

## **THEME 5 | GRASSLANDS AND FORAGES**

### **Forage biomass and botanical composition of consortium pasture with forage peanut**

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The use of legumes in pasture is an economic and sustainable option to include nitrogen in forage-based production systems. Despite this, the low persistence of legumes in pastures is pointed out as one of the main causes of low adoption of the consortium. In this context, this study aimed to evaluate botanical composition of pasture of *Panicum maximum* cv. Mombaça in consortium with *Arachis pintoi*. The experiment was carried out in Terra Nova do Norte, Mato Grosso, Brazil, in a randomized complete block design (2x2), with two cultivars (Belmonte and Mandobi) and two planting spacing (1x1 and 2x2 m). With three replicates, totaling 12 experimental units. The sampling were taken on November 5, 2016, one year after of implantation. Two quadrats of 1 m<sup>2</sup> were collected at soil level per plot, total mass was weighed and sub-sampled for determination of botanical composition of the pasture. The data were analyzed using the method of mixed models with special parametric structure in the covariance matrix, through MIXED procedure of the statistical software SAS. In order to choose the covariance matrix, the Akaike information criterion was used. The means of treatments were estimated through the "LSMEANS" and the comparison between them was performed using the probability of difference ("PDIFF") at a significance level of 10 %. There was no plant spacing or cultivar effect on the percentage of legume (P>0.10) Mandobi and Belmonte representing 2.1% and 3.7% of total biomass, respectively. The percentage of Mombaça guineagrass was around 97%. There was a difference in the yield for cultivars (P=0.0972), but did not differ for plant spacing (P=0.3913). Consortium pastures with Belmonte registered higher amount of legume (1155 kg ha<sup>-1</sup>) than those with Mandobi (415 kg ha<sup>-1</sup>). The forage peanut Belmonte and Mandobi can be consider to establish consortium pastures in Amazon Biome. However, Belmonte can contribute more for total biomass.

**Keywords:** *Arachis pintoi*, botanical composition, guineagrass

**Acknowledgments:** Unipasto and Embrapa (for funding).