

Gurez – A native sheep breed of Kashmir

Mubashir Ali Rather^{1*}, Ambreen Hamadani², Showkat Ahmad Ahangar¹
and Safer Alam²

Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir,
Shrinagar, Jammu and Kashmir 180 009

The Gurez sheep is medium sized hardy breed adapted to the harsh agro climatic conditions of Gurez, J&K, India. This breed has a good influence on the socio-economic status of the Dard-Shina tribe of this region. The flock size varies from 3 to 45 sheep per farmer. The flock composition varies in 3-31 of ewes, 0-7 rams and 2-14 young ones. The farmers have a good experience in rearing this sheep breed which they do mainly for meat and wool traits. The animals are active, hardy adapted to agro-climatic conditions and vegetation of Gurez. The farmers have mostly adopted sheep rearing as secondary source of income. Natural random flock mating in village flocks ranging from 150 to 350 is generally practiced during autumn and spring seasons. The most prevalent diseases in the area are Sheep pox, Orf, foot root, Fascioliasis, Cerobrospinal namatodiasis, mange, diarrhoea and other ecto and endoparasitic disease.

Keywords: Farmers, Gurez, Kashmir Valley, Marginal land farmers, Sheep

THE livestock sector has a pivotal role in the socio-economic upliftment of the tribes engaged with livestock rearing. This sector plays life sustaining roles in hilly and mountainous areas where crop production is low, owing to marginal land holdings of farmers, inclement weather and shorter periods for growing crops. The livestock provides food to people living in hilly areas and sometimes even used as currency. Further, it acts as cushion against adversities. The fragile ecological condition along with harsh climatic conditions constrains the daily life of people living in hilly areas. A typical example is Gurez, which remains cutoff from rest of Kashmir for most of the winters. Therefore, local production plays a vital role in ensuring the survival of the people of Gurez. The main activity of people of the Gurez valley is livestock rearing.

The Gurez valley located in the basin of the river Kishan Ganga of

district Bandipora and has an area of above 57,842 ha. It is located in the Himalayas and is therefore mountainous. The Gurez valley has a rough topography and low accessibility. Due to the geographical barriers, a hardy sheep evolved in this ecological niche which is known as Gurez (Fig. 1). Gurez is a native and registered sheep of Kashmir adapted to harsh climate and agro climatic condition of Gurez valley. The breed is reared by the Dard-Shina tribe who are ethnically and culturally distinct from Kashmiris or Ladakhis but closer to the people of Gilgit.

Utility of the breed

The breed is known for fast growth and production of 1-6.5 kg/year of good quality white fine wool with average fibre diameter of 18-22.5 μ and staple length of 4-6 cm. This breed is popular for its traits and fibre suitable for making apparel or carpet. In addition to these, it also provides some milk and is known for

its milk traits. The animals of this breed have distinct physical, production and reproductive characteristics. The Gurez breed of sheep is the largest among the breeds of this region and it show a better tendency of survival in the cold regions of the valley as compared to the exotic breeds.

Physical traits of Gurez Sheep

The following physical traits are mostly seen for this breed.

- **Coat colour:** White 72.22%, Black 20.37%, Brown 7.41%
- **Head profile:** Convex
- **Face length:** Short
- **Nasal bridge:** Convex 87.71 and Flat 12.29%
- **Legs and head:** Devoid of wool in all animals
- **Wattles:** Present in 4.91% animal
- **Ear orientation:** Broad, droopy and long 86.64% Rudimentary to short and erect 7.86 Tubular triangular and long 1.93
- **Presence and absence of horns:** Polled



