

# Aboveground biomass availability in native and cultivated pastures in the Pantanal Nhecolandia, Brazil

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Sandra Mara CRISPIM<sup>1\*</sup>, Sandra Aparecida SANTOS<sup>1</sup>, Ana Helena FERNANDES<sup>1</sup>, Fernando FERNANDES<sup>1</sup>, Balbina Araújo SORIANO<sup>1</sup>, Luiz Orcírio OLIVEIRA<sup>1</sup> Oslain BRANCO<sup>1</sup>

<sup>1</sup>Embrapa Pantanal

E-mail address of presenting author\*: sandra.crispim@embrapa.br

Livestock activity in the Pantanal has been the main economic activity. It is based almost exclusively on native pasture, which has generally low biomass availability. From the 90's, the Pantanal farmer's began to introduce exotic grasses species replacing native pastures of low quality, in order to increase the forage mass availability (mixed pastures). Monitoring the forage availability depending on the environmental conditions and human activities is essential to define good management practices. It is known that the indications for reducing methane emissions from livestock are linked to the food management and nutritional strategies. This study aimed to monitor the variation of forage mass availability of Pantanal areas with native and mixed pasture, grazing place for cattle. It is part of PECUS Network - Greenhouse gases (GHG) dynamics in livestock production systems from Brazil. The mixed pastures were composed by three species of *Urochloa* (*brizantha*, *humidicola* and *dictyoneura*). The assessment of the pasture biomass production was held twice during the rainy and dry seasons, respectively in April and September of 2014 and 2015. The yearly precipitation in 2013/14 was 1097.9 mm and in 2014/15 1145.8 mm, within the normal range for the area. Biomass measurement was carried out with the use of 0.5 m x 0.5 m squares, randomly allocated, in a total of 100 sampling points. There are presented the following results: biomass availability (kg DM ha<sup>-1</sup>); botanical composition, which is the percentage of the species present in the biomass availability, and soil cover (%). Taking in account the two areas, a greater biomass avail-

lability was found in the native pasture one in the rainy season of the first year (5174 kgDM.ha<sup>-1</sup> in April/14), noting that this area has been fenced prior to the animals' entry. No differences were found out in the others evaluations (2267 kgDM.ha<sup>-1</sup> in Sep / 14; 2686 kgDM.ha<sup>-1</sup> in April/15 and 2811 kg DM.ha<sup>-1</sup> in Sep/15). Two species contributed to the botanical composition: *Cynodon dactylon* and *Urochloa subquadrifida*. Since both of them are exotic species, this result indicates a highly disturbed area. In the mixed pasture results of the biomass availability were different between years and seasons. They ranged from 1757 kgDM.ha<sup>-1</sup>; 2435 kgDM.ha<sup>-1</sup>; 3541 kgDM.ha<sup>-1</sup> and 4574 kgDM.ha<sup>-1</sup>, respectively in Apr/14; Sep/14; Apr/15 and Sep/15. The botanical composition was quite different between the first and second year. In 2014 the dominant species was *U. humidicola* whereas in 2015 it was *U. dictyonera*. The soil cover in native pasture was 100% during all the sampling, and in the mixed pasture ranged from 90 to 96%, which indicates a good soil protection. These data are important in the assessment of methane emission by cattle, since environmental factors such as botanical composition and biomass forage production interfere in the animal metabolism.