

INFLUENCE OF THE LEVEL OF FERMENTATION IN THE CATTLE RUMEN FLUID ON DIGESTIBILITY OF HERBAGE FORAGES *IN VITRO*

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Summary. The level of fermentation in the rumen fluid of Lithuanian Black-and-White cows fed on nutritionally balanced (n=3) and nonbalanced (n=3) diets has been established. The rumen fluid of these two groups of cows was used to determine the digestibility of organic matter (DOM) *in vitro* (58 samples).

It has been determined that:

1. In the rumen fluid of the cows fed on a nonbalanced diet the total amount of infusoria decreased to 2 grades, the activity of bacteria (in 93,3 sec.) and glucose fermentation (to $0,63 \pm 0,19 \text{ cm}^3/\text{h}$) as well as the total amount of FFA (in $1,81 \text{ } \mu\text{mol}/100 \text{ ml}$) were reduced, compared with the results, obtained from the group fed on a balanced diet. Inconsiderable change in the interrelationship among separate FFA has been determined as well.

2. After incubating the same forages with the rumen fluid obtained from the cows fed on a nonbalanced diet, the DOM of hay from cultural pastures was 61,1 % lower, while that for straw - 0,88 %, grass from cultural pastures - 6,1 % and silage - 29,3 % lower compared with the results from the cows, fed on a balanced diet.

3. The level of rumen fluid fermentation has a direct impact on the digestibility of organic matter in forages.