Fig. 1. Gurez Sheep

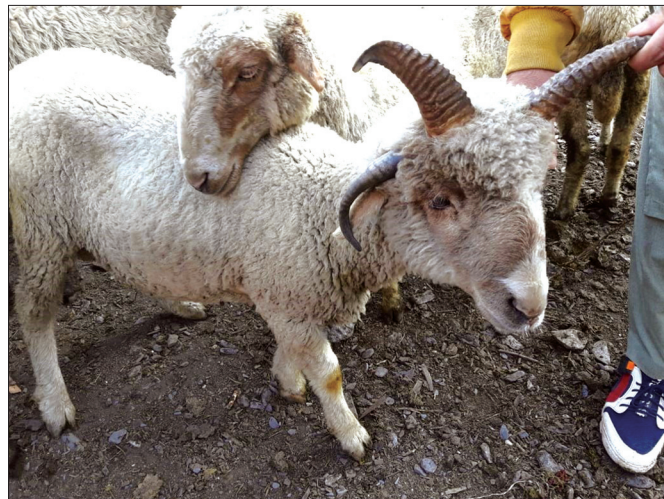


Fig. 2. Polycerous condition

62.30%, Horned with two horns 29.51%, Horn buds 4.10%, Polycerous condition (multiple horns) with 4-6 horns 4.10% (Fig. 2)

- *Horn orientation:* Curved backward forward outward 38.89% Curved backward forward inward 61.11
- *Colour of hooves:* Brown
- *Animal behavior:* Active and alert
- *Body size:* Medium
- *Wool type:* Course

Body measurement (cm)

- *Body length:* At Birth (27.0), Weaning (40.0), 6-months (45.5), 12-months (56.23) and Adults (66.70) on an average.
- *Body height:* At Birth (25.0), Weaning (40.01), 6-months (45.10), 12-months (56.11) and Adults (63.72) on an average.
- *Heart girth:* At Birth (33.5), Weaning (51.0), 6 months (58), 12 months (65.5) and Adults (74.45) on an average.
- *Paunch girth:* At Birth (24.5), Weaning (42.0.0), 6 months (52.0), 12 months (62.92) and Adults (79.17) on an average.
- *Face length:* At Birth (17.5), Weaning (21.5), 6 months (23.0), 12 months (25.0) and Adults (30.0) on an average.
- *Tail length:* At Birth (13.56), Weaning (14.5), 6 months (15.5), 12 months (17.47) and Adults (18.40) on an average.
- *Ear length:* At Birth (9.55), Weaning (10.01), 6 months (10.5), 12 months (10.79) and

Adults (11.03) on an average.

- *Ear breadth:* At Birth (5.0), Weaning (5.2), 6 months (5.3), 12 months (5.55) and Adults (6.25) on an average.

Production

- *Body weights (kg):* At Birth (2.51), Weaning (8.86), 6 months (16.56), 12 months (20.84) and Adults (35.45) on an average.
- *Wool production (kg):* At 6 months (0.65), 1 year (0.75), and adult (0.95)/ year
- *Milk production:* 400-700 ml/ day

Breeding tract

The breeding tract of Gurez sheep is situated on the bank of Neelam river, between longitude 74°40'2" E and latitude 34°15'2" N with minimum elevation of about 3200 M above mean sea level and the maximum height of the inhabited village is 4,100 m. The locality comprised of mountainous area as well as basin of the river Kishan Ganga. The Gurez breed of sheep is distributed in Guraz and Tulial tehsils of Bandipora district.

Although this region is ideal for the rearing of this breed, there are some major concerns for the survival of this breed which include:

- Non-availability of feed and fodder particularly during winter months
- Decreasing population of Gurez sheep
- Availability of good wool producing Merino germplasm
- Depleting the natural grazing

areas and high pressure on pastures

- Overuse of pastures along with inaccessibility to some of pasturelands
- Pasture degradation and encroachments
- Long winters
- Lack of modern technologies to process wool, skin and hide
- Long harsh winters

