

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

DIGESTIBILITY MARKERS FOR SHEEP DIETS CONTAINING HYDROLYZED SUGARCANE-TOP HAY

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The nutritional value of a feedstuff is determined on the basis of intake, digestibility, and the efficiency with which nutrients are metabolized for production. Therefore, the use of internal and external markers to estimate the fecal output of animals has become a routine practice in *in vitro* digestibility assessments. The objective of this study was to evaluate the correlation between estimates of fecal production and dry matter (DM) and nutrient digestibility obtained using internal markers (indigestible dry matter [iDM], indigestible neutral detergent fiber [iNDF], indigestible acid detergent fiber [iADF], and indigestible lignin [iLIG]) and external markers (chromium oxide [Cr₂O₃], titanium dioxide [TiO₂], and purified and enriched eucalyptus-derived lignin [LIPE[®]]) and values obtained by the total feces collection method. The trial involved 20 uncastrated crossbred (undefined breed × Santa Inês) sheep with an average live weight of 29.64 ± 5.53 kg, at approximately 12 months of age. The animals were housed in metabolism cages where they were fed diets consisting of untreated sugarcane-top hay or sugarcane-top hay hydrolyzed with 3 and 6% urea or 1.5 and 3% calcium oxide (CaO). There was a positive correlation (P<0.05) between fecal production estimated by the markers and total feces collection, with coefficients higher than 90% for Cr₂O₃, TiO₂, and iDM. The digestibility of DM and nutrients estimated with the use of markers was positively correlated with that obtained with total feces collection. Higher correlation coefficients were obtained for digestibility via total collection in relation to Cr₂O₃, with values near those obtained for TiO₂. As for the internal markers iDM and iNDF, the digestibility of protein and of the fibrous fraction showed a correlation coefficient greater than 70% with digestibility obtained through total collection. The internal marker iDM and the external markers Cr₂O₃ and TiO₂ are effective in the estimate of fecal production and digestibility of DM and nutrients.

Keywords: Calcium Oxide, *Saccharum officinarum*, Total Collection, L., Urea

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