



ISSN (E): 2277-7695

ISSN (P): 2349-8242

NAAS Rating: 5.23

TPI 2023; 12(2): 2384-2386

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www.thepharmajournal.com

Received: 06-11-2022

Accepted: 15-01-2023

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Performance evaluation of sheep rearing in gurez region

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Abstract

Gurez sheep is an indigenous multipurpose breed of Jammu and Kashmir. The breed possess wide range of economically important traits like adaptation to high altitude, milk production, disease resistance and better reproductive performance despite of its unique genital potential this breed is largely unexplored, hence the comprehensive study was conducted in native breeding tract. Data on growth, reproductive and dairy performance were recorded and analysed for performance evaluation. Average birth weight was $3.26+0.364$ and $3.15+0.406$ which is significantly high in gurez as compared to Tulail. Average weaning weight is $19.38+0.147$ and $19.35+0.136$ in gurez and tulail respectively with no significant difference between the two blocks. Similarly, average weight at 6 months were $22.03+0.256$ and $22.09+0.234$ respectively with no significant difference between the two blocks. Average age at first mating (months) in males and females $21.25+0.150$ and $21.22+0.140$, $10.81+0.078$ and $10.72+0.078$ in gurez and tulail respectively. Average gestation period (days) and age at 1st lambing (months) were $146.75+0.39$ and $146.76+0.36$, $16.31+0.076$ and $16.23+0.070$ respectively with no significant difference between the two blocks. Average milk yield (ml) is $655.59+32.790$ and $668.75+31.478$ in gurez and tulail respectively with no significant difference between them.

Keywords: performances, gurez, growth, reproductive, dairy

Introduction

Sheep rearing in Gurez region is challenged by a number of factors which result in low profitability and consequent discouragement among potential sheep rearers towards this sector. Government apathy followed by high feed/fodder costs, inadequate grazing resources, poor genetic potential, impediments in breed improvement besides diseases and mortalities have earlier been identified as the main constraints to sheep rearing in northern region of the state (Shah *et al.* 2017) [5]. Farmers without having adequate knowledge on scientific practices are practicing many malpractices leads to failure of the venture Socio-economic variables such as income, land holding, flock strength, rearing experience, primary and secondary occupation, production potential and educational level have been found to have a direct impact on small ruminant production (Ramesh *et al.* 2012) [4]. Poor socio-economic status and low level of literacy among the sheep farmers forces them to adopt low input low output production system with least possible resources and lucrative professions Moreover Farmers adopt many faulty management practices under this system which antagonizes the profitability of the sector.

The is considered as traditional sheep rearers (gujjars/bhakarwals/chopans) from neighbouring areas of other districts migrate their sheep flocks to highland pastures of Gurez region during early part of June and return back before the winter sets in (mid-August to September). Some of the hilly areas of Bandipora region situated close to Gurez are also rich in alpine pastures witnessing an upward migration of large sheep flocks from June onwards.

Keeping in view the above mentioned facts, survey was conducted in its actual breeding tract regarding various performance parameters. The knowledge gathered from this study will also be immensely helpful in developing plans for package of managerial practices, breeding plan and conservation of this unique animal genetic resource found in the northern part of our country and will help in development of a sustainable and profitable sheep rearing system

Materials and Methods

Bandipora town is situated on the banks of Wullar lake approximately 50 km from Srinagar. Gurez region is the least populous of the three regions and situated at the northern extremity bordering Pakistan.

It is a valley located in the Himalayas about 84 km from Bandipora town and 134 km from Srinagar situated about 2,400 m (8000 feet) above sea level, the valley is surrounded by snow-capped mountains on all sides. It is considered as the traditional sheep rearing belt of the district with very rich in lush green alpine pastures, making it ideal for sheep rearing.

A survey was undertaken by personal interview of sheep farmers and visit of sheep farms area of study. Information on various aspects of sheep rearing was obtained on the basis of a questionnaire devised for the purpose. The study was conducted in Gurez region of Kashmir. The region is divided into two blocks i.e Gurez and Tulail and the study was conducted in both of these blocks, where the concentration of breed is more and this area represented whole of Gurez valley. Thus a total of 75 respondents /block from block 1(Gurez) and 300 respondents/block from block 2 (Tulail) has been evaluated in the study. A total of 375 respondents (sheep rearers) representing whole of gurez region were selected for the study. Selection of each village was done on random basis. Thus on the whole, proportionate random sampling was

followed for selection of villages.

