

THE INFLUENCE OF SILAGES MADE FROM DIFFERENT RAW ON RUMEN METABOLISM OF FATTENING BULLS

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Summary. Eighteen Lithuanian Black-and-White bulls (n= 6 per group) were used in 143 days trial to determine influence of legume-grass silage made in big bales (R) (DM content - 308 g kg⁻¹, pH - 4.65, total organic acids - 36.2 with lactic acid - 21.7, acetic acid - 14.5 and butyric acid - 0.0 g kg⁻¹ DM, ammonia N - 45.6 g kg⁻¹ N), silage from whole maize in trench (K) (DM content - 205 g kg⁻¹, pH - 3.79, total organic acids - 97.9, lactic acid - 67.6, acetic acid - 30.3 and butyric acid - 0.10 g kg⁻¹ DM, ammonia N - 66.7 g kg⁻¹ N) and silage from whole maize - 15%, whole crop barley-oat-wetch mixture in trench (K+M) (DM content - 276 g kg⁻¹, pH - 4.28, total organic acids - 54.22, lactic acid - 41.7, acetic acid - 12.4 and butyric acid - 0.10 g kg⁻¹ DM, ammonia N - 31.9 g kg⁻¹ N). At the end of the experimental period, infusoria count in the K group was by 16.85 (p<0.01) lower and in the K+M group by 5.54 (p<0.05) higher than that in the R group. VFA concentration in groups K and K+M was, respectively, by 0.65 (p<0.05) and 0.52 mmol/100 ml lower with the R group. pH values in the K and K+M groups were by 0.14 and 0.05 unit higher compared with the R group. AT the end of the experimental period in the K group propionic acid content was by 3.13% (p<0.01) lower and in the K+M group by 5.59% (p<0.005) higher compared with the R group. In the K and K+M groups total content of nitrogen were respectively, by 13.42 and 11.61 mg/100 ml and protein nitrogen respectively by 20.51 and 25.13 mg/100 ml higher compared with R group. The content of non-protein nitrogen and level of ammonia nitrogen in the K and K+M groups were respectively by 4.09 and 3.84, 2.25 and 2.52 lower compared with R group.

Keywords: silage, fermentation, fattening bulls, rumen content, volatile fatty acids, nitrogen.