

EFFECT OF DIFFERENT FEEDING SYSTEMS ON GROWTH PERFORMANCE AND COST ECONOMICS IN MECHERI LAMBS.

N. Arulnathan and C. Bandeswaran

Mecheri Sheep Research Station, TANUVAS, Pottaneri,
Mecheri (Via), Salem Dt Tamil Nadu - 636 453.

Corresponding author : Email - drarulnutri@gmail.com

Received 10-11-2012 Accepted 3-3-2013

ABSTRACT

A study was carried out to assess the growth performance and cost economics of different feeding systems, which could be adopted by the farmers for their benefits. The average daily gain was significantly higher ($P < 0.01$) in Gr-I (50.08 g) than Gr-II (36.84 g) and Gr-III (29.34 g). Overall body weight gain of Gr I were significantly ($P < 0.01$) higher than Gr II and Gr III. The net profit was the highest in Gr I. In this study average daily gain and net profit was higher in lambs maintained in Gr-I (stall feeding) than Gr-II (Grazing +Concentrate feeding) and Gr-III (grazing alone). The plane of nutrition in Gr I had significantly contributed to the superior body weight gain and net profit.

KEYWORDS : Mecheri lambs, different feeding system, growth performance, cost economics

INTRODUCTION:

Sheep are important meat producing animals in Tamil Nadu. Mecheri sheep is one among the eight recognized breeds of sheep in Tamil Nadu . The major problem in sheep nutrition is to provide the essential nutrients in adequate amount to satisfy the requirements of the animal at an economical cost. Thus the feed supply must occupy a high priority in the planning of the prospective sheep production. The proper growth and development of growing lambs depends heavily on their level of nutrition. The published literatures are mostly based on studies comparing various feed combination under semi intensive and intensive system of production (Santra and Karim, 2002) while few reports are based on lamb rearing for mutton production under extensive range management (Singh et al., 2005). However comparison of production performance and relative economics of different feeding systems are lacking in literature. Hence this experiment was carried out to assess the growth performance and cost economics of different feeding systems, which could be adopted by the farmers for their benefits.

MATERIALS AND METHODS:

Thirty-six Mecheri lambs were randomly selected after weaning and divided into three groups of 12 lambs in each. All the lambs were drenched with Albendazole , vaccinated against enterotoxaemia and provided health coverage as and when required. Group I animals were maintained in stall fed condition and provided *ad libitum* roughage and concentrate feed (@1% of Body weight) formulated with locally available feed ingredients. Group II and Group III animals were allowed for grazing from 8.00 a.m to 5.00 p.m under the supervision of a shepherd. The group II animals after returning from grazing received concentrate feed at the rate of 1% of its body weight. The group III animals were maintained on grazing alone without any concentrate supplementation. During the study all the lambs had free access to clean drinking water. The experiment was continued for 180 days. The initial body weight of the lambs were recorded at the beginning of the experiment. The body weights of the lambs were recorded at fortnightly. The feed intakes in the form of supplementation (Concentrate feed) were recorded. Growth performance and cost economics of different groups of feeding system were calculated . The data were analysed statistically.

RESULTS AND DISCUSSION:

The weaning weight was similar in the three groups as the animals were randomized into three homogenous groups based on initial weight. The Total weight gain was higher in Gr-I followed by Gr-II and Gr-III. The average daily gain was higher ($P < 0.01$) in Gr-I (50.08 g) than Gr-II (36.84

g) and Gr-III (29.34 g). The observed higher live weight gain was due to better plane of nutrition (Murphy et al., 1994 and Santra et al., 2002). Das and Ghosh (2001) reported that average daily gain increased significantly ($P < 0.05$) with increasing level of concentrate feed supplementation in Black Bengal kids.

