

Enteric methane emissions by goats in grazing in caatinga

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Introduction

Caatinga is an important food source for the animals of the semi-arid region, but the low quality forage at certain times of year limits animal performance and increases the emission of methane gas. Thus, the objective of this study was to evaluate the forage intake and emission of methane by goats fed grassland savanna during two periods of the year.

Material and Methods

The study was conducted at Semi-arid Embrapa in dry and rainy seasons with 24 female goats grazing in Caatinga. On dry season, the animals received concentrated feed supplementation. The animals received titanium dioxide indicators of fecal output. We used ruminal emptying technique (SANTOS, 2008) for determining chemical composition and digestibility of diet. Dry matter intake, organic matter intake and crude protein intake were calculated. The methane was measured using methodology proposed by Johnson and Johnson (1995).

Results and Conclusions

Dry matter and organic matter intake were higher in the dry season, while the crude protein intake was similar between the two periods. There was no difference in relation the methane production. Supple-

mentation probably contributed to improve the intake of animals at the period when forage availability is reduced. The quality of provided supplementation helped to improve the feed efficiency of the animals during the dry season.

Table 1. Intake and methane emissions by goats grazing Caatinga

| Parameter | Dry season | Rainy season | VC(%) |
|-------------------|------------|--------------|-------|
| DMI | 735,99a | 606,16b | 25,21 |
| OMI | 655,92a | 547,25b | 25,13 |
| CPI | 113,44 | 110,93 | 25,40 |
| Methane emissions | | | |
| g/day | 50,81 | 18,23 | 3,37 |
| kg/year | 11,12 | 11,12 | 0,5 |
| g/kg DMI | 75,19 | 43,26 | 3,62 |

DMI- dry matter intake; OMI – organic matter intake; CPI – crude protein intake; VC - variation coefficient. Means followed by different letters in the line represent difference by Fisher test ($p < 0.05$).

References

- SANTOS, G. R. A.; et al. Determinação da composição botânica da dieta de ovinos em pastejo na Caatinga. **Revista Brasileira de Zootecnia**. v.37, n.10, p.1876-1883, 2008.
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