Results and Discussion

Growth Performances: The results has been presented in the table-1. The results indicates average birth weight was 3.26+ 0.364 and 3.15+ 0.406 which is significantly high in Gurez as compared to Tulail. Average weaning weight is 19.38+0.147 and 19.35 + 0.136 in Gurez and Tulail respectively with no significant difference between the two blocks. Similarly, average weight at 6 months were 22.03+0.256 and 22.09 +0.234 respectively with no significant difference between the two blocks. Average weight at 1 year is 30.89+0.238 and 30.91 +0.218 with no significant difference between the two blocks. Similarly, Adult weight was 51.10+0.616 and 50.65+ 0.537 respectively with no significant difference between them. Das *et al.* (2012) conducted a study on performance traits of Kashmir Merino sheep. Results of study revealed that average birth weight was 2.82 kg, weaning weight was 13.31 kg, age at first service was 14.74 months, age at first lambing was 19.74 months and greasy fleece weight was 1.40 kg.

Table 1: Growth performance of sheep during different age groups in two regions.

Body weight at different age groups (Kgs)	Gurez	Tulail
Birth weight	3.26+ 0.364 ^a	3.15 + 0.406 ^b
Weaning weight	19.38+0.147	19.35 + 0.136
Weight 6 months	22.03+0.256	22.09 +0.234
Weight 1 year	30.89+0.238	30.91 +0.218
Adult weight	51.10+0.616	50.65+ 0.537

Values with different superscript between the regions are significant.

Reproductive performance

The results has been presented in the table-2. The results indicates average age at first mating (months) in males and females 21.25 + 0.150 and 21.22 + 0.140, 10.81 + 0.078 and 10.72 + 0.078 in Gurez and Tulail respectively. Average gestation period (days) and age at ist lambing (months) were 146.75 + 0.39 and 146.76 + 0.36, 16.31+ 0.076 and 16.23 + 0.070 respectively with no significant difference between the two blocks. Estrus cycle (days) and lambing interval (months) were 16.52+ 0.11 and 16.52 + 0.10, 7.75 + 0.050 and 7.74 + 0.47 respectively with no significant difference between the two blocks. Similarly, litter size and life time production

(years) were 1.30 + 0.034 and 1.30 + 0.032, 5.99 + 0.067 and 6.01 + 0.064 respectively in Gurez and Tulail with no significant difference between the two blocks. Teramaj Abebe 2020 also aimed to assess breeding practice and reproductive performance of indigenous sheep breed in Lagambo district based on household survey and reported the overall mean age of male sheep at sexual maturity and female sheep at first service in the study area was 7.31 and 7.54 months, respectively. Age at first lambing, average number of litter per ewe life time, average lambing interval and average reproductive lifespan of ewe were 12.96 months, 11.63, 8.46 months and 8.34 years, respectively.

Table 2: Reproductive performance of sheep during different stages of life in two regions

Reproductive Parameters	Gurez	Tulail
Age at Ist mating in males (months)	21.25 + 0.150	21.22 + 0.140
Age at Ist mating in females(months)	10.81 + 0.078	10.72 + 0.078
Gestation period (days)	146.75 + 0.39	146.76 + 0.36
Age at Ist lambing (months)	16.31+ 0.076	16.23 + 0.070
Estrus cycle (days)	16.52+ 0.11	16.52 + 0.10
Lambing interval (months)	7.75 + 0.050	7.74 + 0.47
Litter size	1.30 + 0.034	1.30 + 0.032
Life time production (years)	5.99 + 0.067	6.01 + 0.064

Table 3: Dairy performances of sheep in two regions

Dairy performances	Gurez	Tulail
Average daily milk yield (ml)	655.59 + 32.790	668.75 + 31.478
Lactation length (days)	162.774 + 1.824	163.400+1.678
Total lactation milk yield (liters)	137.601+ 2.862	137.300+2.704

Dairy performances

The results has been presented in the table-3. the results indicates average milk yield (ml) is 655.59 + 32.790 and 668.75 + 31.478 in Gurez and Tulail respectively with no significant difference between them. Similarly, average lactation length (days) are 162.774 + 1.824 and 163.400+1.678 in gurez and tulail respectively with no significant difference between them and total lactation milk yield (liters) were 137.601+ 2.862 and 137.300+2.704 which is also statically insignificant. The present study was with in the range as reported by Bhosale *et al.* (2009) ^[1]; Ghada (2005) ^[3] in goat milk.

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