-square statistic is 3.8884. The p-value is .424562. The result is not significant at $p < .05$ about 76.25% households surveyed and the lambs were supported by only dam's milk in all the cases. After lambing all the farmers were sending the dams to grazing rather than confining them to the house. Among the shepherds surveyed, 68.75% of the shepherds were sending the lambs for grazing within 30 days of lambing whereas remaining were sending them in 2 months' time. The chi-square statistic is 1.2218 The result is significant at $p < .05$. In the survey conducted, it was observed that none of the farmers were practicing weaning of lambs and only 71.25% of them were practicing feeding lambs with tender leaves like Subabul, while the rest were not following it. The chi-square statistic is 1.6611. The result is significant at $p < .05$.

These findings are in accordance with the findings obtained by Suresh *et al.* (2008) [9].

5. Existing health care management practices

Health management practices followed by the shepherds were analyzed and are presented in the Table 5.

A study was made to understand the regularity of vaccinations and deworming and found that all shepherds were regularly immunizing and deworming their flocks. It was also noted that the vaccines were supplied by the state Animal Husbandry Department alone whereas the deworming agents were either received from the Animal Husbandry Department or were purchased from the market. All the farmers surveyed had knowledge about the health status and diseases affecting the sheep. Majority of the selected farmers (87.50%) were giving practice of dipping.

These finding are supported by Arora *et al.* (2007) [1], Rao *et al.* (2013) [8] and Nisha *et al.* (2016) [6].

Conclusion

It might be concluded from the results of the present study that, majority of the shepherds were landless and were following traditional methods of sheep rearing without any scientific inputs with regard to housing, feeding and breeding. The farmers were aware of health and disease and were

practicing preventive vaccinations and deworming.

References

1. Arora AL, Prince LL, Mishra AK. Performance evaluation of Jaisalmeri sheep in farmer's flocks. *Indian Journal of Animal Sciences*. 2007;77(8):759-762.
2. Arora AL, Prince LLL, Mishra AK. Performance evaluation of Jaisalmeri sheep in farmers' flocks. *Ind. J Animal Sci*. 2011;77(8):759-762.
3. Dinesh Kumar, Gurmej Singh, Anand Jain. Characterization and evaluation of Muzzaffarnagri sheep. *Indian Journal of Small Ruminants*. 2006;12(1):48-55.
4. Gopaldass. Production performance and management practices of Pugal sheep in the home tract. *Indian Journal Animal Sciences*. 2007;77(8):763-766.
5. Kuldeep Porwal, Karim S A, Sisodia SL, Singh VK. Socio-economic survey of sheep farmers in western Rajasthan. *Indian Journal of Small Ruminants*. 2006;12(1):74-81.
6. Nisha PR, Mohammed Safiullah A, Sasikala V, Saravanan KP. Migratory sheep rearing in Thanjavur district of Tamil Nadu. *Ind. J Small Ruminants*. 2016;22(1):134-136.
7. Rajanna N, Mahender M, Raghunandan T. Feeding and breeding management practices of sheep in telangana region of Andhra Pradesh. *Indian Journal of Animal Production and Management*. 2014;30(1-2):37-40.
8. Rao AK, Rao KS, Rao SJ, Ravi A, Anitha. Analysis of sheep production: systems North coastal zone of Andhra Pradesh. *Int. J Agri. Sci. and Vet. Medicine*. 2013;1(3):130-145
9. Suresh A, Gupta DC, Mann JS. Farmers management practices and economics of sheep farming in eastern semi-arid region of Rajasthan. *Indian Journal of Small Ruminants*. 2008;4(2):236-242.
10. Sushil Kumar, Sharma RC, Mishra AK, Arora AL. Production performance of sheep and certain management practices in farmer's flocks of south East Rajasthan. *Indian Journal of Small Ruminants*. 2003;9(2):103-105.
11. Thiruvankadan AK, Karunanithi K, Purushothaman MR. Socio-economic status of the Mecheri sheep farmers and economics of rearing under farmer's management. *Indian Journal of Small Ruminants*. 2004;10(2):117-122.
12. Virojirao ST, Thammi Raju D, Ravindra Reddy Y. Adoption of sheep husbandry practices in Andhra Pradesh, India. *Livestock Research for Rural Development*. 2008;20:114-118.