

Bromatological composition of spontaneous plants, grasses and legume

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Objective:

The objective of this study was to evaluate spontaneous plants, grasses and legumes as far as bromatological composition.



Figure 1, 2 e 3 – *Amaranthus viridis*, *Bidens pilosa* and *Sida rhombifolia*.

Results:

The concentration of crude protein (CP) and lignin (LIG) in the leaves were different among the species (Table 1). For acid detergent fiber (ADF) (P = 0.0227 SEM 13.85) and neutral detergent fiber (NDF) (P = 0.0118 SEM 24.89) there were significant species × cut interactions (Table 2).

Table 1– Concentrations (g kg⁻¹) crude protein (CP) and lignin (LIG) in leaves of legume, grass and spontaneous species in cuttings 1 and 2.

Species	CP	LIG
<i>A. viridis</i>	242.0ab	19.4b
<i>B. pilosa</i>	282.9a	141.0a
<i>S. rhombifolia</i>	281.6a	36.1b
<i>M. axillare</i>	21.58b	44.3b
<i>B. decumbens</i>	13.93c	16.2b
EPM	15.63	25.34
P	<0.0001	<0.0001

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

Table 2 - Concentrations (g kg⁻¹) of acid detergent fiber (ADF) and neutral detergent fiber (NDF) in the leaves of legume, grass and spontaneous species in cuttings 1 and 2.

Cutting	<i>A. viridis</i>	<i>B. pilosa</i>	<i>S. rhombifolia</i>	<i>M. axillare</i>	<i>B. decumbens</i>
ADF					
C1	108.1e	235.8ab	106.9e	158.9cd	227.9b
C2	101.9e	199.1bc	157.4d	171.2 cd	271.8a
NDF					
C1	257.5e	341.0cd	285.7de	314.4de	479.4b
C2	343.3cd	297.1de	400.0c	339.7cd	601.6a

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

Conclusion: In general, the spontaneous plants evaluated presented greater nutritive value than the grasses and legume, and could potentially improve grazing animal diets.

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Material and methods:

The experiment was conducted in a greenhouse at the Animal Science Institute (Instituto de Zootecnia - IZ), in Nova Odessa, SP, Brazil.

Five species were evaluated:

-two grasses (*Brachiaria decumbens* cv. Basilisk and *Macrotyloma axillare* NO 279) and - three spontaneous plants (*Bidens pilosa*, *Sida rhombifolia* and *Amaranthus viridis*) (Figure 4). During their vegetative and reproductive stages (C1 and C2).

The experiment was set following a randomized block design, in a 5 × 2 factorial scheme (five species and two cuts – C1 and C2), with four replications and a total of 40 experimental units (boxes of 35 kg of soil each). The data were evaluated using PROC GLM SAS® and Students test (p<0.05).



Figure 4 – Boxes with species in a greenhouse.

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