

EFFECT OF *LACTOBACILLUS RHAMNOSUS* AND *PROPIONIBACTERIUM FREUDENREICHII* INOCULATED SILAGE ON NUTRIENT UTILIZATION BY DAIRY COWS

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Summary. First cut red clover-grass mixture sward were ensiled in two pits with inoculant (*Lactobacillus rhamnosus* + *Propionibacterium freudenreichii* ssp. *Shermanii*) and without any additives. Fermentation quality, nutrient losses and aerobic stability of silages were determined. The inoculated silage had no butyric acid, nutrient losses were lowered by 19.4%. In inoculated silage organic matter digestibility and energy values were significantly higher compared to the ordinary one. In addition, a feeding study to compare influence of inoculated and non-inoculated silage on milk yield, yield of energy corrected milk (ECM), milk fat and milk protein was conducted. Ten lactating dairy cows were divided randomly into 2 groups each of 5 cows. First group of cows were fed inoculated silage (experimental) and second group was on non-inoculated silage (control). The lactating dairy cows in experimental group consumed on average 0.89 kg⁻¹DM more compared to controls. Further, inoculated silage fed cows tended to increase the milk yield and ECM was by 2.1 kg⁻¹day⁻¹ cow higher compared to non-inoculated silage fed cows. In cows on inoculated silage the output of milk fat and milk protein was by 84.8 and by 58.6 g day⁻¹cow⁻¹ higher compared to cows on non-inoculated silage (P<0.05).

Key words: silage, *L. Rhamnosus*, *Propionibacterium Freudenreichii*, fermentation quality, milk yield, ECM.