

## Abstract

*Maerua angolensis* and graded levels of maize germ meal were offered to Small East African goats to assess the effects on voluntary feed intake, diet digestion, nitrogen balance and growth. The *M. angolensis* was offered at a rate of 20 g kg<sup>-1</sup> W<sup>0.75</sup> to all animals and maize germ meal treatment diets was given at five graded levels (0, 15, 20, 25, and 30 gDM kg<sup>-1</sup> W<sup>0.75</sup>) designated as MG0, MG15, MG20, MG25 and MG30, in a completely randomized block design with 4 animals per treatment with the basal diet of Rhodes grass (*Chloris gayana*) hay fed ad libitum. The CP levels were 320, 200 and 61.4 g kg<sup>-1</sup> DM for *M. angolensis*, maize germ and *C. gayana* hay, and NDF contents were 449, 393 and 528 g kg<sup>-1</sup> DM, respectively. The DMI was 461-599 g DM d<sup>-1</sup> which increased with energy supplementation (P<0.05) although the supplemented groups did not differ and the goats consumed the feed at 3.72-4.53% of their live weight. The ADG was 4.92, 23.7, 26.4, 34.4 and 35.7 g d<sup>-1</sup>, respectively, with MG25 and MG30 being similar (P>0.05). The rumen NH<sub>3</sub>-N was in the normal range of 1.85-2.63 mg/100 ml while the nitrogen balance was in the range of 2.90-7.68 mg N/100 ml for MG0 and MG30, respectively. The DM, OM, CP, ADF and NDF digestibility was improved with supplementation, but supplemented animals had similar values (P>0.05). It is concluded that the maize germ meal supplemented at 25 g DM kg<sup>-1</sup> W<sup>0.75</sup> had high rumen NH<sub>3</sub>-N, N-retention and ADG 8.16 mg-1 100 ml, 6.25 g Nd<sup>-1</sup> of 34.4 g d<sup>-1</sup>, respectively, and this can be used together with *M. angolensis* at 20 g DM-1 W<sup>0.75</sup> to make use of the tree forage and low quality basal diet for growing Small East African Goats.