

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

IN VITRO VOLATILE FATTY ACIDS PROFILE FROM MARANDU GRASS ASSOCIATED TO TANNINS DOSES

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Tannin is a polyphenol from vegetable origin that has been used in ruminants diets in order to manipulate the ruminal fermentation, which may alter the proportions of volatile fatty acids (VFA) in the rumen, as well as reduce energy and protein losses and CH₄ emissions. The alteration in the VFA proportion in the rumen may have a dramatic effect in the energy efficiency use by the animal. Thus, this study aimed to evaluate the production of volatile fatty acids (VFA) from *in vitro* incubation of *Brachiaria* grass associated to supplements containing low or high rumen degradable protein (RDP) and tannin doses. The study was carried out during two consecutive weeks by a completely randomized design with factorial arrangement 2x4. The tannins doses were: 0, 0.5, 1.0 and 1.5% on dry matter basis of the incubated diet, which were associated to supplements with RDP levels which were designated as low (LRDP) and high (HRDP). The forage used as the major substrate on *in vitro* incubation was *Brachiaria brizantha* cv. Marandu grass, which was harvested on dry season. Two *in vitro* incubations were performed in 120 mL amber bottles (32 units), where 0.5 g of the diets was weighed (forage:supplement ratio of 75.6:24.4), using ruminal liquid from two rumen fitted cattle kept on grazing conditions. The supplements were formulated with corn meal, soybean meal, DDG and urea in different proportions in order to meet the established RDP levels. All the incubation steps associated to medium preparing and ruminal fluid manipulation were carried out using anaerobic techniques with CO₂ flushing and the incubation was run at 39°C in a laboratory oven. At 24 and 48 hours of incubation the bottles were took and opened, when fluid samples was collected to VFA measurements, which was done in a gas chromatography. There was no interaction between the RDP and tannins and the isolated effect of the tannin doses ($P>0.05$) for the VFA profile. HRDP resulted in higher ($P<0.05$) VFA production (8.17 mMol/L), as well as higher propionate (1.94 mMol/L) and butyrate (2.91 mMol/L), while there was not effect on acetate production, with a mean of 2.93 mMol/L. However, HRDP resulted in a higher proportion of butyrate and lower acetate ratio ($P<0.05$), as well as lower acetate: propionate ratio. The use of supplement with high rumen degraded protein promoted increase in total production of short-chain fatty acids and propionate and butyrate specifically.

Keywords: Acetate, butyrate, propionate, rumen degraded protein, *Brachiaria brizantha*

Promoção e Realização:



Apoio Institucional:



Organização:

