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Use of faeces as an alternative to inoculum of buffalo rumen contents in the *in vitro* gas production technique

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The technique of *in vitro* gas production has been used for evaluation of feed for ruminants. For this, animals with rumen fistulas are used as donor inoculum of rumen contents. The aim of this experiment was to evaluate the use of faeces as inoculum for an alternative to rumen contents inoculum in the in vitro gas production technique. Three adult buffaloes with 450 kg live weight, with rumen fistula were fed a basal diet with 70% corn silage and 30% concentrate and served as donors to compare two types of inoculum, rumen contents and faeces in in vitro gas production using 12 different types of food: four forage grasses [Marandu grass (*Brachiaria brizantha* Marandu.), Buffel grass (*Cechrus ciliaris* L. cv Biloela.), African star grass (*Cynodon plectostachyus*) and Mombasa grass (*Panicum maximum* Jacq.cv Mombasa.)]; four forage legumes [Alfalfa (*Medicago sativa* L.), Pioneiro stilo (*Stylosanthes macrocephala* cv. Pioneiro), Perennial soybean (*Neonotonia wightii*) and Leucaena (*Leucaena leucocephala*)] and four concentrates (corn grain, soybean meal, wheat bran and cottonseed meal). The mean values of the potential gas production were significantly different between the two types of inoculum evaluated in all samples studied, being lower for fermented samples inoculated with feces than ruminal contents, respectively, for concentrates (140.23 and 194.08 mL g^{-1}), grasses (161.99 and 230.25 mL g^{-1}) and legumes (141.78 and 170.70 mL g^{-1}). We conclude that the use of fecal inoculum is unsatisfactory to replace with the same efficiency the inoculum of rumen contents in the technique of *in vitro* gas production in buffaloes.

Keywords: buffalo, gas production, grass, legume, concentrate