

Greenhouse gases fluxes in Semiarid of Pernambuco

Thaiany Araújo Ferreira MEDEIROS¹, Diana SIGNOR², Salete Alves de MORAES^{2}, Layse Araujo GORDIANO³*

¹ Post Graduation Program in Animal Science, Univasf, ² Semi-arid Embrapa, ³ Post Graduation Program in Animal Science, UFBA
salete.moraes@embrapa.br*

Introduction

Agriculture and livestock are responsible for 70% of Brazilian emissions of CH₄ and for 87% of N₂O emissions (BRASIL, 2010). The main effects of animals on soil N₂O emissions are due to the N concentration in the urine and feces (OENEMA et al., 1997). The objective of this study was to monitor the soil fluxes of CO₂, CH₄ and N₂O in Buffel grass, in grazed Caatinga and in a native Caatinga area in Pernambuco semiarid region.

Material and Methods

In each area, four static chambers were installed. Gases samples were collected from February 2015 to February 2016. Concentrations of CO₂, CH₄ and N₂O in the samples were determined in a gas chromatograph equipped with FID and ECD.

Results and Conclusions

N₂O fluxes were similar in the areas until July 2015. The highest values were found in the native Caatinga between September and October and in grazed Caatinga in December. Negative fluxes of N₂O occurred in grazed Caatinga in September 2015 and in grazed buffel in January 2016. The largest CH₄ fluxes occurred in the native Caatinga

between April and June 2015 and in January 2016. CO₂ fluxes were higher from October 2015 to February 2016. These variations in the soil gases fluxes are related to the rainfall in the area.

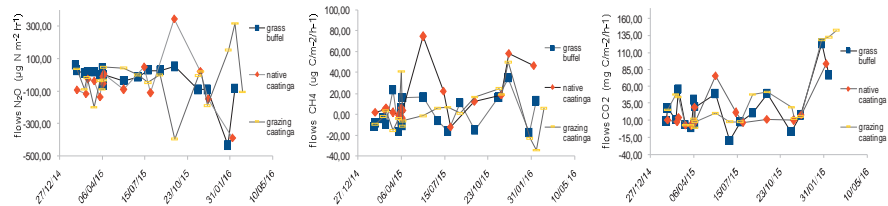


Figura1. Greenhouse gases fluxes in Buffel grass, grazed Caatinga and native Caatinga areas in Pernambuco semiarid

References

BRASIL - MINISTÉRIO DA CIÊNCIA E TECNOLOGIA, Coordenação-Geral de Mudanças Globais do Clima. Segunda comunicação nacional do Brasil à convenção-quadro das Nações Unidas sobre Mudança do Clima. Brasília. 2 v.: Ministério da Ciência e Tecnologia, 2010. 280 p.

OENEMA, O.; VELTHOF, G.L.; YAMULKI, S.; JARVIS, S.C. Nitrous oxide emissions from grazes grassland. *Soil Use and Management*, v. 13, n. 4, p. 288-295, 1997.