Blood profile and nitrogen losses in goats fed urea-treated sugarcane waste and kolanut husk as supplements to poor quality forage.

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Target Audience: livestock farmers, Animal scientists, goat nutritionists

Abstract

The effect of urea treated sugarcane waste and kolanut husk supplementation on blood profile and nitrogen losses in West African dwarf goats fed poor quality forage were assessed during a feeding trial of 84 days. Twenty four West African dwarf female goats with an average body weight of 5.00 ± 0.58kg were randomly assigned to four dietary treatments with two replicates of three goats per treatment in a completely randomised design. The compared treatment diets were: T1 (100% guinea grass), T2 (50% guinea grass and 50% urea treated sugar cane waste), T3 (50% guinea grass and 50% urea treated kolanut husk) and T4 (50% guinea grass with urea treated 25% sugarcane waste and 25% kolanut husk). A metabolism trial was carried out at the end of the feeding trial to assess diets on nitrogen losses after the blood collection. Results obtained in the study indicated that faecal nitrogen output (3.61g/day) and total nitrogen excreted (4.46g/day) was significantly (P > 0.05) higher in T1 than other treatment diets. Goats on T3 had higher significant (P > 0.05) values in Creatinine (2.01mg/dl), urea (11.23mg/dl), nitrogen intake (18.78g/dl) and urinary nitrogen output (1.01g/day). Packed cell volume (30.00%), haemoglobin (10.19g/dl), red blood cell (9.89 x 10^6/ML), white blood cell (11.93 x 10^3/ML), total protein (7.78g/dl), albumin (3.92g/dl), globulin (3.86g/dl) and glucose (70.17g/dl) were significantly (P > 0.05) better in goats on T4 than other treatment diets. Significant difference (P < 0.05) did not occur in mean corpuscular volume, mean corpuscular haemoglobin, and mean corpuscular haemoglobin concentration, faecal nitrogen output as percentage of nitrogen intake and total nitrogen output with urinary nitrogen output as percentage of nitrogen intake and total nitrogen output among treatment diets. It could be concluded that goats fed 50% guinea grass with combination of urea treated 25% sugarcane waste and 25% kolanut husk had the potential to enhance blood profile and reduced nitrogen losses.

Keywords: urea, sugarcane waste, kolanut husk, goats