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## Studies on seasonal variation of body parameters in Ganjam buck

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#### Abstract

The present study was undertaken on the scrotal parameters of 120 Ganjam bucks divided into six age groups, viz. 1.5(B1), 2(B2), 2.5(B3), 3.5(B4), 4(B5), 4.5(B6) years. The parameters were recorded by using flexible measuring tape in the bucks of all the age groups in the month of July to August (season 1) and October to November (Season 2). Significant ( $p<0.05$ ) variations were recorded in between the seasons with respect to the body parameters under study.

**Keywords:** Ganjam buck, season, body parameter and variation

#### Introduction

Goat farming is a reliable source of revenue for farmers and serves as an auxiliary to agriculture [1, 2]. Goats make up 26.40% of the animal population. According to the 20<sup>th</sup> livestock census, there are 148.88 million indigenous goats in India, of which 26.97% are pure breed, 11.77% are graded breed, and the remainder 61.26% is non-descript breeds. Goat farming provides the sole source of income for 25% of the rural population in the state of Odisha. The Ganjam goat, also known as the Lanka, Golla, or Dalua, is a medium-sized animal that is mostly reared for meat. The medium-sized animal, pendulous ears are drooping and the coat colour is predominantly brown or black. The measurement of male fertility parameters is crucial for estimating the breeding performance of any species since males contribute 50% of the reproductive efficiency. So, the present study was undertaken on the seasonal variation of scrotal parameters of Ganjam buck that could be correlated with the breeding efficiency of this breed [3, 4].

#### Materials and Methods

A total of 120 Ganjam bucks of different age groups reared by the local farmers of Rambha, Khalikote and Chhatrapur areas of Ganjam district were used for the scrotal morphometric study. A total of six healthier bucks of age 1.5 (B1), 2 (B2), 2.5 (B3), 3.5 (B4), 4 (B5) and 4.5 (B6) years were procured from the Farmers for the experimental purpose in collaboration with DST (Odisha) Project on "Selection of Breeding Bucks through Semen Evaluation for improving fertility in Ganjam goats" and maintained by uniform feeding, housing and other management practice. The parameters were recorded by using flexible measuring tape in the bucks of all the age groups in the month of July to August (Season 1) and October to November (Season 2). All the data generated in the above experiments were statistically analyzed using SPSS (1996) computer package.

#### Results and Discussion

##### Body Weight

The body weight (Kg) of the Ganjam bucks was observed to have an overall mean of  $37.61\pm 0.69$  across the two age groups. The bucks of season 2 showed a significantly higher ( $p<0.05$ ) average value of body weight ( $39.28\pm 0.93$ ) compared to that of season 1 ( $35.94\pm 0.95$ ).

The bucks of season 2 were found to be significantly heavier than season 1 bucks in the present study.

### Body length

The overall mean value of body length (cm) recorded for the experimental animals of Ganjam bucks was  $56.47 \pm 0.62$ . The bucks of season 1 were recorded to have significantly lower ( $p > 0.01$ ) mean body length ( $53.69 \pm 0.82$ ) than that of season 2 ( $59.25 \pm 0.66$ ).

### Chest Girth

The mean chest girth (cm) in the present investigation for the two season groups were  $77.69 \pm 0.84$  and  $81.19 \pm 0.61$  cm, respectively with an overall mean  $79.44 \pm 0.55$  cm. The average value of chest girth of the bucks of season 2 was significantly higher ( $p < 0.01$ ) as compared to that of season 1. The present results could not be discussed due to the availability of scanty literature in this field. The body parameters in the Ganjam bucks were found to be significantly higher ( $p < 0.05$ ) during October to November (season 2) as compared with the season 1, i.e. during July to August, which signified that the environmental conditions were quite optimum for the growth of the Ganjam bucks in the season 2 as compared to the season 1.

**Table 1:** Seasonal variation of body dimensions of Ganjam bucks

Parameters	Overall (72)	Season-1 (36)	Season-2 (36)	p value
Body Weight	$37.61 \pm 0.69$	$35.94^a \pm 0.95$	$39.28^b \pm 0.93$	0.014
Body Length	$56.47 \pm 0.62$	$53.69^a \pm 0.82$	$59.25^b \pm 0.66$	< 0.001
Chest Girth	$79.44 \pm 0.55$	$77.69^a \pm 0.84$	$81.19^b \pm 0.61$	0.001

Means with different superscripts (a, b) differ significantly in row ( $p < 0.05$ )

### Conclusion

It was found that the body parameters of the Ganjam bucks were significantly higher ( $p < 0.05$ ) during October to November (season 2) as compared with the season 1, i.e. during July to August.

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