Socio-economic profile of Gurezi sheep farmers

All sheep farmers have good experience of sheep rearing. Both men and women are involved in sheep rearing. The men folk looked after grazing of the sheep whereas women folk helped the men for in feeding, and watering of sheep and cleaning of animal houses. The poor, middle aged folk, both men and women of age 40-60 years, mostly illiterate people having marginal land holdings are engaged in sheep rearing. The land holding of the farmers are in range of 2-11 kanal. The farmers have mostly adopted sheep rearing as secondary source of income. The flock size varies from 3-67 sheep per farmer. The flock composition varies from 2 to 55 number of ewes, 0-7 number breeding rams and 1-17 young ones. The farmers have other livestock species also with a herd/ flock size per household of 1-10, 0-15 goats and 0 to 1 horse and 5-15 poultry birds. The cattle reared alongside the sheep are mostly crossbred. The average total annual income from all sources

of the farmers is ₹ 150,203. Houses constructed from logs of wood are used for housing livestock.

The flock composition varies from 3-31 number of ewes, 0-7 number rams and 2-14 young ones.

Management Practices

Sheep are reared on semi-intensive feeding systems using a mixture of stall feeding, semi-stall feeding and grazing alone. In the extreme winter (December to March) sheep are completely totally stall fed, in April they are semi-stall fed and in the summer till late autumn sheep, they are kept on grazing alone. The dry fodder is produced from wild grasses, maize straw and wheat straw and mixed jungle hay. The grains like maize, wheat and locally grown pea are also fed to the animals. During the winter animals are fed the dried wild grasses and hay @ 1.0–1.5 kg/sheep/day. During extreme winter, the animals are also supplemented with crushed maize @ 200-300 g/animal/day and even boiled potatoes. All animals are housed together

usually on ground floor, with human dwellings over them on the higher floors. This practice keeps the human dwellings warm during winters. Drainage, sanitation, ventilation and provision for light are not adequate and proper. Vaccination against sheep pox, FMD, clostridial diseases and dosing with anthelmintics and dipping against ectoparasites are practised by the Department of Sheep Husbandry.

Reproduction management

Natural random flock mating is practiced in the breeding tract. Gurez sheep is a seasonal breeder and exhibits estrus during spring and autumn only. Breeding season ranges April-May and August-December. Age at first heat varies between 510 to 670 days. Weight at first heat comes between 19-26 kg. Age at first service varies between 550-650 days. Weight at first service is between 25.30-30.0 kg. The average age at first lambing is 488.68 days. Gestation period ranges between 146-152 days and the average inter-

lambing interval was 208.92 days.

Disease prevalence

The commonly found diseases are of bacterial and parasitic origin, like pneumonia, Orf, foot root, diarrhoea, sheep pox, fascioliasis, haemonchosis, dicrocoeliasis, etc.

CONCLUSION

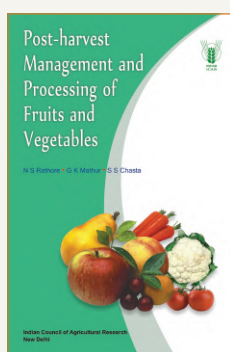
It is concluded that sheep farming in Gurez is practiced by marginal farmers of middle age group having marginal land holdings and low income. The Gurez sheep are active and adapted to harsh climate of hilly terrain of the area and the conservation of this breed should be a top priority. It is because this breed is not just an important animal resource, but also a significant contributor to the livelihood of the poor farmers.

¹Department of Sheep Husbandry, Kashmir.

²Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir.

Corresponding author's e-mail: mubashir.70011@gmail.com

Post-harvest Management and Processing of Fruits and Vegetables



Post-harvest management technology offers promising option for increasing production of vegetables and fruits quantity-wise and also in maintaining quality of the products. It involves all the activities that occur after production or harvesting of commodities, including procurement, removal of field heat, sorting, grading, packaging, storage, transportation, primary and secondary processing and marketing of agricultural products from farm-gate to distributors. This book is an effort to document vast available knowledge on the various aspects of post-harvest management and processing, and it will prove worthy for teachers, students and extension workers for understanding post-harvest management and processing of fruits and vegetables. It has 16 chapters covering storage, packaging, advanced preservation technology and value-addition of fruits and vegetables.

