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EFFECT OF TYPES OF SUPPLEMENT ON THE UTILIZATION
OF RICE STRAW BY RUMINANT ANIMAL

By

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EFFECT OF TYPES OF SUPPLEMENT ON THE UTILIZATION OF RICE
STRAW BY RUMINANT ANIMAL

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ABSTRACT

Sixteen male Rahmani Lambs (average 15 kg of live body weight and 4-5 months of age were employed in this study. Lambs were divided into four similar groups each of four animals, and randomly assigned to the following four feeding treatments:

- I. Untreated rice straw + co-op-feed mix. (50 % of total requirements, control).
- II. Urea treated rice straw (3 % w/w) + co-op-feed mix. (50 % of total requirements).
- III. Urea treated rice straw + co-op-feed mix. (25 % of total requirement + ground yellow corn (25 % of total requirements).
- IV. Urea treated rice straw + co-op-feed mix. (25 % of total requirements) + sugar cane molasses (25 % of total requirements).

Chopped untreated or urea treated rice straw were offered to animals ad.lib. The growth and feeding trial lasted for 28 weeks which was divided into equal two periods and at the end of each period digestibility trials were carried out by using three lambs randomly chosen to represent each group. The results obtained showed that :

Urea treatment increased CP content of rice straw from 3.9 to 8.5 % and the treatment had a little or no effect on CF, EE, Ash, NFE, hemicellulose, cellulose and lignin contents, also storage treatment period (ensiling period, 1-7 months) had a little effect on CP and CF fractions contents of treated rice straw. Digestibility of DM, OM, CP and EE increased by about 5.6 , 10.8 and 12.6; 6.7 , 11.1 and 15.6; 58.4 , 80.8 and 80.8 and 22.3; 2.7 and 22.3 % for rations II, III and IV, respectively compared with the control (I). All animals in all experimental groups were in positive nitrogen balance, however values recorded for lambs given urea treated rice straw were greater ($P < 0.01$) than those obtained for untreated rice straw. Average values obtained of TDN were 51.2 , 54.5, 56.4 and 58.1%, while those of SV were 36.8 , 38.1, 38.9 and 42.8% and those of DCP were 6.6 , 7.9 , 5.0 and 5.1% for rations I, II , III and IV, respectively . Average absolute DM intake of rice straw over the entire experimental period were 293 , 429 , 520 and 460 g/ animal / day, while average DM intake of rice straw/kgW^{0.75} were 28.8, 39.9 47.1 and 48.7 g/kgW^{0.75} / day for animals given rations I, II, III and IV, respectively. Average daily gains values recorded during the entire experimental period were 61, 87, 98 , and 47 g for groups I, II , III and IV, respectively. Feed efficiency values in terms of g.gain/100g of DM , TDN or S.V intake recorded over the entire experimental period were 8.7 , 10.4 , 11.5 and 5.8 ; 17.0, 19.1 , 20.3 and 9.9 and 23.7, 27.4, 29.4 and 13.5 g for groups I, II, III and IV, respectively.

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LIST OF ABBREVIATION

ADF	= Acid detergent fibre
ADL	= Acid detergent lignin
CF	= Crude fibre
CP	= Crude protein
CPE	= Crude protein equivalent
CWC	= Cell wall constituents
DCP	= Digestible crude protein
DM	= Dry matter
Ee	= Ether extract
HE	= High energy
HP	= High protein
LE	= Low energy
LP	= Low protein
ME	= Medium energy
MP	= Medium protein
N	= Nitrogen
NDF	= Neutral detergent fibre
NFE	= Nitrogen free extract
NPN	= Non protein nitrogen
OM	= Organic matter
S	= Sulphur
SV	= Starch value
TDN	= Total digestible nutrients
W ^{0.75}	= Metabolic body weight
W/W	= Weight/weight

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INTRODUCTION

