

**THEME 9 | RUMINANT NUTRITION AND PRODUCTION**

**Equations to predict weaned lamb's empty body weight from slaughter weight of different genetic groups**

Fabiane de Souza Costa<sup>\*1,5</sup>, Ingrid Harumi S. Fuzikawa<sup>2,5</sup>, Wignez Henrique<sup>1</sup>, Gabriela Aferr<sup>3</sup>, Mauricio M. Alencar<sup>4,6</sup>, Sergio N. Esteves<sup>4</sup>

<sup>1</sup>APTA, São José do Rio Preto/SP, Brazil; <sup>2</sup>USP, Pirassununga/SP; <sup>3</sup>APTA, Jaú/SP; <sup>4</sup>CPPSE/Embrapa, São Carlos/SP; <sup>5</sup>Scholarship Capes; <sup>6</sup>Fellowship CNPq

\*Postdoctoral – fabianedesouzacosta@gmail.com

The objective was to estimate the empty body weight from the slaughter weight of weaned lambs of different genetic groups. Lambs of each breed: Santa Ines, White Dorper, Texel and Ile-de-France; and crossbred: ½ White Dorper + ½ Santa Ines, ½ Texel + ½ Santa Ines and ½ Ile-de-France + ½ Santa Ines were studied. Animals were kept in pasture from birth until weaning at 90 days of age. Then, six males of Texel and eight of each other genetic group were confined for 21 days in individual pens with slatted floors, and received *ad libitum* a pelleted diet with 90% concentrate and 10% alfalfa hay (15.66% CP and 67.64% of TDN). At the end, animals were weighed following solid fasting for 14 hours (slaughter weight - SW) and slaughtered. The following animal body fractions were separated and weighed: blood, carcass, offal (after cleaning the entire contents) and head + hooves + pelt. Weights of the fractions were added, totaling the empty body weight (EBW). On average, carcass composed 55.99% of empty body weight, while offal, head + hooves + pelt and blood totaled 19.91, 19.66 and 4.44%, respectively. No differences ( $P>0.05$ ) were found among genetic groups on body fraction weights and percentages. Data were analyzed in a completely randomized design considered a mixed model with genetic groups and slaughter weight as fixed effects and the interaction between both; weaning group (three in 2015 and two in 2016) was included in the model as a random effect. Weaning group showed no significant ( $P>0.05$ ) effect. Interactions were highly significant ( $P<0.001$ ), and demonstrated the need to develop an equation for each genetic group estimating empty body weight by slaughter weight. Equations obtained were: Santa Ines  $EBW = 1.028*SW - 3.026$  ( $R^2 = 0.991$ ); White Dorper  $EBW = 0.910*SW - 0.833$  ( $R^2 = 0.995$ ); Texel  $EBW = 0.909*SW - 0.604$  ( $R^2 = 0.995$ ); Ile-de-France  $EBW = 0.879*SW - 0.149$  ( $R^2 = 0.984$ ); White Dorper + Santa Ines  $EBW = 0.843*SW + 0.542$  ( $R^2 = 0.975$ ); Texel + Santa Ines  $EBW = 0.956*SW - 1.721$  ( $R^2 = 0.994$ ); and Ile-de-France + Santa Ines  $EBW = 0.817*SW + 1.409$  ( $R^2 = 0.994$ ). By the obtained coefficients of determination, the equation acquired for all genetic groups may be considered confident.

**Keywords:** body components; crossbred; ovine; Santa Ines; slaughter weight

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