

THE UTILIZATION OF THE DIETARY ENERGY OF TWO TROPICAL  
GRASSES BY YOUNG GROWING BEEF CATTLE

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Although the apparent, digestibility of setaria (*S. sphacelata* var. sericea cv. Nandi) is generally equal or better than pangola (*Digitaria decumbens*) at the same stage of growth (Minson 1972), the productivity of the former is generally lower than the latter (Stobbs and Sandland 1972).

The efficiency of utilization of the metabolizable energy (ME=0.815DE) and the net energy (NE) concentration of the two grasses were determined using a comparative slaughter technique in which 12 steers were individually fed each grass for 152 days at three levels of intake. Twelve similar steers were slaughtered initially for analysis. Energy retention between final and initial animals was used to calculate, by regression methods, the efficiency of utilization of metabolizable energy for fattening (kf), and the NE<sub>f</sub> values of the two grasses. A concurrent experiment determined the digestible energy (DE) of the two grasses.

TABLE 1: The efficiency of utilization of the calculated metabolizable energy and the NE concentration of pangola and setaria, both with similar energy and nitrogen values.

Grass	DE %	ME (MJ/kg DM)	DMI <sup>‡</sup> kg/d	k <sub>f</sub> ±SE %	NE <sub>f</sub> ±SE MJ/kg
Pangola	54.5	8.1	3.82	27.7 ±0.02	2.27 ±0.193
Setaria	53.5	8.0	3.86	16.9 ±0.02	1.31 ±0.133

<sup>‡</sup> Mean dry matter intake of the three planes of nutrition

Although intakes were similar, the NE<sub>f</sub> and kf values for pangola were higher (P<0.01) than for setaria and appear to be a factor causing differences in productivity between the two grasses.

The kf value for these tropical grasses are lower than values reported for temperate grass species and may account for the lower level of production of cattle which graze tropical grasses. It is concluded that kf values as well as intake and digestibility must be taken into account when evaluating grasses in animal production systems.

MINSON, D.J. (1972). Aust. J. exp. Agric. Anim. Husband. 12 : 21.

STOBBS, T.H., and SANDLAND, R.L. (1972). Aust. J. exp. Agric. Anim. Husband. 12 : 463.

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