

Research on the dynamics of readily hydrolysable glucydes and on cellulolytic enzymatic activity in the rumen

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SUMMARY

The paper presents a comparative study on the dynamics of readily hydrolysable glucydes and on the enzymatic activity in the rumen. Two types of diets were used: alfalfa hay supplied *ad libitum* and alfalfa hay supplemented with peas and with a vitamin-mineral premix. The experiments used Romanian spotted steers (C) and *Bubalus indicus* calves (B). The diets were given in two meals at 0800 and 2000 and water was provided at discretion. Samples of ruminal fluid were collected by vacuum via cannulae, antepandially (1, 2, 4 and 6 h). The highest values of the studied parameters were recorded 2 and 4 h after feeding: rumen pH -6.82c and 7.73B for diet 1 and 6.72c and 6.60B for diet 2; starch -120.67c and 138.96B (mg/100 ml) for diet 1 and 309.65c and 347.16B (mg/100ml) for diet 2; sugar-37.76C and 40.55B (mg/100 ml) for diet 1 and 64.21 C and 74.04B (mg/100 ml) for diet 2; 13-1,4 endoglucanase-CI -0.592c and 0.552B (u/ml/h/500C) for diet 1 and 0.715c and 0.635B (u/ml/h/500C); 13-1,4 cellobiase-Cx -0.373c and 0.281B (u/ml/h/ 500C) for diet 1 and 0.320c and 0.228B (u/ml/h/500C) for diet 2. All studied parameters differed significantly ($p < 0.05$) between the two species (cattle and buffaloes) and between the two types of diet.

Keywords: cattle, buffaloes, glucydes, dynamics