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\(^{-1}\) W\(^{0.75}\) to all animals and maize germ meal treatment diets was given at five graded levels (0, 15, 20, 25, and 30 gDM kg\(^{-1}\) W\(^{0.75}\)) 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\(^{-1}\) DM for M. angolensis, maize germ and C gayana hay, and NDF contents were 449, 393 and 528 g kg\(^{-1}\) DM, respectively. The DMI was 461-599 g DM d\(^{-1}\) 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\(^{-1}\), respectively, with MG25 and MG30 being similar (P>0.05). The rumen NH\(_3\)-N was in the normal range of 1.85-2.63 mg100 ml\(^{-1}\) 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\(^{-1}\) W\(^{0.75}\) had high rumen NH\(_3\)-N, N-retention and ADG 8.16 mg-1 100 ml, 6.25 g Nd-1 of 34.4 g d-1, respectively, and this can be used together with M. angolensis at 20 g DM-1 W\(^{0.75}\) to make use of the tree forage and low quality basal diet for growing Small East African Goats.