

CELLULOLYTIC ACTIVITY OF RUMINAL EXTRACTS FROM GOAT AND SHEEP FED WITH SUGARCANE BAGASSE

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The search for cellulases produced nationally leads to prospecting activity from many different sources of our biodiversity. Aiming to analyze the profile of the rumen cellulolytic activity from small ruminants naturalized in northeastern Brazil, three Moxotó goats and three Morada Nova sheeps were used. They received daily 100 g of sugarcane bagasse, split into two administrations, jointly provided the maintenance diet (25g concentrate more forage). Four days before the collections amounted to 200 g/day of sugarcane bagasse and reduced by half the concentrate, and twenty-four hours before was withdrew the forage. The rumen content was collected via ruminal fistula, with the animals fasted. The pH of the material was measured, showed an average pH of 6.85 and 6.62, for goats and sheeps, respectively, and to 4 mL aliquots were added equal volume of sodium phosphate buffer 50 mM, pH 6.9, to extract the soluble proteins. After centrifugation for 20 min at 14,000 g, the supernatant was removed and was called protein extract. The protein extracts of sheep and goats showed, respectively, an amount of protein per mL of 0.324 mg/mL and 0.254 mg/mL ($P>0.05$, ANOVA). At the assay of diffusion in agarose gel the extracts of goats and sheep showed hydrolysis diameters of 1.70 cm and 1.19 cm, respectively ($P<0.05$, ANOVA). The zymogram on SDS-PAGE showed the presence of two bands with lytic activity in goats and three bands in sheep extracts. Thus, the two species have active enzymes in the rumen with potential for isolation and purification.

Supported by PAC Embrapa

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