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Management Practices Adopted by Farmers of Budgam in Rearing Kashmir Merino

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ABSTRACT

Background: Kashmir Merino is a very important synthetic sheep breed of J and K. It is widely adopted across the Valley. It is an important source of income for the poor and marginalized farmers. An attempt was made to understand the management practices adopted by farmers of Budgam in rearing of Kashmir Merino sheep.

Methods: A survey was undertaken in Budgam district understand the management practices used by farmers for rearing Kashmir Merino sheep.

Result: Majority of the sheep farmers (68.42) housed Kashmir Merino sheep in Pucca house made of brick structures reinforced with either cement or mud whereas only (31.58%) housed sheep in Katcha houses. Breeding season ranges from April to May and August to December. Majority of the respondents (75.00%) reported autumn season as the main breeding season and only 25% reported spring as main breeding season. The sheep farmer was either having in possession small or marginal land holding. Sheep were reared on semi-intensive feeding systems during early spring and late autumn, intensive system during winter from December to April and extensive system from May to November. The vaccination against infectious diseases, dozing against prevalent parasites and treatment as per morbidity was carried out by expert veterinarians of Department of sheep Husbandry. Poor economic and low technical proficiency are main hurdles for farmers of Budgam to have good housing facilities to manage the breed. Management has significant effect on performance of sheep.

Key words: Breeding, Breeding values, Ram, Selection.

INTRODUCTION

Livestock sector is an essential element of human living which supports the livelihood of majority of the rural poor globally (Ali, 2007). At present, it is one of the fastest growing agricultural sub-sectors in India. It employs a major section of the countries labour force. Jammu and Kashmir rank 6th in sheep population (Anonymous, 2019) and majority of population are associated with sheep rearing.

The performance of sheep is determined its genetic worth and the environmental factors. The environmental factors include all non-genetic components of variation influencing performance of an animal. The management is main contributor of this non-genetic variation. Growth and survival of lambs is influenced by important management factors like nutrition status and good hygiene (Chaarani *et al.* 1991). Therefore, present study was undertaken to understand some management practices used by farm of Budgam district to manage Kashmir Merino sheep.

MATERIALS AND METHODS

A survey was undertaken in Budgam district to understand the management practices used by farmers for rearing Kashmir Merino sheep.

Accordingly, 76 farmers were interviewed by face-to-face contact and the data generated were analyzed. The data were analyzed using appropriate statistical methods like percentages, means *etc.*

RESULTS AND DISCUSSION

Housing management

Majority of the sheep farmers (68.42) housed Kashmir Merino sheep in Pucca house made of brick structures reinforced with either cement or mud whereas only (31.58%) housed sheep in Katcha houses (Table 1) to protect sheep from harsh weather conditions like heavy snowfall and severe cold, theft, predation. The sheep were housed for 24 hours during winter and for night hours only during early spring and late autumn. It was observed that 76.32% houses had poor ventilation system and 23.68% houses had good

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average ventilation system and 0% houses had good ventilation system in animal houses in studied area Table 1.

Cross ventilation system was not practiced by farmers due to lack of knowledge. Poor economic and low technical proficiency were main hurdles for farmers of Budgam to have good housing facilities to manage sheep. However, Want (2016) also reported that 97.87% and 2.12% farmers used Pucca house and Kutcha houses, respectively to prevent sheep from snowfall/rainfall, scorching heat of summer, theft, predation *etc.* The climate and heavy snow fall during winter forced farmers to use galvanized iron sheet to cover animal houses. All animal houses were roofed with CGI (Corrugated Galvanized Iron) sheets (100%) in surveyed area.

Breeding management

Kashmir Merino sheep is a seasonal breeder and exhibits estrus during spring and autumn only. Breeding season ranges from April to May and August to December. Majority of the respondents (75.00%) reported autumn season as the main breeding season and only 25% reported spring as main breeding season in the studied area (Table 2).

Ganai *et al.* (2009), Ganai *et al.* (2010) Want *et al.* (2016) also reported September- October as major breeding season for Karnah, Gurez and Kashmir Merino sheep. Random mating by using superior quality rams supplied by department of sheep husbandry was followed. Same Rams were used for many years. This practice may lead to increased inbreeding coefficient in flocks. A.I and castration of feed lot rams was not practiced. More or less similar breeding practices were reported by Ganai *et al.* (2009), Ganai *et al.* (2010) and Want *et al.* (2016).

