

## How Stems Affect Forage Intake Rate and Selectivity by Cattle Grazing Tropical Grasses

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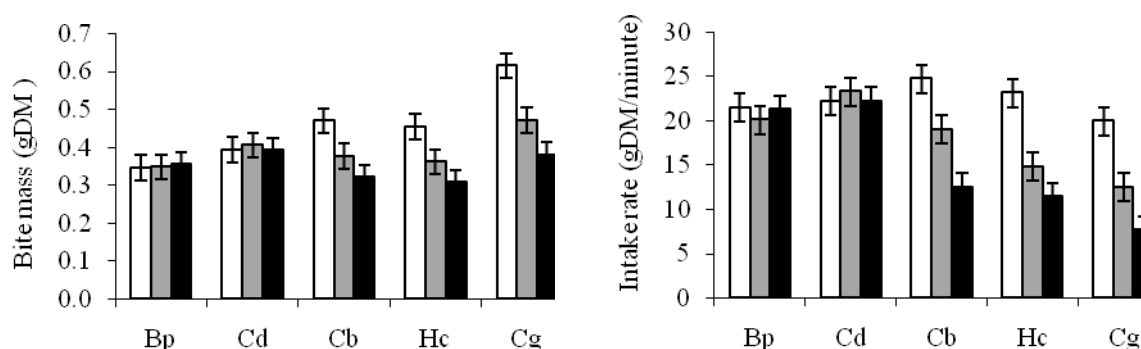
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Cattle select leaves and avoid stems or plant species which are difficult toprehend. Recent studies suggest that this is associated with the high tensile resistance (TR) of stems (Benvenuti *et al.* 2006). The aim of the present work was to confirm the results from previous studies using natural swards.

Trained steers (211 kg se 12 kg) were allowed to take 8 bites from 0.25 m<sup>2</sup> swards. The experiment had a randomized complete block design with 3 steers as replicates and consisted of a factorial combination of 5 tropical grasses [*Bothriochloa pertusa* (Bp), *Chloris barbata* (Cb), *Chloris gayana* (Cg), *Cynodon dactylon* (Cd) and *Heteropogon contortus* (Hc)] and 3 stem densities (0, 400 and 800 stems/m<sup>2</sup>). Eating behaviour variables and the TR of stems were measured. Significance of treatment effect was determined by standard analyses of variance.

Cb, Cg and Hc (group A) had stems of significantly higher TR (110.3, 211.3 and 167.2 Newtons respectively) than those of Bp and Cd (19.1 and 15.1 Newtons respectively) (group B). The steers avoided stems of group A and thus, reduced bite mass and intake rate (IR) as stem density increased ( $p < 0.05$ ) (Figure 1). However, the animals did not avoid stems of group B and there was no effect of stem density on any of the eating behavior variables ( $p > 0.05$ ).



**Figure 1. The effect of stem density and grass species on bite mass and intake rate. White solid, striped and black solid columns represent 0, 400 and 800 stems/m<sup>2</sup> respectively. See text above for key to grass species. Vertical lines are standard errors of the mean.**

These results suggest that IR and plant part selection are closely associated with the TR of the stem. Stem was eaten when TR was low.

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