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Chemical composition of Gliricidia in different regions of the Sergipe State

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Introduction

In Brazil, the use of tropical forage legumes with high protein content have been a viable alternative to reduce costs of diets, however most livestock systems are susceptible to temperature rising and water scarcity, leading to a significant decline in forage production in dry periods (Aroeira *et al*., 2011). Considering that soil and climate are important factors influencing the growth characteristics of forage plants, this study aimed to evaluate the chemical composition of Gliricidia (*Gliricidia sepium*) in three different regions, with different rainfall, of Sergipe State.

Material and Methods

Samples were collected in different areas cultivated with Gliricidia, in three regions of the Sergipe State (Northeastern Brazil), classified according to rainfall, as Coastal zonee (over 1600 mm), Agreste (800-1600 mm) and Semiarid (less than 800 mm). For each of the three sampled locations, 25 branches, of about 50 cm long and 1.0 cm in diameter, with regrowth age of 3 to 4 months werw collected for chemical analysis of dry matter (DM), mineral content (MC), ethereal extract (EE), crude protein (CP), acid detergent fiber (ADF) and neutral detergent fiber (NDF).

Results and Conclusions

Table 1. Chemical composition of gliricídia averaged for dry matter (DM), mineral content (MC), ether extracted fat (EEF), crude protein (CP), neutral detergent fiber (NDF) and acid detergent fiber (ADF), in Costal zone, Agreste and Semiarid regions of Sergipe State

	DM	MM	EE	CP	NDF	ADF
Coastline	21,92	8,85[a]	5,58	20,92	44,59[ab]	31,51
Agreste	24,05	7,43[b]	6,51	20,7	48,29[a]	30,1
Semiarid	21,51	9,41[a]	5,99	21,43	40,31[b]	28,96
SEM	1,636	0,434	0,72	1,615	1,441	1,985
P*	0,447	0,018	0,613	0,94	0,007	0,674

** Values followed in different lowercase letters in the same column differ significantly at 5% significance. (SEM = standard error of the mean; P = probability)*

There was a significant effect (P <0.05) for MM and NDF, where the value of MM was lower in samples collected in the Agreste region them in samples collected in the regions of the Coastal zone and Semi-arid, with no significant differences between their means, that was attributed to the similarity in soil composition of the areas being both rich in minerals. However, the observed differences in NDF values were assigned to different volumes and water distributions throughout the year, observing intermediate rainfall in a short period in the arid zone, high precipitation in average length of coastline and low rainfall in a short period in the semiarid. These results, supported by Norton & Poppi (1995) allow us to conclude that the chemical composition of gliricídia depends mainly on soil composition and annual water distribution, regardless of where it was located.

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