Table 1: Housing management of Kashmir Merino sheep.

Housing practices	76 (%)
Type of housing	
Katcha (%)	24 (31.58)
Pucca (%)	52 (68.42)
Type of roofing	
Thatched (%)	-
CGI sheets (%)	76
Asbestus (%)	-
Roofing pattern	
Covered (%)	100
Half covered (%)	-
All open (%)	-
Housing area per sheep (Sq.ft.)	
Covered	18.48
Open	19.11
Only night time	100
(During early spring and late autumn)	
Only day time	-
Both day and night	100
(During winter)	
Ventilation (%)	
Good (%)	-
Average (%)	18 (23.68)
Poor (%)	58 (76.32)

Table 2: Breeding and lambing Pattern in Kashmir Merino sheep in surveyed area.

Traits/district	Pooled 76
Breeding season	
Autumn (August to December)	57 (75.00)
Spring (April to June)	19 (25.00)
Breeding methodi	
i. Natural breeding (%)	100
ii. A.I. (%)	-

Figures within parentheses are number of observations, (*) No. of farmers, () No of animals.

Table 3: Feeding practices of Kashmir Merino in surveyed area.

Feeding practice	Pooled 76
Grazing system (%)	
i. Natural grasses, shrubs and tree leaves	100%
Major fodder tree (%) used	
i. Acacia (*Kikar*)	94.82
ii. Salix or willow (*Vir*)	87.51
iii. Popular (*Fres*)	43.77
iv. Mulbarry	4.88
v. Elin (*bren)*	14.48
Major fodder shrubs used (%)	-
Major fodder/grassesi	
i. Oats	87.91
ii. Berseem	7.58
Fodder type used (%)	
i. Dry fodder	10-
Supplement feeds used (%)	
i. Grains	
A. Wheat	95.45
B. Maize	51.51
C. Other grain	6.06
ii. Cakes	
A. Cotton seed cake	4.54
B. Mustard cake	4.54
iii. Brans	
A. Wheat	1.51
B. Maize bran	-
iv. Minerals/salts	
A. Mineral mixture	-
B. Salt (Lahori)	10-
Amount of supplement feeds used	
i. Green fodder (kg)	2.379
ii. Dry fodder(kg)	-
iii. Concentrate/grains (gm)	119.44
iv. Minerals/lahori salts (gm)	7.27

Table 4: Ingredients of feed and fodder as reported by farmers.

Fodder	N	%	Feed	N	%
Paddy straw	68	88.31	Rice bran	70	90.91
Naturally growing grasses	66	85.71	Wheat bran	67	87.01
Oats	57	74.03	Maize	55	71.43
Tree leaves	54	70.13	Crushed rice	10	12.99
Maize stubble	40	51.95	Oats seeds	5	6.49
Pea	9	11.69	Palated feed	5	6.49
Bean pods	7	9.09	Soya bean	1	1.30
M P Chary	4	5.19	Oil cake	0	0
Turnips	3	3.90			
Berseem	2	2.60			
Clover	2	2.60			

Feeding management

The sheep farmer was either having in possession small or marginal land holding. Sheep were reared on semi-intensive feeding systems during early spring and late autumn, intensive system during winter from December to April and extensive system from May to November. The animals were mostly reared under mixed crop-livestock farming system using a mixture of grazing and stall feeding (during early spring and late autumn), stall feeding alone during winter and grazing alone practices (during late spring, summer and early autumn). During grazing season, village sheep flocks were reared by the shepherd (locally known as *Pohal*). Ganai *et al.* (2010) and Khan *et al.* (2013) also reported that Gurez sheep were reared using a mixture of stall feeding, semi-stall feeding and grazing alone.

The shepherds follow semi-migratory, semi-intensive mode of rearing where sheep are shifted to alpine pasture situated at an altitude of 11800 to 14000 ft. above mean sea level, from mid-June to mid-September. During migration sheep got exposed to varied climatic conditions wherein temperature fluctuates from sub-zero during night to 21-32°C during day. At high land pastures sheep were kept in temporary paddocks during nights and let out for grazing during day for about 10-12 hours. These practices were reported by all farmers. Ganai *et al.* (2010) also reported similar migration pattern was adopted by Gurez sheep farmers. During winter, early spring, late autumn sheep were fed feed and fodders made from ingredients presented in Table 3. The farmers were utilizing agriculture wastes for making feed and fodders for sheep in the area under study.

