

THE INFLUENCE OF DIFFERENT FEEDING TECHNOLOGIES ON THE RUMEN MICROFLORA IN DAIRY COWS

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Summary. The population of ruminal microorganisms is able to digest large amount of nutritive substances and to supply the organism with plastic and energetic elements. The specificity of microflora depends on the type of ration, feeding technologies, forage structure, composition and quality.

The experiments were carried out during the indoor period with twelve Lithuanian Black/White breed cows. The animals were divided into two comparable groups and fed for 5 month according to the Lithuanian standard ration for dairy cows. Two feeding technologies for experimental animals were used: Group 1 was fed with unchopped forage; Group 2 was fed with mixture of forage chopped by the special feeding equipment – OptiMix™. In addition, all cows individually were fed with concentrates. Rumen fluid samples were collected 3h after the morning feed and the following parameters were determined: total bacterial count (TBC), the number of lactate fermenting bacteria (LFB), the number of cellulolytic bacteria (CB) and preliminary composition of species.

The results of the present study have shown that in cows fed with chopped forage (Group 2) significantly increased total bacterial count and in cows on unchopped forage (Group 1) increased number of lactate fermenting bacteria was registered. Different feeding technologies had marked influence on the composition of bacterial species in the rumen fluid. In cows fed chopped forage (Group 2) the number of *Prevotella* species bacteria increased on 25.5%, and in cows fed unchopped forage (Group 1) the number of *Butyrivibrio fibrisolvens* increased on 11.8% and the number of other bacterial species on 17.3%, respectively.

Keywords: cows, rumen, anaerobic bacteria of the rumen, lactate fermenting bacteria, cellulolytic bacteria.