TECHNICAL SPECIFICATIONS

Size	: Royal Octavo (16 cm x 24 cm)
No. of pages	: i-viii + 250
Price	: ₹ 350
Postage	: ₹ 50
Binding	: Paper Back
ISBN No.	: 978-81-7161-115-4

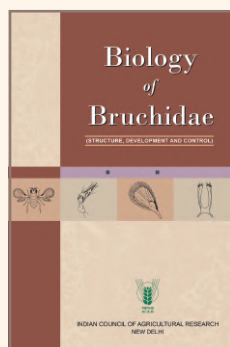
For obtaining copies:

Business Unit

Directorate of Knowledge Management in Agriculture
Krishi Anusandhan Bhavan-I, Pusa, New Delhi 110 012
Tel : 011-25843657, Fax 91-11-25841282; e-mail : bmicar@icar.org.in

Biology of Bruchidae

(STRUCTURE, DEVELOPMENT AND CONTROL)



The family Bruchidae includes simple and clean beetles, friendly in their appearance and open in their ways of life. Bruchids are in direct competition with human beings for exploiting the rich food sources and hence the concern for the suppression of the populations of pest species. Different control measures against bruchids can be successful only by first acquiring knowledge on the true identification, complete life-cycles and other biological characteristics of the pest species. At the same time, the host ranges, polymorphism, trophic relationship and interaction between pests and parasitoids, need to be studied for the success of any control measure. All these problems have been discussed in the '*Biology of Bruchidae*'. Although the details of the taxonomy are beyond the scope of this book yet a list of known Indian species along with their hosts and apparent identification remarks on the pest species have been added for the benefit of the workers interested in the Bruchidae. Also the recent nomenclature has been given for the species referred to in the text which is not usually available to researchers on different aspects of Bruchidae.

TECHNICAL SPECIFICATIONS

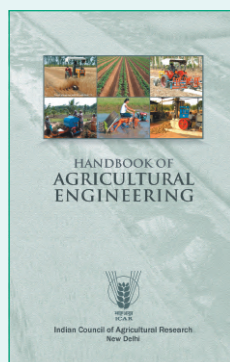
Size	: Royal Octavo (16 cm x 24 cm)
No. of pages	: i-viii + 222
Price	: ₹ 500
Postage	: ₹ 50
Binding	: Paper Back
ISBN No.	: 978-81-7164-114-7

For obtaining copies:

Business Unit

Directorate of Knowledge Management in Agriculture
Krishi Anusandhan Bhavan-I, Pusa, New Delhi 110 012
Tel : 011-25843657, Fax 91-11-25841282; e-mail : bmicar@icar.org.in

HANDBOOK OF AGRICULTURAL ENGINEERING



Agricultural Engineering interventions have led to significant improvement in agricultural productivity by timeliness of operations, reduction in drudgery, prevention of post-harvest losses and achieving higher cultivation intensity. Timely farm operations with efficient use of inputs, post-harvest processing and value addition to agricultural produce and conservation and sustainable use of natural resources are essential for ensuring higher returns to the cultivators. This is the maiden attempt of the Indian Council of Agricultural Research to publish the *Handbook of Agricultural Engineering*. The handbook comprises 50 chapters under four sections, namely Farm Machinery and Power, Soil and Water Engineering, Energy in Agriculture and Agro-Process Engineering. This publication would be useful to farmers, students, researchers, extension workers, policy makers, entrepreneurs and other stakeholders.

TECHNICAL SPECIFICATIONS

Size	: Royal Octavo (16 cm x 24 cm)
No. of pages	: i-viii + 808
Price	: ₹ 1500
Postage	: ₹ 100
ISBN No.	: 978-81-7164-134-5

For obtaining copies, please contact:

Business Unit

Directorate of Knowledge Management in Agriculture
Krishi Anusandhan Bhavan-I,
Pusa, New Delhi 110 012
Tel : 011-25843657, Fax 91-11-25841282;
e-mail : bmicar@gmail.com