Degradation characteristics of urea and lime treated groundnut shells based diets

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Abstract

This research was conducted to investigate the chemical composition and rumen degradation characteristics of treated groundnut shells (GNS) based diets in the rumen. It was carried out in the Teaching and Research farm of the Department of Animal Science A.B.U. Zaria. Three fistulated Yankasa rams with average weight of 26kg was used for the degradation studies, housed in a pen, and tethered to the ground. They were fed with a diet formulated to contain 14% crude protein throughout the study period; water was given ad lib. Measurements on the chemical composition and the degradation characteristics were investigated. Feed samples were placed in nylon bags and were suspended in the rumen for 3, 6, 12, 24, 36, and 48 hours. Chemical analysis of the degraded residue and the feed samples was carried out so also the statistical analysis. DM degradability of the feed samples was analysed with the NEWAY program developed by the Rowett Research Institute. The overall results indicate that alkali treatment affected the compositions of the diets and appeared to be better than the untreated. Based on the present findings, urealime GNS based diets increased the DM and decreased lignin and ADF; it also appears to degrade faster.

Keywords: groundnut shells, lime, urea, treatment, in-sacco, degradation characteristics.