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Growth Response of West African Dwarf Goats Fed Differently Treated Corncob Silage Diets

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Abstract

A study was conducted to evaluate the growth responses of thirty (30) West African Dwarf (WAD) goats (males) fed differently treated corncob silage diets. Five hundred kilograms of sun-dried corncobs were divided into 5 equal portions, the 1st portion was untreated, 2nd portion was treated with water (1 l water/ 1 kg corncobs), 3rd portion was treated with lye solution (1 l lye solution /1 kg corncobs), 4th portion was treated with poultry litter (1 kg poultry litter / 1 kg corncobs) and the 5th portion was treated with 5 % urea solution (1 l urea solution / 1 kg corncobs). All portions were ensiled for 28 days. Five diets were formulated such that air-dried of the ensiled untreated corncobs (A), water treated corncobs (B), lye treated corncobs (C), poultry litter treated corncobs (D) and urea treated corncobs (E) were incorporated at 45 % level into the diets respectively. The animals were randomly assigned to the 5 diets (six goats/diet) in a completely randomised design for a period of 63 days. The analysed crude protein (CP) contents of the diets ranged: 12.54 (diet A) - 30.96 % (diet D), while analysed crude fibre ranged: 18.61 (diet D) - 38.45 % (diet B). The DM intake ranged: 210.25 (diet B) - 376.83 g day^{-1} (diet E) and CP intake ranged: 32.09 (diet B) - 94.62 g day^{-1} (diet E), while the highest DM digestion coefficient value (80.26 %) was observed in animals fed diet E and the least value (58.41 %) in animals fed diet B. The highest weight gain (38.79 g day^{-1}) was observed in animals fed diet E and lowest (11.57 g day^{-1}) was observed in animals fed diet A. The animals fed diet D had the best feed/gain ratio (8.48) compared to 26.23 observed in animals fed diet C. From foregoing, urea treated corncobs enhanced better weight gain than other test diets while goats fed poultry litter treated corncobs had better feed/gain ratio than the other test diets. Thus, the use of urea and poultry litter corncob treatments in goat diets could lead to enhanced goat production in sub-Sahara Africa.

Keywords: Corncob, digestibility, goats, poultry litter, response, urea

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