

## Abstract

A 56-day experiment was conducted to examine the contribution of *Maerua angolensis* and *Zizyphus mucronata*, mixed on a 1:1 ratio as a supplement to growing Small East African Goats fed a basal diet of *Chloris gayana* hay. Twenty goats were assigned to five treatments of: 0, 15, 20, 25 and 30 g DM kg<sup>-1</sup>W<sup>0.75</sup>, assigned as MZ0, MZ15, MZ20, MZ25 and MZ30.

The total extractable phenolics (TEPH) and total extractable tannins (TET) for *Maerua angolensis* (11.4, 3.01 mg kg<sup>-1</sup>DM) were lower than for *Zizyphus mucronata* (72.3, 41.2 mgkg<sup>-1</sup>DM) and the mixture had average values (41.9, 22.1 mg kg<sup>-1</sup>DM), respectively. The *Chloris gayana* hay had low crude protein content (54 g kg<sup>-1</sup>DM). Intake of hay and of total DM, and coefficients of apparent digestibility of diet proximate components, increased with supplementation. The control animals (MZ0) lost weight and the supplemented groups gained weight with best growth on the MZ20 diet. Rumen pH was in the normal range but rumen ammonia N was low for the control diet (8.99 mg 100ml<sup>-1</sup>), increasing with supplementation to 11.3 - 12.7 mg 100ml<sup>-1</sup>. There was a positive linear relationship between rumen ammonia level and live weight change.

It is concluded that the 1:1 mixture of *Maerua angolensis*:*Zizyphus mucronata* with a CP of 261g kg<sup>-1</sup>DM is an adequate protein supplement for growing Small East African Goats when fed a low quality (5.4% CP) basal diet of *Chloris gayana* hay.