

EFFECT OF DIETARY ROUGHAGE SOURCES ON INTAKE, IN-SITU DEGRADABILITY, IN-VIVO DIGESTIBILITY, PRODUCTIVE PERFORMANCE AND CARCASS TRAITS OF GROWING OSSIMI MALE LAMBS.

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ABSTRACT

Thirty two Ossimi male lambs; four months age and 24 ± 0.35 kg initial live body weights were randomly allotted to four experimental rations. Experimental rations were formulated to contain 40% different fiber sources, i.e. sugar cane bagasses (SCB) ground corn cobs (Ccb) and ground peanut hulls (PnH) in cube form. A fattening trail was conducted for 140 days to study the impact of dietary fiber source on lambs fattening performance. A metabolism and nitrogen balance (NB) trail were carried out at the end of the study. Ruminal parameters and In-situ degradability trails were also conducted to estimated ruminal $\text{NH}_3\text{-N}$, TVFA concentration and ration disappearance. Four animals from each group were slaughtered by the end of the study to evaluate the effect of dietary fiber source on carcass characteristics and edible offal organ mass.

Results obtained revealed higher ($P < 0.05$) digestibility coefficient values in most of dietary nutrients in favor of Ccb ration, followed by SCB. Higher ($P < 0.05$) nutritive value and NB were also recorded for both of the two rations (67.57, TDN and 8.73% DCP and 16.37gm DCP/h/d; 64.84, 7.33 % and 14.62 gm DCP/h/d for both rations, respectively. Lower ($P < 0.05$) digestibility coefficient values, nutritive values and NB were shown by both of PnH and the control rations and without significant difference between the later two rations. In the contrary, higher ($P > 0.05$) $\text{NH}_3\text{-N}$ release was shown by both of PnH ration and the control group at 3hrs after feeding, but with lower ($P < 0.05$) TVFA's concentration with either Ccb or SCB rations. Higher ($P < 0.05$) DM, OM and CP disappearance was achieved by both of Ccb and SCB in comparison with both of PnH and the control ration during different incubation periods. Degradation kinetic and effective degradability (ED) of DM were not affected due to dietary fiber sources. However, higher ($P < 0.05$) ED of OM was detected by the control ration with intermediate values for both Ccb and SCB, while highest ($P < 0.05$) soluble fraction of CP was shown by Ccb ration. Highest ($P < 0.05$) daily feed intake was shown for both the control and SCB in different feed terms. Higher ($P > 0.05$) daily gain and feed utilization were achieved by both Ccb and PnH lambs and being more economically. However, highest ($P < 0.05$) dressing percentage was achieved by SCB lambs. Insignificant effect of dietary fiber source on different offal organs weight was indicating constant weight relative to both of hot carcass and live body weight of slaughtered animals. It could be concluded that dietary fiber source must be in consideration when formulating fattening lambs ration, lower fiber levels and more palatable source must be considered at such younger ages.

Keywords: *peanut hulls, sugar cane bagasse, ground corn cobs, degradability, digestibility and fattening lambs.*