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Chemical composition of Gliricidia in different cropping systems

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Introduction

Tropical forage legumes have high crude protein content and dry matter digestibility similar or better than tropical grasses, compared at the same stage of development and cultivation condition, however the operational system can result in changes in its development, affecting its nutritional quality (Leonel *et al*., 2009). Knowing that these legumes with high forage potential can be exploited in different cropping systems, this study aimed to evaluate the chemical composition of gliricídia (*Gliricidia sepium*) under high density cultivation and intercropping system.

Material and Methods

The samples were collected in 30 different areas of gliricídia arrangement, with 15 in intercropping system (consisting of double rows, spaced apart by 1.0 meters, with lanes 5-7 meters between the double rows, intercropped with beans, roots and prickly palm) and 15 in high density system (with plant spacing of 1.0 meters by 1.0 meters for protein bank formation). For each of the 30 locations, 25 branches, about 50 cm long and 1.0 cm in diameter, with regrowth age of 3 to 4 months were sampled for chemical analysis of dry matter (DM), mineral matter (MM), ethereal extract (EE), crude protein (CP), acid detergent fiber (ADF) and neutral detergent fiber (NDF).

Results and Conclusions

Table 1. Chemical composition average gliricídia for dry matter (DM), mineral matter (MM), ether extract (EE), crude protein (CP), neutral detergent fiber (NDF) and acid detergent fiber (ADF), in dense planting and intercropping systems

	DM	MM	EE	CP	NDF	ADF
Dense planting	22,58	8,48	6,3	21,13	44,62	32,14
Intercropping	22,4	8,64	5,76	20,89	44,18	28,24
SEM	1,259	0,334	0,555	1,243	1,078	1,528
P*	0,922	0,753	0,514	0,896	0,778	0,109

** 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 no significant interaction effect between the different types of cultivation (P> 0.05) or for the main effect of each cultivation type (P> 0.05) for any of the variables presented. These results demonstrate that, under the conditions evaluated, there was no change in the composition of the independent gliricídia cultivation system used, concording with the results obtained by Barcellos *et al*. (2008) using legumes intercropped with pasture. Based on these results, we can conclude that Gliricidia can be arranged in dense or mixed systems, with no change in its chemical composition.

References cited

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