

## 5. FEEDS AND FEEDING/NUTRITIONAL BIOCHEMISTRY

### 5.1 The Chemical Composition and in vitro Organic Matter Digestibility of some Browse Plants in Southern Nigeria.

O.J. IFUT,  
Department of Agricultural Science,  
College of Education,  
Uyo, Nigeria.

The objective of the study was to assess the nutritive value of some Nigerian browse plants using their chemical composition and in vitro organic matter digestibility (IVOMD) values. The data so obtained would give an insight into the potentials of these plants to meet ruminant nutritional needs, especially during the dry season when the more regular grazings are in very short supply.

A total of 34 browse plants - 20 trees, 11 shrubs, 2 climber/twiner and 1 herb - were collected from Ibadan and Uyo between 4th and 26th April, 1981. The samples were dried in a large Gallenkamp forced-hot-air draught oven at 70°C for 2 days before being milled to pass a 0.6 mm sieve. The milled samples were stored in air-tight amber/brown bottles until required for analysis.

The analytical procedures were those of the Association of Official Analytical Chemistry (A.O.A.C.) (1970) and Official Methods of Analysis (1975). The parameters investigated include dry matter (DM), moisture, ash, organic matter (OM), crude protein (CP), crude fibre (CF), ether extract (EE), nitrogen-free extractives (NFE), silica, silica-free ash, acid-detergent fibre (ADF), in vitro organic matter digestibility (IVOMD), and minerals.

The trees were richest in EE ( $4.92\% \pm 2.65$ ), NFE ( $44.29\% \pm 9.24$ ), OM ( $91.85\% \pm 3.55$ ), IVOMD ( $40.77\% \pm 13.74$ ), and Cu ( $12.14\mu\text{g} \pm 5.78\mu\text{g}/100\text{g}$ ).

The shrubs had the highest CP ( $23.80\% \pm 7.00$ ), silica ( $3.93\% \pm 3.19$ ), P ( $0.23\% \pm 0.08$ ), and K ( $1.78\% \pm 0.93$ ).

The herb/twiner/climber group excelled in ash ( $9.76\% \pm 1.63$ ), CF ( $27.11\% \pm 4.05$ ), ADF ( $50.29\% \pm 10.29$ ), silica-free ash ( $6.88\% \pm 0.30$ ), Ca ( $1.11\% \pm 1.07$ ), Mg ( $0.40\% \pm 0.14$ ), Na ( $2.18\% \pm 1.06$ ), Mn ( $506.67\mu\text{g} \pm 714.45\mu\text{g}/100\text{g}$ ), Fe ( $443.33\mu\text{g} \pm 150.11\mu\text{g}/100\text{g}$ ), and Zn ( $33.33\mu\text{g} \pm 15.28\mu\text{g}/100\text{g}$ ).

No plant showed any detectable trace of Cr.