Majority of farmers (88.31) and (87.01) were feeding sheep, paddy straw and naturally growing grasses, respectively as fodder. Rice bran and wheat bran was reported by 90.91 and 87.01 5, respectively farmers as ingredient of feed. No farmer reported oil cakes as ingredient of feed for sheep. It is obvious from Table 3 that sheep were not fed balanced diet. Khan *et al* (2013) reported that cultivated oats and maize, natural pastures, forest lands, community lands, common property resources, tree leaves and maize straw as main fodder resources of the Gurez. Whereas Ganai *et al.* (2010) found that no fodder crop was cultivated in Gurez area and dry fodder was produced from wild grasses, straw of maize and wheat and mixed jungle hay. Ganai *et al.* (2010) also reported that g maize grains, wheat grains and locally grown pea were also fed to the Gurez sheep during winter.

Want *et al.* (2016) also reported that Kashmir Merino sheep were maintained under semi-intensive and extensive management with night shelter on community rangeland, cropped land after harvesting of standing crops, roadsides, forestland and high land pastures. The greasing was practiced in village flocks. The flocks ranged from 350 to 2000 sheep heads were reared by shepherd locally called Phol. The grazing system studied was found comprising of natural grasses, shrubs and tree leaves. The predominant highly nutritious grasses in the pasture were *Trifolium pretense, Lespedeza serices, Trifolium tomentosum, Poa pratensis, Lespedeza serices, Stipa concinna* and Perennial grasses like *Bromus ranmosus Brachypopdium styaticum, etc.* The availability of these components was dependent upon season. Acacia (*Kikar*) and Salix or willow (*Vir)* were abundant fodder trees with availability of 94.82% and 87.91%, respectively.

The range of availability of fodder trees is presented in Table 4. Berseem fodder availability was observed with 87.91 and 7.58 farmers, respectively in surveyed area 87.91. Only dry fodder (prepared from oats), along with paddy straw, maize stalks, tree leaves and natural grasses harvested and dried during late summer and early autumn were use as fodder for during harsh winters. No supplementary feeding was used by farmers. However, common salt was fed to the animals fortnightly.

Disease management

The vaccination programme was carried out by Department of sheep Husbandry for FMD, Enterotoxaemia, Sheep pox and PPR, as 31.58%, 38.16%, 25.00% and 36.84%, respectively in Budgam. Similarly, the anthelminthic dosing and dipping programme was carried out by department of sheep husbandry covering almost all sheep owners.

CONCLUSION

The breed was reared by poor farmers on semi-intensive feeding systems during early spring and late autumn, intensive system during winter from December to April and extensive system from May to November. Kashmir Merino sheep is a seasonal breeder and exhibits estrus during spring and autumn only. The breed is maintained by poor farmers. Poor economic and low technical proficiency are main hurdles for farmers of Budgam to have good housing facilities to manage the breed. Management has significant effect on performance of sheep.

REFERENCES

Anonymous. (2019). 20th Livestock Census, All India Report. Minis try of Fisheries, Animal Husbandry and Dairying. New Delhi. India.https://dahd.nic.in/sites/default/filess/20th% 20Live stock%20census-2019%20All%20India%20Report_0.pdf.

Ali, J. (2007). Livestock sector development and implications for rural poverty alleviation in India. Livestock Research for Rural Development. 19(2).

Chaarani, B., Robinson, R.A. and Johnson, D.W. (1991). Lamb mortality in Meknes Province (Morocco). Preventive Veterinary Medicine 10: 283-298.

Ganai, T.A.S., Misra, S.S., Sheikh, F.D. and Banik, S. (2009). Characterization and evaluation of Karnah sheep of Kashmir. Indian Journal of Small Ruminants. 15(2): 172-177.

Ganai, T.A.S., Misra, S.S. and Sheikh, F.D. (2010). Gurez-A threatened sheep breed of Kashmir. Indian Journal of Animal Sciences. 80(8): 806-808.

Khan, A., Dar, A.A., Khan, H., Mir, M.S., Malik, A. and Beigh, Y.A. (2013). Status of Livestock Production in Gurez Valley of Jammu and Kashmir in India. Indian Journal of Hill Farming. 26: 54-58.

Want, Q.A. (2016). Documentation and characterization of Kashmir Merino sheep in Srinagar of Kashmir valley. M.V.Sc. Thesis submitted to Sher-e-Kashmir University of Science and Technology-Kashmir.