

THE DEPENDENCE OF HAY ORGANIC MATTER DIGESTIBILITY IN THE RUMEN FLUID OF COWS ON THEIR PHYSIOLOGICAL STATE AND ON SUPPLEMENTATION BY PEPTIDES AND AMINO ACIDS

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Summary. The dependence of hay organic matter (OM) digestibility on supplementation by peptides and amino acids as well as on the condition in the rumen was studied by the 1-st stage *in vitro* method. The cows - donors of rumen fluid – were fed a balanced diet meeting their physiological requirements. The experimental acidosis was provoked in two of the cows by feeding wheat meal after 24 hour starvation.

After the cows had been fed 12 kg of wheat meal, rumen acidosis started to develop: pH decreased 1,4 times, the reductive activity of bacteria became 17,6 times longer, the total amount of free fatty acids decreased 3,4 times, the glucose fermentation seized, the infusoria disappeared.

The digestibility of hay OM in the rumen depended on its physiological condition- in case of rumen acidosis OM digestibility decreased by 10,3%. Peptides and amino acids affected OM digestibility as well: incubated with rumen fluid from healthy cows OM digestibility increased by 3,7% and 1,8% respectively, and incubated with rumen fluid from sick cows -decreased by 12,8% and 14,8% respectively.

Keywords: cow, rumen, acidosis, digestibility, peptide, amino acid.