RELATIONSHIP BETWEEN CONDENSED TANNINS AND DRY MATTER DEGRADABILITY OF TWO TROPICAL FODDER LEGUMES

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In the tropics tree fodder legumes provide adequate protein to ruminants, particularly in the dry season. However, many of them contain high levels of anti nutritional factors such as condensed tannins. Therefore, the objective the present study was to investigate the relationship between condensed tannin (CT) content and the *in vitro* dry matter digestibility (DMD) of two tropical shrubs, *Gliricidia sepium* and *Calliandra calothyrsus*. The tannin binding chemical polyethylene glycol (PEG) was added at rates of 0.1500 and 5000mg /100g plant substrate to asses the effect on DMD.

Although the PEG response was not marked, *G. sepium* had significantly ($P<0.05$) higher DMD (60%-65%) in all treatments as compared with *C. calothyrsus*. In contrast, DMD of C. *calothyrsus* increased (39.5% to 53.5%) with the addition of PEG. Extractable CT levels ranged from 0.57% *in G. sepium* to 4.05% in *C. calothyrsus*. Results indicate that *C. calothyrsus* in spite of having a lower DMD due to high levels of condensed tannins, the addition of PEG had a significantly higher and desirable effect on DMD compared to *G. sepium*.

The significant co-correlation of DMD and CT indicates that PEG binding technique is a suitable method to improve the dry matter degradability of tannin rich tropical forages.