

IMPROVEMENT OF GRASS SILAGE QUALITY BY INOCULANT WITH LACTIC BACTERIA AND ENZYMES

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Abstract. The effect of applying lactic acid bacteria (LAB) and enzymes at ensiling of legume-grass and performance of fattening bulls was studied under farm conditions in experimental department of Lithuanian Institute of Animal Science. The silages were made from second cut legume-grass (72% - red clover, 20% - timothy, 8% - other, DM content – 180 gkg⁻¹). Legume-grass was harvested on 24-25 August 2002 and ensiled in bales. The inoculant "Feedtech" (2 *Pediococcus acidilactici*, 2 *Lactobacillus plantarum* and Cellulase) improved the quality of fermentation of the legume-grass (with low DM content) big bale silage. The water-soluble carbohydrates in both silages decreased with pH, more in the control, than the in inoculated. The application of an inoculant significantly enhanced the lactic acid content.

However, acetic acid and ammonia-N concentration were lower with inoculated silage and inoculation was effective in reducing butyric acid fermentation and dry matter losses, and increasing silage intake and energy content in 1 kg DM of silage. Fattening bulls fed inoculated silage showed 8.3% higher live weight gains than bulls on untreated silage.

Keywords: silage, big bales, inoculant, fermentation, feeding value, fattening bulls.