DESCRIPTIVE STATISTICS AND PRODUCT MOMENT CORRELATIONS OF DIFFERENT PERFORMANCE TRAITS IN RAMBOUILLET SHEEP

**AAKRITI SUDAN, R.K.TAGGAR, DIBYENDU CHAKRABORTY*, S. GURDEEP SINGH,
SIMRAN SINGH, S. ALTAF AND ANAMIKA**
Division of Animal Genetics & Breeding,
*Faculty of Veterinary Sciences & Animal Husbandry, Shere-e-Kashmir University of Agricultural
Sciences & Technology, Jammu, R.S. Pura - 181 102, Jammu & Kashmir, India*
dibyendu_vet40@yahoo.co.in

ABSTRACT: Data on growth and production traits of 8872 animals used in present study were collected from the history sheets of Rambouillet sheep maintained at Government Sheep Breeding Farm, Zaban, Reasi, J & K, India. Growth and production traits included in the study were birth weight (BW), weaning weight (WW), nine-month body weight (9BW), twelve-month body weight or yearling weight (YW) and annual wool production (AWP). The overall averages were 3.30±0.01 kg, 21.29±0.06 kg, 24.71±0.05 kg, 28.63±0.06 kg and 1.22±0.01 kg, respectively for BW, WW, 9BW, YW and AWP. Males were significantly (P<0.01) heavier for different body weights. In case of AWP, females yield higher (P<0.01) than the males. The coefficients of variation (CV) for different traits were low to medium and the highest value was obtained for annual wool production (42.62%). The low to moderately high CV values indicate that performance traits of Rambouillet sheep can be improved by exchanging Rams between different farms, by collateral selection and with better management practices. Skewness and Kurtosis values for raw data shows the data for different performance traits were under normal distribution barring few exceptions. The product moment correlations between different growth and production traits were positive and were highly significant (P<0.01) except for BW & WW and BW & AWP.

Key words: Growth traits, Wool production, Rambouillet and Correlations.

In an animal breeding program, the selection for maximization of production is one of the most important decisions to be taken by the modern breeder. Better growth and wool yield are the traits having direct economic relevance to sheep farmers because heavier lambs with higher growth will result in more economic returns. Additionally, growth performance is a key production indicator as it has implications in the reproductive efficiency of sheep. Rambouillet is the largest fine wool breed adaptable to wide variety of arid range conditions, has a well developed flocking instinct and is long lived. The breed, although originally developed in France as a wool breed, after importation in the mid 1800s (Dickson and Lush, 1933), was developed into a dual-purpose breed in the U.S. (Hultz and Hill, 1931). The breed is also well known for its meat. Rambouillet is intensively used for cross breeding programme in India for improving the productivity of native sheep (Khan *et al.*, 2015). Coefficient of variation (CV) plays a vital role aiming towards improvement in target stock by providing the information about the variability in the trait. The correlations between different growth and production help to know about the selection criteria and the proper selection methodology to be employed for bringing genetic improvement. Therefore, the present study was undertaken to study descriptive statistics and product moment correlations of different growth and production traits in Rambouillet sheep.

MATERIALS AND METHODS

Performance data on 8872 animals were collected from history sheets of Rambouillet sheep maintained at Government Sheep Breeding and Research Farm, Reasi, Jammu, India. The Government Sheep Breeding and Research Farm, Reasi, is located 80 kms on north-east of Jammu and lies between $33^0 05^{"}$ N latitude and $74^0 5^{"}$ E longitude. The farm follows semi-migratory production system. In middle of April the sheep are shifted to alpine pastures, viz. Zaban situated at an altitude of 6000-8000 ft above sea level and allowed to graze there upto end of September. At alpine pastures