

## Abstract

Proximate and mineral composition, *in-sacco* degradation and *in-vitro* gas production was conducted using fifteen indigenous Kenyan multipurpose tree and shrub (MPTS) leaf browse to assess their potential as goat feed. The species selected from a field survey were *Maerua angolensis*, *Acacia brevispica*, *Acacia mellifera*, *Acacia tortilis*, *Acacia hockii*, *Zizyphus mucronata*, *Grewia bicolor*, *Acacia elatior*, *Acacia nilotica*, *Balanites aegyptiaca*, *Acacia senegal*, *Acacia abyssinica*, *Bridelia micrantha*, *Albizia amara* and *Albizia coriaria*.

The CP levels ranged from 112gkg<sup>-1</sup>DM for *Bridelia micrantha* to 321 gkg<sup>-1</sup>DM for *Maerua angolensis*; the NDF ranged from 218 to 601 gkg<sup>-1</sup>DM for *Acacia hockii* and *Albizia amara*, respectively. The TEPH and TET were in the range of 1.52-26.4 and 0.301-24.4gkg<sup>-1</sup>DM, respectively. The major minerals Ca, P, Mg, Na and S were in the ranges of 6.51-28.1, 0.838-3.18, 0.442-8.51, 0.318-0.711 and 1.12-2.45gkg<sup>-1</sup>DM, respectively. The microelements varied widely (mgkg<sup>-1</sup>DM) as follows: Fe (51.3-267), Mn (13.8-38.5), Cu (4.81-74.9), Mo (13.9-43.4), Co (1.76-17.4), Zn (12.2-93.2) and Se (19.5-124). *In-sacco* DM degradation at 48hrs shows *Zizyphus mucronata* was highest followed by *Maerua angolensis* with degradability of 93.3% and 88.6%, respectively. Gas production (volume (ml)/200mgDM) levels (a+b) ranged from 19.2 to 52.2 in *Bridelia micrantha* and *Maerua angolensis*, respectively. The overall levels of nutrients and degradation showed variations but most of the forages were moderate to high in the nutrient composition and degradability parameters. The ranking of the forages in order of increasing nutritive value into three categories of five species was as follows: low (*Bridelia micrantha* < *Albizia amara* < *Acacia hockii* < *Acacia nilotica* < *Acacia tortilis*); medium (*Acacia abyssinica* < *Grewia bicolor* < *Albizia coriaria* < *Acacia elatior*) and high (*Balanites aegyptiaca* < *Acacia mellifera* < *Acacia senegal* < *Zizyphus mucronata* < *Maerua angolensis*).

It is concluded that *Maerua angolensis* and *Zizyphus mucronata* are outstanding and they have potential for ruminant feed and more so as protein supplements to low quality tropical basal diets.