

Nelore cattle methane emissions in native and cultivated pastures of the Pantanal at the end of the rainy season.

A H B M FERNANDES^{1}, L O F OLIVEIRA¹, F A FERNANDES¹, S A SANTOS¹, U G P ABREU¹, S M A CRISPIM¹, R SANTOS¹*

¹ Embrapa Pantanal, Corumbá, Mato Grosso do Sul, Brazil, *E-mail: luiz.orcirio@embrapa.br

Introduction

The Pantanal has numerous fields of native pastures with natural ability for beef cattle production, especially for the phase creates. Due to weather conditions and the playback time of establishment, the births are concentrated during the rainy season. The implantation of cultivated pastures aims to improve the diet of cows, causing an increase in reproductive performance of the herd. This study aimed to measure rates of methane emission of beef cows in the conditions of native or mixed pasture (cultivated and native) Pantanal.

Material and Methods

Twelve calved cows containing rumen sulfur fluoride capsules (SF6) known flow, were randomly assigned to two treatments with six replications, and placed in areas with native or cultivated pastures, the Experimental Farm Nhumirim (Embrapa Pantanal). Methane emission rates were estimated from the concentration of the tracer gas SF6 according to the technique described by Johnson et al., 1994. The samples were collected between March 23 and April 12, 2015, after the animals They were subjected to a period of 14 days of adaptation. The data were subjected to variance analysis (F test) for the data dispersion treatment and the Student's t test.

Results and Conclusions

It was observed that the emission of methane showed high variability ($P < 0.05$) between animals of the same treatment, but no differences ($P > 0.05$) between them (Table 1). The daily variations may be related to environmental issues (climate variability) and differences in diet quality between grazing sites, since the paddocks where animals graze large areas, regular feature of the region.

Table 1. Means of methane emissions in mixed and native pastures of the Pantanal.

Methane emissions	Pastures		P
	Mixed	Native	
Per animal (g/dia)	295,85 ^a	322,57 ^b	0,5308
Animal variation – Test F (P value)	0,0011	0,0053	-

Means followed by different letters in the same line differ statistically.

References

JOHNSON, K; HUYLER, M.; WESTBEN, H.; MOULD, F.; ZIMMERMAN, P. 1994. *Environmental Science and Technology*. 28, 359-362.

Acknowledgements

Thanks to EMBRAPA-PECUS Network - Greenhouse gases (GHG) dynamics in brazilian livestock production systems, and to FUNDECT/MS (concession term 094/2014) for providing financial support, and to the staff of Embrapa Pantanal who contributed to the implementation of sample collection and laboratory analysis.