

Abstract

A 12 week feeding study was conducted to evaluate the effect of various dietary levels of poultry waste and/or grain sorghum on dry matter intake (DMI), in vivo dry matter digestibility (IVDMD), nitrogen balance (NB), blood urea nitrogen (BUN) and liveweight gains (LWG) of Small East African Goats. The basal diet comprised low-quality range hay supplemented with poultry waste (Pw)/grain sorghum (Gs) diets. Twenty-eight goats weighing 14-16 kg were randomly assigned to four treatments of Pw and Gs ratios as follows A 0:88; B 29:59; C 59:29 and D 88:0. Molasses was included at a constant rate of 12% to improve the palatability and reduce the dustiness of the feed. Hay was offered ad libitum while the supplemental diets were offered at 170 g/d/animal for 12 weeks. One way analysis of variance was used to compare treatment means. Increasing levels of Pw (0-88%) in the diet, significantly ($P < 0.05$) increased hay intake from 11.8 to 12.6 g of DM/kg/W.75/day. Digestion coefficients of DM, CP, NDF, ADF and GE significantly ($P < 0.05$) increased with increasing levels of Pw. Nitrogen balance and BUN increased significantly with increase in Pw from 2.26-4.43 g/d and 7-12 mg/100 ml, respectively. Treatments had no significant effect on the animals LWG. However, animals on the higher Gs levels generally had higher weight gains than those on the lower end. Results of this study indicate that Pw fed in conjunction with a suitable energy source, can improve the plane of nutrition of animals on low quality natural forages. In the agro-pastoral areas where farmers, in addition to domestic ruminants, keep traditional poultry, addition of poultry waste to the conventional ruminant low-quality forages, particularly during the dry season can significantly improve their utilisation. This can enhance the overall livestock productivity and the income levels of the farmers.