The purchase price of weaner lambs was Rs.150/kg live weight and the investment on this account was Rs.1285, 1324 and 1332/ animal, respectively in GrI, GrII and GrIII. During the study period other expenditure on account of grazing charge/maintenance charge (Rs.389/animal) and health coverage (Rs.7/animal) was similar in Gr-I, Gr-II and Gr-III. The cost of concentrate feed accounts Rs.180/- for G-I and G-II and nil for G-III. The cost of roughage including cultivation cost accounts Rs. 270 for G-I and Rs. 180 for G-II and G-III. Accordingly the total expenditure of rearing lamb to marketable age was Rs.2131 (Rs.1285 +389 +7 + 180 + 270), 2080 (1324+389+7+180+180) and 1908 (1332+389+7+0+180)/ respectively in Gr-I, Gr-II and Gr-III Major investment in lamb rearing was on account of purchase of weaner lambs amounting 60.30, 63.65 and 69.81 per cent of total expenditure, respectively in G-I, G-II and G-III. Shinde et al. (2003) also noted that the major investment in goat rearing was in terms of purchase of animals. The expenditure on the account of labour charges and health coverage during the study period was similar to the earlier reports (Thiruvankadan et al.(2004) and Kuldeep et al. (2006)) concluded that production triats ,economic realization and net balance was higher under semi intensive and intensive feeding than extensive range management. However, in case of sheep farmers rearing their own lambs under the stall feeding system of feeding management, the expenditure on labour charges will be zero, which will further increase the margin profitability. Suryanarayan et al.(2007) concluded that the concentrate feeding though costly could be promoted at the field level for rapid weight gain under semi-intensive system. In this study the average daily gain and net profit was higher (1385) in lambs maintained in Gr-I (stall feeding) than Gr-II (1014) (Grazing + Concentrate feeding) and Gr-III (926) (grazing alone). It was concluded that the farmers who wish to involve in mutton lamb production and having not much land and labours can adopt stall feeding system by cultivating fodder of grass and legume in their available land area and the time spent for the management was also very less in this system and they can utilize family members even women as labours to increase their profit and socio economic status.

REFERENCES

- Das, A. and Gosh, S.K. (2001) . Effect of concentrate supplementation on growth performance of Grazing Kids. *Indian J. Anim. Nutri.* **18**: 79 - 83.
- Kuldeep Porwal .,S.A.Karim,S.L.Sisodia and V.K.Sing. (2006). Socio -economic survey of sheep farmers in western Rajasthan. *Indian J. Small Rumin.* **12**: 74-81.
- Murphy, T.A., Loerch, S.C. and Smith, F.E.(1994). Effect of feeding high concentrate diet at restricted intakes on digestibility and nitrogen metabolism in growing lambs. *J Anim Sci* **72**: 1583 -1590.
- Shinde.,A.K.,Bhatta, R.,Samkhyan, S.K.,Singh, N.P and Verma, S.L. (2003). Economics of goat rearing in an organized farm. *Indian Journal of Small Rumin* **9**: 32-34
- Santra, A. and Karim, S.A. (2002). Nutrient utilization and growth performance of defaunated and faunated lambs maintained on complete diets containing varying proportion of roughage and concentrate. *Animal feed Science and Technology* **101**: 87 -99.
- Singh, V.K., Arora, A.L. and Karim, S.A and Sisodia, S.L. (2005) Final Report, Jaivigyan project on "Improvement in migratory sheep production program for tribal farmers of North West" Central Sheep and Wool Research Institute, Avikanagar, Rajasthan.
- Suryanarayana, M.V.A.N., Krishna Mohan, D.V.G and M. Venkateswarlu. (2007). Effect of concentrate feeding and different grazing systems on cost economics in sheep. *Indian Vet J* **84**: 758 - 759.
- Thiruvankadan, A.K., Karunanithi, K. and Purushothaman, M.R. (2004). Socio-economic status of the Mecheri Sheep farmers and economics of rearing under farmer's management. *Indian. J.Small Rumin.***10**:117-122. □