Nitrogen concentration in forage legume tissues submitted to nitrogen doses at planting

Flavia Maria de Andrade Gimenes[1], Letícia Namie Hyonemoto[2], Linda Mônica Premazzi[1], Regis Leandro Ferreira da Silva[2] , Fabio Pinese[3], Bruna Zanini Uzan[3], Jaqueline Silva Colanigo[3], Stela Soares Zamboim[3]

[1] PhD in Animal Production in Pastures is currently a scientific researcher at Instituto de Zootecnia (IZ), Brazil e-mail: flavia@iz.sp.gov.br
[2] Undergraduate and scholarship students at Instituto de Zootecnia (IZ)
[3] Master's degree Students in Sustainable Animal Production at Instituto de Zootcnia (IZ)

Objective:

This study aimed to evaluate the use of nitrogen (N) in the deployment of forage legume submitted to nitrogen doses at planting.

Figure 1 – *Macrotyloma axillare.*

Results:

In the C1 for concentration of N in the tissues there was difference between species (P <0.001) and components (leaf or branch) (P <0.0001) (Table 1). In the C2 there were interaction of species*components (P = 0.0010) (Table 2).The concentrations of N were high, especially in C1. The peanut stolons had high N concentration, overcoming the leaves of macrotiloma in C2. There were differences between species for N concentration, especially at more advanced maturity (C2).

Table 1– Concentrations of N in legumes and their components submitted to nitrogen doses at planting in cut 1.

Species	N (g kg^{-1})
macrotiloma	14.44 (0.732)
perennial soybean	19.31 (0.819)
peanut	26.65 (0.874)
Components	N (g kg^{-1})
leaves	26.51 (0.696)
branches	13.76 (0.626)

Values followed by different lower case-letters in the column are significantly different (P <0.05).

Table 2 - Concentrations of N in legumes and their components submitted to nitrogen doses at planting in cut 2.

Components	N (g kg^{-1})		
	macrotiloma	perennial soybean	peanut
leaves	10.91b (1.247)	19.19a (1.247)	17.93a (1.247)
branches	6.46c (1.247)	9.64c (1.247)	12.01b (1.309)

Values followed by different lower-case letters in the column and row are significantly different (P <0.05).

Material and methods:

The experiment was conducted in a greenhouse according to a complete randomized block design with 3 (three) replications in a factorial:
-3 (three species acess *Macrotyloma axillare* NO 279 (macrotiloma) and *Neonotonia wightii* NO 2348 (perennial soybean) and peanut (*Arachis pintoi* cv. Belmonte).
- 3 (three nitrogen rates of 0.0, 40.0 and 80.0 kg.ha^{-1}) applied at planting in the form of ammonium nitrate. The plants were cut close to the soil and the morphological components (leaves and branches) of each species separated, analysis according to the methodology of Kjeldahl. Analysis of variance using the procedure PROC MIXED of the statistical package SAS (Statistical Analysis System, version 9.3) using a level of significance of 5% and the comparison of means by the Tukey test.

Figure 2 – Vessels in a greenhouse.

Conclusions:
N rates applied at planting did not influence N concentrations in the components at two plant growth times. The evaluated legumes have high concentration of N and potential of use in pastures with source of N for the system and for grazing animals.

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