

## Abstract

This study aimed to evaluate the effects of cellulase and xylanase plus enzymes on *in vitro* ruminal fermentation of *Eragrostis curvura* hay, maize stover and a total mixed ration (TMR) at six levels of application. The feed samples were incubated for 2, 12, 24, 32, 48, 72, h in an *in vitro* batch culture with buffer and ruminal fluid, and the fibrolytic enzymes associated with the six levels of application. Gas production was measured using a pressure transducer connected to a data tracker. Degradability of fiber was measured after 48 hrs of incubation. Increased level of enzyme inclusion increased the volume of gas, the total volatile fatty acid (VFA) production and fibre disappearance, but the rate of increment associated with each mg of additional enzyme application was reduced beyond 1-2 mg/g DM. Considering the enzymes cost and their efficiency at different rates on gas production and NDF degradability the medium levels of applications (1-2 mg/g DM) were found to be the most efficient.