

## RESEARCH PAPER

**Factors affecting on wither height at different ages in Osmanabadi goats under semi-intensive system**

S.J. PATIL, S.D. MANDAKMALE AND D.K. KAMBLE

Accepted : August, 2008

See end of the article for  
authors' affiliations

Correspondence to :

**S.J. PATIL**Department of Animal Science  
and Dairy Science, Mahatma  
Phule Krishi Vidyapeeth,  
Rahuri, AHMEDNAGAR  
(M.S.) INDIA**ABSTRACT**

Data on 410 Osmanabadi goats reared under semi-intensive system at Network Project on Goat were used for estimation of non genetic factors affecting wither height at different ages using Least Squares analysis technique. Year of birth and birth weight group had significant influence on wither height at birth, 3, 6 and 12 month of age. Birth weight group above 2 kg had higher wither height at all ages. Season of birth showed non significant difference in wither height at all the ages except 3 month age. The single born kids either male or female were superior over the multiple births and the female, respectively.

**Key words :** Osmanabadi goats, Wither height, Season of birth, Sex of kid, Body weight.

**A**mongst the very large and diversified genetic resources of goats, the Osmanabadi breed plays vital role in rural economy. The overall efficiency of goats is judged not only on yield of milk, meat or fibre but also on their growth which can be estimated by wither height. Therefore, it is a great interest to study the various factors affecting the wither height at different ages *viz.* year, season and type of birth, sex of kids, and birth weight groups of Osmanabadi goats maintained under semi-intensive management system.

**MATERIALS AND METHODS**

Osmanabadi goats in Ahmednagar, Solapur and Osmanabad district of Maharashtra state comprised maximum population. This area is considered as breeding tract of Osmanabadi goats and hence used for investigation. The data on 410 Osmanabadi goat were recorded from field register and questionnaires maintained at network project on Osmanabadi goat, PG Unit, MPKV, Rahuri.

The Least Squares analysis technique (Harvey, 1966) was used to assess influence of year, season, type of birth, sex born, birth weight group, on wither height at different ages.

$$Y_{ijm} = \mu + P_i + S_j + T_k + X_l + L_m + C_n + W_o + e_{ijm}$$

where as,

$Y_{ijmno}$  is  $n^{\text{th}}$  observation of  $i^{\text{th}}$  year of birth,  $J^{\text{th}}$  season of birth,  $K^{\text{th}}$  type of birth,  $l^{\text{th}}$  sex of birth,  $m^{\text{th}}$  birth weight groups. Duncan's Multiple Range Test (DMRT) as modified by Kramer (1957) was used for comparison of

two subclass means.

**RESULTS AND DISCUSSION**

The Least square means and Analysis of variance for wither height of Osmanabadi goats are given in Table 1 and 2, respectively. The overall means for wither height at birth, 3, 6 and 12 months of age for Osmanabadi goats were  $30.71 \pm 0.20$ ,  $43.63 \pm 0.31$ ,  $52.64 \pm 0.42$ ,  $58.95 \pm 0.37$  and  $64.08 \pm 0.43$  cm, respectively. Similar findings were reported by Anonymous (1999).

**Year of birth:**

Year of birth showed significant influence on wither height at all the ages of osmanabadi goats. Kids born during 1993-94 showed significantly higher wither height at 3 and 6 months age. While, the kids born in 1995-96 were significantly superior over the other. Similar finding were reported by (Singh, 1999). It indicates that the feeding and management regimes can improve the wither height.

**Season of birth:**

Season of birth showed significant influence on wither height for 3 months age only. Irrespective of significant influence the kids born during summer and rainy season were found superior in wither height over winter born kids which is in agreement with Das, 1992.

**Type of birth:**

Type of birth exerted significant influence on wither height at 3, 6 and 9 month age. Deshmukh (1996) reported