ECONOMICS OF REARING MECHERI LAMBS AS INFLUENCED BY WEANING AGE AND LEVEL OF CONCENTRATE

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ABSTRACT
The effect of weaning age and different level of concentrate supplementation on growth and cost benefit was studied in Mecheri lambs under semi-intensive management. A total of 72 Mecheri lambs were divided into three treatment groups, viz., lambs weaned at 90 days (T1), 75 days (T2) and 60 days (T3) with 24 lambs in each treatment. Each treatment was again divided into two groups, group I and II supplemented with 1.0 and 1.5 % of concentrate feed based on their body weight, respectively. Lambs were reared from weaning to 210 days of age. Body weight was recorded at fortnight intervals to assess the growth rate and calculate the cost benefit. Economics of Mecheri lambs was in favour of early weaned groups (T2 and T3) than late weaned group (T1). On evaluating the results obtained from the study, it can be concluded that 75 days is most suitable age for weaning in Mecheri lambs supplemented with 1.5 % concentrate mixture taking into account of significantly (p<0.01) higher cumulative weight gain (12.67 ± 0.48 kg) from 60 to 210 days and higher net return of Rs. 1121/- per animal.

Key words: Mecheri lambs, Weaning age, Concentrate feed, Cost benefit.

INTRODUCTION
Among the livestock, sheep and goats constitute an important source of income and livelihood to vast majority of socio-economically weaker section in India. Mecheri sheep is one among the nine recognized breeds of sheep in Tamil Nadu and distributed in Salem, Erode, Namakkal and parts of Dharmapuri district. They are mainly reared under semi-intensive system of management and are drought tolerant and have better skin quality. In general, weaning is practiced at the age of 90 days, but lambs can also be successfully weaned at any time after eight weeks of age (Abou Ward et al., 2008). The Mecheri lambs are weaned at normal weaning age of 90 days which gain about 55 g per day when raised on conventional grazing with little or no supplementation. The milk yield of Mecheri sheep was comparatively low but enough to feed a single lamb adequately. The Mecheri ewe’s overall daily mean milk yield on 7th, 50th and 90th day of lactation were 361, 190 and 72 ml, respectively (Karananthec et al., 2004). Sheep farmers do not feed concentrate due to their poor economic condition and lack of awareness on the benefits of supplementation. Concentrate feed supplementation to lambs during active growth phase ensures adequate nutrient supply and promotes growth performance. Hence, the present study was carried out with the objective to investigate the effect of weaning age and different level of concentrate supplementation on growth and cost effectiveness of Mecheri lambs.

MATERIALS AND METHODS
The study was carried out at Mecheri Sheep Research Station, Pottaneri, Salem district, Tamil Nadu. Seventy two Mecheri lambs selected were weaned at three weaning ages viz., 90 (T1), 75 (T2) and 60 (T3) days, comprising 24 lambs in each treatment. They were further divided randomly into two groups (I & II) of 12 animals each. Each group consisted of six male and six female lambs. The weaned lambs in all the groups were allowed for grazing from 9.00 am to 5.00 pm. The T1 (90 days), T2 (75 days) and T3 (60 days) groups were grazed together by two labourers and separated in their respective pens in the evening. Clean drinking water was provided ad libitum to all lambs at all times both in the shed and also in the grazing land. Animals in all the groups were supplemented with concentrate mixture at two different levels after returning from grazing land. The animals under group I and II were fed with concentrate supplement @ 1.0 % and 1.5 % of their body weight, respectively. Concentrate feed was offered in mash form adding a little water to reduce the dustiness. The requirements were calculated based on the body weight of the animals, recorded once in fortnight. In addition to concentrate feeding, animals in all the treatments were offered with ad libitum CO4 and guinea grass.

The body weight of the lambs was recorded at fortnight intervals from weaning to seven months of age to work out fortnightly weight gain and average daily gain. To calculate the economics of rearing Mecheri lambs for mutton production under semi-intensive system following points were considered. Institutional purchase prices of concentrate feed (Rs.24/kg), cost of green fodders (Rs.0.50/kg), cost of labour (Rs.288/day) and sale of animals (Rs.250/kg live weight), sale of manure (Rs.2.2/kg Bwt) were used for calculation of economics. The labourers engaged for grazing per treatment were common grazing land. Prevailing institutional purchase and sale price of live animals were used to calculate the cost of animals purchased for the trials and receipt from the animals at the end of the trials. The data during the course of the study were analysed statistically as per the methods suggested by Snedecor and Cochran (1996).

RESULTS AND DISCUSSION

Growth performance
Mecheri lambs weaned at 75 days of age were nearly 0.5 kg heavier than those weaned earlier. On comparison of the final body weight of all treatment groups, the body weight of 75th day weaned group (T2) was higher than the 60th and 90th days weaned groups. The superiority of 75 days aged weaned lambs in post-weaning body weight could be due to difference in rumen development or rumen capacity and increasing solid feed consumption compared to 60 days weaned lambs. Hence, the lambs attained early adaptability for solid nutrient, early transition from milk dependency to solid nutrient, and improved the feed conversion efficiency. In support of these findings, Nagaraj et al. (2013) stated that the lambs weaned at 70 days had higher final body weight compared to 56 and 94 days of weaning. Among the weaning ages, lambs weaned at 75 days of age supplemented with 1.5 % concentrate had higher growth rate (43.28 %) followed by 90 days group (30.61 %) and least values recorded in 60 days group (10.11 %) in early stages of growth trial and in overall more than 40 % of weight gain was observed during last 60 days of experiment period. Similarly, the cumulative body weight gains of lambs fed with 1.5 % level of concentrate mixture were significantly (p<0.01) higher than 1.0 % level fed groups (Table 1). In this study, the difference in cumulative body weight gain due to level of concentrate feed was higher in 75 days (4.37 kg)