

THE EFFECT OF D- AND L-LACTIC ACID ISOMERS IN THE RUMEN FLUID OF COWS ON THE CONCENTRATION IN MILK AND URINE

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Summary. The excess of lactic acid, produced during the process of fermentation of soluble carbohydrates in the rumen fluid of cows, may be excreted via different liquids of organism. The aim of this study was to analyse the diurnal changes in the amount of D- and L-lactic acid isomers in the rumen fluid, milk and urine.

The investigations were carried out during the indoor period with Lithuanian Black & White cows, which were fed the ration balanced according to crude protein and metabolizable energy, formed in accordance with the standards generally accepted in Lithuania. The samples of rumen fluid, milk and urine were taken 3 hours after morning feeding and every three hours during a day, the concentration of D- and L-lactic acid isomers was analysed.

It was determined that the concentration of D- and L-lactic acid isomers in the rumen fluid of cows depends on the time passed after feeding. The concentration of L-lactic acid isomer in milk depends on its concentration in the rumen fluid. The amount of D-isomer produced in the rumen fluid effects its excretion with the urine.

Keywords: rumen, milk, urine, D- and L-isomers of lactic acid.