

## Degradation of 4 tropical forages in the rumen in cows

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Three cows fitted with rumen cannulae were used. They were fed with 5 kg dehydrated lucerne and *Digitaria decumbens* hay *ad libitum*. Nitrogen degradation (Michalet Doreau *et al*, 1987) of King Grass (stems or leaves), *Brachiaria ruzziensis* (whole plant or stems, 4 months of regrowth age), *Arachis* leaves and *Erythrina poeppigiana* leaves were studied with the standardized *in sacco* technique. Following incubation, the bags were washed (cold water and ultrasonic bath), then dried. Nitrogen degradation kinetics were described by a single exponential model:  $D(t) = a + b(1 - e^{-ct})$  and  $nD = a + bc/(c + k)$  ( $k = 0.06/h$ ).

The trend regarding nitrogen and DM disappearance was similar to that described in the literature. The nitrogen degradability of King grass stems could be explained by linkage with undegradable components (table I); furthermore, the very low nitrogen

level in this sample (< 5 g/kg MS) was very difficult to detect accurately. *Arachis* leaves were the most rapidly degraded ( $c \approx 0.12/h$ ). The nitrogen theoretical degradation (nDT) of *Erythrina* was only 53%. The nDT of the 4 tropical forages was very variable and low, similar to that recorded for Pangola and leguminous trees reported by Aumont *et al* (1992). Therefore, it appears necessary to correct the single nD data (65%) for all tropical forages recommended by Xandé *et al* (1989).

Aumont G, Saminadin G, Cerneau P, Xandé A (1992) *J Agric Sci (Camb)* (in press)

Xandé A, Garcia-Trujillo R, Caceres O (1989) *Ruminant Nutrition: Recommended Allowances and Feed Tables* (Jarrige R, ed) INRA, 147, rue de l'Université, 75007 Paris

Table I. Non-linear regression parameters for DM and nitrogen degradation.

	Dry matter				Nitrogen			
	a (%)	b (%)	c (%/h)	DT (%)	a (%)	b (%)	c (%/h)	DT (%)
King grass stems	14.6	37.4	4.1	29.9	0.0	6.6	0.0	0.0
King grass leaves	11.9	62.9	2.9	32.4	23.9	50.7	12.7	39.6
Arachis leaves	34.4	47.3	12.4	66.3	29.8	59.8	1.9	69.6
<i>Brachiaria ruzziensis</i> 4 M	21.2	55.8	7.9	52.9	18.6	61.8	9.7	56.7
<i>Brachiaria</i> whole	21.2	55.3	7.4	51.6	21.6	58.1	9.9	57.9
<i>Erythrina</i>	34.3	25.0	6.9	47.7	39.0	26.1	6.5	52.6