

INFLUENCE OF THE SHRUBS *CELTIS PALLIDA* AND *ZIZIPHUS OBTUSIFOLIA* ON INTAKE, DIGESTION AND N BALANCE BY SHEEP

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Abstract. The objective of the study was to evaluate the influence of two shrub leaves on digestion, nitrogen retention and ruminal digestion characteristics of sheep. Twelve rumen-fistulated castrated male sheep (Pelibuey x Rambouillet) of 32.0 ± 2.3 kg live weight were randomly assigned to three diets (four sheep/diet): diet 1 or control, consisted of 49.2% *Medicago sativa* hay and 50.8% of *Cynodon plectostachyus* straw dry matter basis (DM), diet 2 consisted of 36.2% *Celtis pallida* leaves and 63.8% *Cynodon plectostachyus* straw, diet 3 consisted of 43.9% *Ziziphus obtusifolia* leaves and 56.1% *Cynodon plectostachyus* straw. The diets were added with 0.5% of a mineral premix and 5.0% molasses. *Medicago sativa* hay was used as control feed of good nutritional quality. Sheep intakes of dry matter (DM), organic matter (OM), crude protein (CP), neutral detergent fiber (NDF), acid detergent fiber (ADF), cellulose and hemicellulose were not significantly different among treatment diets. However, the digestion coefficients of DM, OM, CP, NDF, ADF, cellulose and hemicellulose resulted similar ($P > 0.05$) between sheep fed the *M. sativa* hay and the *C. pallida* diets, but both were higher ($P < 0.05$) than sheep consuming the *Z. obtusifolia* diet. The N intake, fecal N and urinary N were not different ($P > 0.05$) among the three diets, but numerically sheep fed *C. pallida*, excreted more N in urine than the sheep on the other diets. Leaves of evaluated shrubs may have potential to be used as alternative browse supplement for sheep fed diets based on roughages of low nutritional quality.

Keywords *In vivo* digestion, nitrogen retention, ruminal digestion, sheep