Abstract

In order to evaluate the effects of calcium salts of fatty acids (CSFA) manufactured with different lipids sources (yellow fat, corn oil, African palm oil, chicken fat, tallow and soybean oil) on parameters of in vitro ruminal fermentation, the CSFA stability to pH between 6.5 and 3.5, gas production and apparent digestibility were evaluated based on Cynodon dactylon hay (control) and 0, 5, 7.5 and 9% CSFA inclusion levels. Using as reference two commercial CSFA (Com 1 and Com 2), the data was adjusted to a complete randomized design with factorial arrangement (pH and inclusion level), and comparisons were performed by orthogonal contrasts. Independently of pH, the CSFA showed higher values of soluble Ca compared to the two commercial sources used (8.9 ± 1.3 and 3.6 ± 1.6%, respectively). The accumulated gas production after 24h and its fractional rate of gas production were not affected by the inclusion level of CSFA (17.8 ±0.6ml·g1 dry base and 1.0 ±0.1ml·h1, respectively), while compared to the control, dry matter digestibility increased (P<0.05) when CSFA based on soybean oil (5 and 9%), chicken fat (9%), yellow fat (5 and 9%) and Com 1 (9 %) were used. In conclusion, these results suggest that CSFA can be included in ruminant diets up to the considered levels, without negative effects on ruminal fermentation.