

**VALEUR NUTRITIVE ET EFFET DE DIFFERENTES SOURCES D'ENERGIE SUR LA
DIGESTIBILITE IN VITRO DE LEUCAENA LEUCOCEPHALA OU CALLIANDRA
CALOTHYRSUS AU CAMEROUN**

E. TEDONKENG PAMO¹, J. R. KANA¹, F. TENDONKENG¹, B.M BOUKILA² et
M. E. BETFIANG¹

¹Laboratoire de Nutrition Animale, Département des Productions Animales, FASA,
Université de Dschang, B.P. 222, Dschang, Cameroun

²Institut National Supérieur d'Agronomie et de Biotechnologie (INSAB), Université des
Sciences et Techniques de Masuku, B.P. 941, Gabon

**NUTRITIVE VALUE AND EFFECT OF DIFFERENT SOURCES OF ENERGY ON
IN VITRO DIGESTIBILITY OF LEUCAENA LEUCOCEPHALA OR
CALLIANDRA CALOTHYRSUS IN CAMEROON**

Summary

Three species of grasses (*Pennisetum purpureum*, *Trypsaicum laxum* and *Brachiaria ruziziensis*) were used to study the effect of different sources of energy supply on *in vitro* digestibility of *Leucaena leucocephala* and *Calliandra calothyrsus* harvested at the Teaching and the Research Farm of the University of Dschang. The legumes were mixed with grasses in 1:3 (150 mg of legumes and 350 mg of grasses) analysed and incubated. The crude protein (CP) content of *L. leucocephala* (29%) was higher than that of *C. calothyrsus* (23.62%). The gas and SCFA production from the degradation of *L. leucocephala* alone was 39.57ml/200mg DM and 0.88 mmol/40ml viz 27.60ml/200 mg DM and 0.59mmol/40ml from the degradation of *C. calothyrsus*. In the presence of grasses, gas and SCFA produced from degradation of *L. leucocephala* varied from 41.02 to 50.77ml/200mg DM and 0.91 to 1.15mmol/40ml viz 39.08 to 42.54 ml/200 mg DM and 0.87 to 0.95mmol/40 ml respectively from the degradation of *C. calothyrsus*. Metabolizable energy (ME) (9.23MJ/kg DM) and microbial mass (MM) (172,38 mg) produced from the organic matter digestibility (OMD) (63.57%) of *L. leucocephala* incubated alone were significantly ($P<0,01$) higher than those of *C. calothyrsus* (ME (7.29MJ/kg DM), MM (149.51 mg) and OMD (50.39%)). In the presence of different sources of energy, ME produce from OMD (60.40 to 69.39%) of *L. leucocephala* varied between 8.80 and 10.20MJ/kg DM and the MM between 174.42 and 195.31 mg viz 8.45 and 8.98 MJ/kg DM (EM) and 110.68 and 181.39mg (MM) from the OMD (57.63 and 61.32%) of *C. calothyrsus*. Energy significantly ($P<0,01$) increased the *in vitro* digestibility of *L. leucocephala* and *C. calothyrsus*.

Keywords: *In vitro* digestibility, *Brachiaria ruziziensis*, *Trypsaicum laxum*, *Pennisetum purpureum*, *Calliandra calothyrsus*, *Leucaena leucocephala*, rainy season, Cameroon.