

## Goat Breeds

### SIROHI



a) ADULT MALE



b) ADULT FEMALE

a) Distribution. Sirohi district of Rajasthan. The breed also extends to Palanpur in Gujarat.

b) Numbers. The total goat population in the Sirohi distribution area, according to the 1972 census, was 0.295 m, of which 0.007 m adult males and 0.204 m adult females.

c) Climate

	Average	Range
Average monthly temperature (°C)		
minimum	16.5	9.3–22.3
maximum	24.9	19.3–31.5
Average monthly relative humidity (%)		
morning	55	29–95
evening	48	24–91
Annual rainfall (cm)	169	

d) Breed characteristics

i) <u>Size</u>	Adult male	Adult female
Body weight (kg)	50.37 ± 2.52 (16)	22.54 ± 0.17 (343)
Body length (cm)	80.0 ± 1.02 (16)	61.3 ± 0.2 (343)
Height at withers (cm)	85.6 ± 1.4 (16)	68.4 ± 0.2 (343)
Chest girth (cm)	80.3 ± 1.0 (16)	62.4 ± 0.2 (343)

ii) Conformation. Compact, medium-sized animals. Coat colour predominantly brown, with light or dark brown patches; a very few individuals are completely white. Most animals are wattled. Ears are flat and leaf-like, medium-sized and drooping; ear length: 18.8 ± 0.6 cm (15). Both sexes have small horns, curved upward and backward; horn length: 7.7 ± 0.15 cm (144). Tail is medium in length and curved upward; tail length: 16.7 ± 0.14 cm (153). Udder is small and round, with small teats placed laterally.

e) Flock structure. Average flock size is 60 (range: 10 to 200), containing 1 adult male, 42 adult females and 17 young.

f) Reproduction. Under farm conditions, kidding percentage: (5): 89.3% (328). Litter size: singles: 91.5%; twins: 8.5%.

g) Mortality (5): 0 to 3 months: 1.9% (219); 3 to 12 months: 4% (179); adults: 2.5% (451).

h) Breeding. Generally pure breeding. Males are selected on size from within flocks. There is some introduction of Marwari for increasing hair production.

## i) Performance

- Milk. Average lactation yield (5, 7):  $71.18 \pm 1.55$  kg (219); length:  $174.8 \pm 2.75$  days (219).

- Meat: body weight (kg) (source: 5)

At birth	$2.82 \pm 0.02$ (309)
At weaning	$9.92 \pm 0.12$ (288)
6 months	$13.48 \pm 0.19$ (144)
9 months	$16.95 \pm 0.21$ (118)
12 months	$21.27 \pm 0.23$ (117)

In individual feed-lots, from 3 to 6 months of age (4, 5): average daily gain:  $61.4 \pm 5.36$  g (23); efficiency of feed conversion (%) (4, 5):  $10.1 \pm 0.93$ (23). Age at slaughter: 6 months. Dressing percentage on pre-slaughter live-weight basis (4, 5):  $47.3 \pm 0.9$  (13). Bone/meat ratio (5):  $1:4.497 \pm 0.357$  (9).

## MARWARI



a) ADULT MALE



b) ADULT FEMALE

a) Distribution. Marwar region of Rajasthan, comprising Jodhpur, Pali, Nagaur, Bikaner, Jalore, Jaisalmer and Barmer districts. The breed also extends into certain areas of Gujarat, especially Mehsana district.

b) Numbers. The total goat population in the Marwari distribution area, according to the 1972 census, was 3.914 m, of which 0.072 m adult males and 2.484 m adult females.

## c) Climate

	Average	Range
Average monthly temperature (°C)		
minimum	20	8.2–28.3
maximum	33.7	23.8–41.8
Average monthly relative humidity (%)		
morning	54.6	35.3–78
evening	32.3	18.3–57.6
Annual rainfall (cm)	33.17	

