

## THE INFLUENCE OF PROTEIN AND ENERGY ON THE GROWTH OF LAMBS AND FEED CONVERSION

Zita Bartkevičiūtė, Janina Černauskienė

*Department of Animal Nutrition, Lithuanian Veterinary Academy, Tilžės 18, LT- 47181, Kaunas, Lithuania, tel. +370 37 36 34 08; e-mail: bartkeviciute@lva.lt*

**Summary.** The present study was designed to assess the influence of protein and energy on the growth of lambs and feed conversion.

The first experiment evaluated the influence of the rations with increased protein level on the growth rate and feed energy conversion in lambs. Twenty weaners Romanovo lambs were divided randomly into two groups (experimental and control) each of 10 lambs. Two diets with equal amount of energy were formulated based on roughage, silage, roots and concentrates with added of 25% of oat grain (control) or protein feed additive *Protomix 300* (experimental). During 60 days of experiment the average weight of control and experimental lambs increased on 2,9 kg and 6,5 kg, respectively ( $p<0,001$ ) and in experimental lambs the feed energy conversion was by 2,15 fold higher ( $p<0,001$ ).

In the second experiment the influence of protein supplementation on the growth rate and concentrate consumption was investigated in the suckling Lithuanian Blackface lambs. Seventeen ewes with suckling tween lambs (31–32 days of age) were divided randomly into three groups each of 5–6 ewes. The ewes were fed with diets consisted of roughage, roots and concentrates with added of 50 g soya meal supplement (Group 1) with 10% higher amount crude protein compared to Group 2 (experimental) and Group 3 (control). The experimental lambs in Groups 1 and 2 were fed *ad libitum* with a mixture of oats grain and soya meal. Further, the level of crude protein in the mixture during the first month of feeding was 21,1% of DM and 19,4% during the second month of the experiment. During the first month lambs daily consumed 0,3 kg concentrates and during the second month - 0,8 kg concentrates. During the 63 days of experiment the average weight of lambs in Groups 1, 2 and 3 increased on 15,5 kg, 14,3 kg and 7,2 kg, respectively. There were highly significant differences in the weight gain of lambs between both experimental groups and controls due to crude protein supplementation ( $p<0,001$ ). In addition, weight gain in lambs where ewes had soya meal supplementation (Group 1) compared to lambs where ewes had no supplementation the weight gain was on 11,0% higher during the first month and on 5,0% higher during the second month of feeding.

The results from this study indicate that diet with protein supplementation in both experiments significantly increased weight gains and feed conversion in weaner and suckling lambs.

**Key words:** weaner lambs, suckling lambs, protein supplementation, weight gain.