

HILL CATTLE AND THEIR IMPORTANCE IN UTTARANCHAL

R.S. Chauhan and R.B. Prasad

*College of Veterinary and Animal Sciences,
G.B. Pant University of Agriculture and Technology,
Pantnagar - 263145 (Uttaranchal)*

In Uttaranchal, there are 21.2 lac cattle population as per the 1993 census; of which 10.8 lacs are females and 10.3 lacs are males. The exotic and crossbred animals are not much in Uttaranchal in comparison to the non-descript indigenous animals. The crossbred animals are only 1.23 lacs; of which 0.44 lacs are males and 0.78 lacs are females. The total production of milk in Uttaranchal is 5.01 lac tones; of which 47% comes from cows and rest is contributed by goats, buffaloes, sheep etc. The number of cattle per thousand of population is 775 in Uttaranchal and per capita milk availability is 228 grams. The state of Uttaranchal has been declared as organic farming state. Except in few places, there are very less use of chemicals/fertilizers/pesticides in agriculture, animal husbandry and public health operations. The indigenous hill cattle is also a God gifted animal to the people of Uttaranchal which has very high potential for producing organic food and thus may play a very significant role in development of Uttaranchal as a real organic state. The indigenous cows of hill areas are at present considered as “non-descript animal” as there is a lack of scientific study on this cattle. In present paper, the results of a small study are described including the main characteristics and measurements of the hill cattle and of medicinal value of its products such as urine.

In Uttaranchal, the indigenous cattle can be divided into 3 groups on the basis of their colour: black, red and white; of which red colour cows are comparatively more in numbers in comparison to others. These cows are of small size with an average weight of 200-250 kg. The neck is wide and small and these cows are having very bright and alert eyes. The ears are always erected and showing the alertness of the animal. The udder is less developed with an average of 1.0 kg milk production per cow per day. The legs are small and straight with hard

foot pad and hooves. This enables these cows to walk easily on heights and valleys in the hilly areas. Some of the measurements of indigenous hill cows are given in Table 1.

Table 1. Body Measurement (cm) of Hill cattle, N=10

Sl. No.	Body Organ	Mean \pm SE			
		Calves (15-90 days)	2 years	4 years	6 years
1.	Heart Girth	75.97 \pm 1.1079	151.00 \pm 1.4624	153.35 \pm 0.8234	154.80 \pm 1.2184
2.	Paunch Girth	75.50 \pm 2.5744	165.00 \pm 2.3428	173.45 \pm 1.2482	187.50 \pm 1.0461
3.	Height of Withers	74.65 \pm 1.2065	122.00 \pm 1.8547	123.80 \pm 0.9522	125.00 \pm 1.00
4.	Body Length	66.60 \pm 0.6046	124.45 \pm 1.1796	143.00 \pm 1.2202	141.40 \pm 0.7916
5.	Inner circle of horn	-	-	13.20 \pm 0.4726	28.90 \pm 1.4098
6.	Outer circle of horn	-	-	15.05 \pm 0.5188	29.90 \pm 1.3535
7.	Length of fore leg	49.30 \pm 0.5783	62.75 \pm 0.7425	76.15 \pm 1.0800	81.70 \pm 1.8622
8.	Length of hind leg	53.50 \pm 0.4282	71.35 \pm 0.5776	81.10 \pm 0.8089	93.60 \pm 1.3266
9.	Thickness of canon	11.30 \pm 0.6560	21.70 \pm 0.5972	21.45 \pm 0.4311	21.20 \pm 0.7717
10.	Thickness of Shannon	12.85 \pm 0.6414	22.45 \pm 0.7544	22.55 \pm 0.3287	22.10 \pm 0.5859
11.	Length of tail	41.95 \pm 0.6517	72.80 \pm 0.7272	74.75 \pm 1.0626	83.95 \pm 1.0500
12.	Distance between hook bones	32.50 \pm 0.5578	62.20 \pm 0.8138	74.80 \pm 1.6041	78.20 \pm 1.6984
13.	Length of nose ridge	27.85 \pm 0.6500	45.50 \pm 0.6667	46.50 \pm 0.9428	46.90 \pm 1.3780
14.	Width of poll	9.90 \pm 0.6904	20.65 \pm 0.5679	17.60 \pm 0.6359	17.10 \pm 0.9712
15.	Neck length	26.05 \pm 1.1701	57.20 \pm 0.9043	55.30 \pm 1.0116	57.70 \pm 1.5779
16.	Fore head length	11.70 \pm 1.2653	21.00 \pm 0.5528	27.00 \pm 0.7746	27.30 \pm 0.7753
17.	Rump length	26.60 \pm 0.8192	55.00 \pm 0.8563	63.30 \pm 1.2023	68.10 \pm 1.7604
18.	Distance between pin bone	11.30 \pm 0.8825	26.80 \pm 0.6289	31.60 \pm 0.7333	31.90 \pm 1.4333

In most of the houses of hilly areas, people keep 1-2 animal for their own requirement of milk. The owners provide very less amount of concentrate and most

of the time allow the cattle to graze in the fields. Majority of the cattle are bred through natural services and practice of artificial insemination is not very much popular in rural areas.

The other products of cows such as dung and urine are also useful to the man. The dung is used for preparation of fuel to cook food or else for manure to the fields. The cow urine is used in various ways like sprinkling of urine in front of doors when one enters in the house. The scientific studies carried out in our laboratory suggests that the urine of hill cattle is having immunomodulatory properties. It augmented the humoral and cell mediated immunity by 104% in mice, chicks and *in vitro* in avian lymphocyte cultures. This property of hill cattle urine is of special significance, as the urine of exotic and cross bred animal is not having such properties. As per WHO, the antibiotics will no more useful and their effect will be reduced by the end of 2020. Under such circumstances, there is a need of alternative therapy to prevent the infection and cow urine may play a significant role in such scientific endeavours. It is therefore, concluded that the indigenous cattle of hills is an useful animal, which should be characterized further with more data base as a breed of Uttaranchal. It should be upgraded through selection to increase its production and simultaneously with no effect on qualities of their products.

References

- Balakhara JM and Chittoria NK. 2003. Uttaranchal: An Informative Manual. H.G. Pulbicaiton, New Delhi.
- Chauhan RS and Sharma RJ. 2002. Usefulness of Indigenous cows and their comparison with crossbred and exotic cows. *Pashupalan*. 2002: 31-33.
- Chauhan RS. 2003. Enhancement of Immunity due to Panchgavya. In: Prakrati-2003. Indian Agricultural Research Institute, Pusa, New Delhi, October 11-13, 2003.
- Chauhan RS. 2003. Immunomodulation: Pesticides and Panchgavya. In: National Symposium on "Panchgavya Ayurveda and Agricultural System". National Environmental Engineering Research Institute, Nagpur, April 28-29, 2003.
- Mishra RC. 2001. Uttaranchal Mein Pashupalan Avam Dairy Vikas. Bharat Book Centre, Lucknow.