## d) Breed characteristics

### i) Size

Adult males

Adult females

Body weight (kg)	33.18 ± 1.77 (17)	25.85 ± 0.29 (404)
Body length (cm)	70.97 ± 1.65 (17)	63.51 ± 0.44 (404)
Height at withers (cm)	74.74 ± 1.61 (17)	69.29 ± 0.22 (404)
Chest girth (cm)	71.68 ± 1.41 (17)	68.60 ± 0.26 (404)

ii) Conformation. Medium-sized animals. Predominantly black with long shaggy hair coat. In about 5% of individuals, white or brown patches are also observed. Beard is present in both sexes. Ears are flat, medium in length and drooping; ear length: 16.38 ± 0.20 cm (245). Both sexes have short, pointed horns, directed upward and backward; horn length: 10.10 ± 0.18 cm (246). Tail is small and thin. Udder is small and round, with small teats placed laterally.

e) Flock structure. Average flock size: 48.0 ± 4.6 (29) (range: from 10 to 100), containing 0.6 adult males, 36.4 adult females and 11.0 young.

f) Reproduction. In farmers' flocks, kidding percentage: 52.5 ± 3.4 (25); litter size: generally single.

g) Mortality. Young: 23.1 ± 3.2%; adults: 9.6 ± 1.5.

h) Breeding. Pure breeding. Breeding males are selected on size and hair production, mostly from within the flock. The Animal Husbandry Department of the Government of Rajasthan has introduced cross-breeding with Jamnapari to increase milk production.

#### i) Performance

- Milk. Under farmers' flock conditions: average daily milk yield: 0.530 ± 0.32 kg; lactation length: 196.3 ± 14.2 days. Under farm conditions (7): average lactation yield: 91.39 ± 6.8 kg; length: 105.80 ± 14 days; daily milk yield: 0.713 ± 0.047 kg.
- Meat: body weight (kg) (source: 8)

At birth	2.29 ± 0.05 (30)
At weaning	6.00 ± 0.85 (20)
6 months	8.70 ± 1.35 (14)
9 months	13.70 ± 1.58 (14)
12 months	16.25 ± 2.79 (12)

- Hair production. 302.9 ± 15.4 g per year.

## JHAKRANA



a) ADULT MALE



b) ADULT FEMALE

a) Distribution. Jhakrana and a few surrounding villages near Behror, in the Alwar district of Rajasthan.

b) Numbers. The number of animals of this breed is rather small, as it is restricted to a very limited area. Considering that it is a good indigenous dairy breed, there is need for its conservation.

c) Climate

	Average	Range
Average monthly temperature (°C)		
minimum	18.4	8.3–27.3
maximum	31.7	22.0–40.6
Average monthly relative humidity (%)		
morning	53	29–68
evening	37	18–71
Annual rainfall (cm)	64.81	

d) Breed characteristics

i) Size

	Adult males	Adult females
Body weight (kg)	57.80 ± 3.50 (10)	44.48 ± 0.52 (178)
Body length (cm)	84.10 ± 2.11 (10)	77.74 ± 0.36 (178)
Height at withers (cm)	90.40 ± 1.61 (10)	79.12 ± 0.29 (178)
Chest girth (cm)	86.00 ± 1.91 (10)	79.13 ± 0.31 (178)

ii) Conformation. Large animals. The coat, predominantly black with white spots on ears and muzzle, is short and lustrous. Face line is straight. Forehead is narrow and slightly bulging. The breed is quite similar to Beetal, the major difference being that Jhakrana is longer. Ear length is medium: 13.8 ± 0.19 cm (164). Udder is large, with large conical teats.

e) Flock structure. The average flock consists of 14.2 ± 2.1 (36) individuals; (range: 5 to 34), including 0.05 adult males, 9.08 adult females and 5.07 young.

f) Reproduction. In farmers' flocks: kidding percentage: 141.8 ± 10.05 (223). Litter size: singles: 57.0 ± 7.6%; twins: 41.0 ± 7.5%; triplets: 2.0 ± 1.2% (22).

g) Mortality. Young: 3.4 ± 2.1% (18); adults: 0.17% (18).

h) Breeding. Pure breeding. Males are selected on the basis of their dam's milk yield. Breeding bucks are generally produced from within the flock. Owners of small flocks who do not maintain a buck utilize services of the buck from a neighbour's flock.

(i) Performance: Milk. In farmers' flocks, average daily milk yield: 3.18 ± 0.17 kg (28); lactation length: 231.8 ± 6.3 days (22). Under farm conditions (7), lactation yield: 121.80 ± 8.8 kg (12); lactation length: 114.7 ± 18.5 days (12); daily milk yield: 0.988 ± 0.06 kg (12).

## BARBARI





a) ADULT MALE

b) ADULT FEMALE

a) Distribution. Etah, Agra and Aligarh districts of Uttar Pradesh, and Bharatpur district of Rajasthan.

b) Numbers. The total goat population in the Barbari distribution area, according to the 1972 census, was 0.444 m, of which 0.028 m adult males and 0.270 m adult females. Officials of the State Animal Husbandry Department state that Barbari goats true to breed number only about 30 000. The breed, quite important for milk and meat, is a dwarf breed highly suited for rearing under restrained and stall-feeding conditions. In addition to being a good milker, it is highly prolific. Considering the number of animals reported, there is serious need for undertaking conservation measures. It was observed in personal surveys that most males are castrated early in life and fattened for slaughter at religious festivals, and that a sizeable number of non-descript goats are kept for milk production by owners who maintain Barbaris, as all the milk of the latter is allowed to be suckled by their kids to ensure good growth.

c) Climate

	Average	Range
Average monthly temperature (°C)		
minimum	18.8	7.5–28.8
maximum	32.3	22.2–41.7
Average monthly relative humidity (%)		
morning	62	33.3–83
evening	43.6	20–74
Annual rainfall (cm)	77.0	

d) Breed characteristics

i) Size (sources: 19,31 and personal observations)

	Adult males	Adult females
Body weight (kg)	37.85 ± 1.96 (10)	22.56 ± 0.32 (203)
Body length (cm)	70.45 ± 1.43 (11)	58.68 ± 0.38 (203)
Height at withers (cm)	70.67 ± 0.74 (11)	56.18 ± 0.37 (203)
Chest girth (cm)	75.53 ± 1.25 (11)	64.31 ± 0.40 (203)

ii) Conformation. Small animals, with compact body. The orbital bone is quite prominent, so that eyes appear bulging. There is wide variation in coat colour, but white with small light brown patches is the most typical. Ears are short, tubular, almost double, with the slit opening in front, erect, directed upward and outward. Both sexes have twisted horns, medium in length and directed upward and backward; horn length: 11.17 ± 0.27 cm (99). Bucks have a large thick beard.

e) Flock structure. The average flock contains 9.25 ± 2.23 individuals (range: 2 to 31), of which 0.6 adult males, 5.3 adult females and 3.4 young.

f) Management and feeding. Stationary. Mostly maintained on browsing and grazing stubble of cultivated crops and tree leaves. Cultivated fodders (e.g. berseem, wheat straw) and grains (e.g. maize, barley, millets) are commonly offered. The animals are generally housed in

thatched sheds inside the house. Most males are castrated at ages between 7 to 30 days by the open method, with a blade, and are fattened on milk for slaughter on festive occasions.

g) Reproduction. In farmers' flocks, litter size; singles:  $23.12 \pm 8.4\%$ ; twins:  $64.12 \pm 9.4\%$ ; triplets:  $12.75 \pm 6.8\%$ . Under farm conditions, age at first kidding (11):  $648 \pm 36$  days (24); kidding interval (11):  $348 \pm 9$  days (24); service period (25): 70 days (90); kidding percentage (27): 70.2(322); litter size (11, 22, 27): singles: 49.64%; twins: 49.32%; triplets: 1.04% (578).

h) Mortality. In farmers' flocks, young:  $0.87 \pm 0.35\%$ ; adults:  $0.19 \pm 0.14\%$ . Under farm conditions, pre-weaning mortality (18, 27): 41.5%.

i) Production.

- Milk. Average lactation yield (7, 19, 26):  $107.120 \pm 3.2789$  kg (70); lactation length (7, 11, 19):  $150.13 \pm 5.247$  days (94); daily milk yield (7, 11):  $0.760 \pm 0.158$  kg (99); dry period (11):  $155.3 \pm 10.6$  days (24).
- Meat: body weight (kg) (sources: 1, 3, 8, 27)

At birth	$1.739 \pm 0.018$ (539)
At weaning	$6.661 \pm 0.095$ (325)
6 months	$7.800 \pm 0.476$ (9)
9 months	$12.566 \pm 1.215$ (9)
12 months	$14.517 \pm 0.765$ (18)