

## THE INFLUENCE OF GRASS AND MAIZE SILAGE ON RUMEN METABOLISM OF FATTENING BULLS

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**Summary.** Twelve Lithuanian Black-and-White bulls (n=6 per group) were used in a 125-days trial to determine the influence of different material silage on feed intake, rumen fermentation and animal health. The chemical composition of silage made of different material has been also determined. The animals in experimental group consumed daily by 1.05 kg more of maize silage than the animals in the control group fed legume-grass silage and, thus, the intake was by 0.05 feed units and by 4.4 MJ of metabolizable energy higher, but the amount of consumed digestible protein was by 49.6 g lower. Feeding maize silage was beneficial to rumen protein synthesis, i.e., at the end of the trial, the content of protein nitrogen and that of nonprotein nitrogen were, respectively, by 0.38 and 0.58 mg/100 ml higher, and the content of ammonia nitrogen was by 1.4 ng/100 ml lower. At the end of the trial, infusoria count increased by 1.74%, VFA concentration was by 1.05% higher and pH-value was by 0.01 unit lower in the maize silage group. In the control group, the concentration of propionic acid in the rumen contents has decreased by 0.33%, and in the experimental group it has increased by 3.17% ( $P < 0.001$ ) compared with the pre-experimental period. At the end of the trial, the concentration of propionic acid was by 1.93% ( $P < 0.005$ ) higher than that in the rumen contents of the control group. At the end of the trial, there was an increase in the amount of calcium, phosphorus, total protein and insignificant increase in alkaline reserve, but these indicators corresponded to the physiological norm.

**Keywords:** daily gain, VFA, infusoria, pH of the rumen contents, blood.