Effect of Different Dietary Energy Level on Growth Performance of Fattening Ram Lambs

N. Arulnathan* and M. Chellapandian
Department of Animal Nutrition,
Veterinary College and Research Institute, Tirunelveli-627 358, Tamil Nadu, India
Tamil Nadu Veterinary and Animal Sciences University (TANUVAS)
*Corresponding Author E-mail: drarulnutri@gmail.com
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ABSTRACT
This trial was taken to assess the growth performance and economic efficiency of diets with different energy level on fattening of Mecheri ram lambs. Twenty four weaned Mecheri ram lambs were selected randomly and divided into three groups of 8 lambs in each. Animals in Group I (Low energy-LE), group II (Medium Energy-ME) and group III (High Energy-HE) were fed with the concentrate mixture having 65,70 and 75 per cent of TDN respectively and having similar crude protein level (CP-18 %) by using locally available feed ingredients and fed with chaffed Hybrid Bajra Napier Grass ad libitum as a source of roughage for a period of 90 days in stall fed condition. Body weight were taken at fortnightly interval and Feed intake, growth performance and cost economics of different groups were assessed. The overall body weight gain and average daily weight gain were significantly (P<0.01) higher in HE when compare to ME and LE group. It was concluded that the supplementation of concentrate could be advised for best economic returns in fattening of ram lambs.

Keywords: Ram lambs - dietary energy level - growth performance

INTRODUCTION
Sheep are important meat producing animals in Tamil Nadu. Among the ten recognized breeds available in Tamil Nadu, Mecheri breed of sheep stands superior in productivity and draught tolerance. 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. The proper growth and development of growing lambs are depends heavily on the animal’s level of nutrition. The primary principle of intensive lamb fattening process is concerned with the use of intensive feed ingredients in order to benefit the high rate of development in the lambs early ages. Average daily gain increased and feed efficiency was improved as protein and energy levels in the diet were increased (Ebrahimi et al., 2007). Energy is the major dietary element that is responsible for the different utilization of nutrients and thereby the productivity and gain of an animal (Hosseini et al., 2008).
However, comparison of growth performance and economic efficiency of diets with different energy levels for fattening of Mecheri ram lambs are lacking in literature. Hence a research trial was conducted to assess the growth performance and economic efficiency of diets with different energy levels on fattening of ram lambs.

**MATERIALS AND METHODS**

Twenty-four weaned Mecheri ram lambs were selected randomly and divided into three groups of 12 lambs in each. All animals were maintained under stall fed condition. Three concentrate mixtures were prepared with similar protein (18% CP) and different energy level (65%, 70%, and 75% of TDN) by using locally available feed ingredients.

**RESULTS AND DISCUSSION**

The total weight gains in three groups were 5.53±0.62, 6.93±0.48 and 8.41±0.29 kg respectively for LE, ME, and HE groups. The average daily gains (g) were 61.39±6.89, 76.95±5.35, and 93.47±3.26 respectively for LE, ME, and HE groups. There were no significant differences in daily dry matter intake. The overall body weight gain and average daily weight gain were significantly (P<0.01) higher in HE compared to ME and LE group; the reason could be higher plane of nutrition that supplied adequate essential nutrients for body growth. These results were agreed with Ebrahimi et al. (2007), Hosseini et al. (2008). The economic efficiency was higher for lambs fed on high-energy diets compared with other treated groups (Abdel, 2011). Hence, the net profit earned was also high in HE group than ME group and LE group based on the additional body weight gain and price fetched by this additional weight. It was concluded that the supplementation of high energy concentrate could be advised for best economic returns in fattening of Mecheri ram lambs at stall fed condition.

**CONCLUSION**

Rearing of ram lambs is a now becoming a popular enterprise in our state. In order to guide the farming community for better utilization of the available resources and to get higher profit higher plane of nutrition have

**Table 1: Ingredient composition of the experimental diets with different energy level**

| Ingredients      | Low Energy Diet (LE) | Medium Energy Diet (ME) | High Energy Diet (HE) |
|------------------|----------------------|-------------------------|-----------------------|
| Maize            | 4.75                 | 20.53                   | 38.28                 |
| Broken Rice      | 25.00                | 25.00                   | 30.00                 |
| DORB             | 46.00                | 28.55                   | 0.50                  |
| Soya bean meal   | 19.25                | 21.93                   | 26.77                 |
| Salt             | 1.50                 | 1.50                    | 1.50                  |
| Calcite          | 3.50                 | 2.44                    | 1.49                  |
| DCP              | 0.058                | 1.46                    |                       |
| Total            | 100.0                | 100.0                   | 100.0                 |
| Cost of Feed (Rs.) | 19.15              | 19.55                   | 20.55                 |
| CP (%)           | 18                   | 18                      | 18                    |
| TDN (%)          | 65                   | 70                      | 75                    |

*Trace mineral premix was added at the rate of 250gm/MT in all three diets.*
to be supplied to the lambs that in turn supplied adequate essential nutrients for better body growth. It was concluded that the supplementation of high energy (TDN 75%) concentrate along with the roughages could be advised for best economic returns in fattening of Mecheri ram lambs production.

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