

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## BODY COMPOSITION AND ENERGY REQUIREMENTS OF GROWING LAMBS

Fabrício Leonardo Alves Ribeiro\*<sup>1</sup>, Viviane Aparecida Amin Reis<sup>2</sup>, Daniel da Cunha<sup>3</sup>, Ítalo de Melo Ferreira<sup>3</sup>; Amanda Vasconcelos Guimarães<sup>2</sup>, Ronaldo Francisco de Lima<sup>4</sup>, Juan Ramón Olaquiaga Perez<sup>5</sup>, Luciana Castro Geraseev<sup>6</sup>

\*corresponding author: fl.alves@yahoo.com.br

<sup>1</sup>Faculdade da Amazônia, Vilhena, Rondônia, Brasil

<sup>2</sup>Doutoras em Zootecnia pela Universidade Federal de Lavras

<sup>3</sup>Zootecnistas - Universidade Federal de Lavras

<sup>4</sup>Professor Universidade Federal do Oeste do Pará

<sup>5</sup>Professor Titular Aposentado - Universidade Federal de Lavras

<sup>6</sup>Professora do Instituto de Ciências Agrárias da Universidade Federal de Minas Gerais

Body composition and energy nutritional requirements (gain and maintenance) are usually determined by comparative slaughter essays. Twenty-seven Santa Ines lambs with 31.6 kg ( $\pm 1.6$ ) of body weight (BW) were arranged in a completely randomized design and distributed in 4 experimental groups: reference (slaughtered at the beginning of the assay), *ad libitum*, 30% and 50% of feed restriction. After reference group slaughter animals entered the trial in triplets. Diet for restricted animals was calculated based on the dry matter consumption of the *ad libitum* lamb of each triplet. When the *ad libitum* lamb of each triplet reached the slaughter weight (47 kg of BW) the others lambs were also slaughtered. Experimental diet composition was: 16.58% of CP and 2679.24 kcal.kg<sup>-1</sup> of metabolizable energy (ME) on dry matter basis. Body composition, metabolizable and net energy requirements (gain and maintenance) and energy efficiency for maintenance and gain were evaluated. Experiment was conducted according to the classical comparative slaughter methodology. Net and metabolizable energy requirements increased with the advance in body weight due to increase in body fat percentage. The equation that describes energy content is:  $Energy\ log = 1.3085\ EBW\ log - 1.0073$  ( $r^2 = 0.8749$ ) where EBW is empty body weight. Using the above equation was possible to estimate the amount of energy retained in the gain of one kilogram of live and empty body weight, average values obtained were 2722.92 and 3158.58 kcal.kg<sup>-1</sup> for BW and EBW respectively. Net and metabolizable energy requirements for 250 g.day<sup>-1</sup> gain in the range of 30-45 kg of BW are 680.73 kcal.(LW<sup>0.75</sup>)<sup>-1</sup> and 2076.66 kcal.(LW<sup>0.75</sup>)<sup>-1</sup> respectively. Efficiency of energy utilization for gain was 32.78%. Net and metabolizable energy requirements for maintenance were 65,01 kcal.(LW<sup>0.75</sup>)<sup>-1</sup> and 105,8 kcal.(LW<sup>0.75</sup>)<sup>-1</sup> daily basis, respectively. Efficiency of energy use for maintenance was 61.41%. Values obtained for different ways of expressing energy requirements are in agreement with data variation found in literature and different international committees.

**Keywords:** comparative slaughter, growth, nutrition, sheep.

Promoção e Realização:



Apoio Institucional:



Organização:

