

EFFECTS OF FEEDING SUGARBEET PULP AND CORN GLUTEN MIXTURE SILAGE ON COW PRODUCTION AND MILK QUALITY

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Summary. The trials were conducted at the Department for Farm Management and the Analytical Laboratory of the Veterinary Academy Institute of Animal Science, Lithuanian University of Health Sciences. Milking cows were allotted to two analogous groups of 9 animals each. The cows in the control group were fed hay, corn and sugarbeet pulp silage *ad libitum* and compound feed. Sugarbeet pulp silage in the diet of experimental cows was replaced by the silage made from sugarbeet pulp and corn gluten mixture (1:1). The purpose of this study was to determine the effects of dried sugarbeet pulp and corn gluten mixture silage on cow production and milk quality when the two ingredients were mixed in equal parts.

The study indicated that properly prepared silage that was made from sugarbeet pulp and corn gluten mixture (1:1) was of high feeding value and quality. It contained 26.05 % dry matter (DM) with 12.40 MJ metabolizable energy (7.44 MJ NEL) and 177.32 g crude protein per kg DM. Lactic acid was prevailing in the silage and accounted for 89.01 % of total organic acids.

The diet containing sugarbeet pulp and corn gluten mixture silage had higher nutritive value due to its higher edibility. As a result, daily milk yield from cows was on the average 4.28 kg FCM (4 %) higher and also higher were milk fat and protein contents.

Feeding of cows with sugarbeet pulp and corn gluten mixture silage had no negative influence on the nutritive, biological and technological values of milk. Higher milk production from the cows compensated for the lower contents of fat (0.27 %), protein (0.15 %) and casein (0.15 %). Relatively 2.81 mg/100 ml ($P < 0.05$) higher amount of urea in the milk of experimental cows indicates higher supply with protein nutrients. Moreover, the milk was more suitable for butter production due to respectively 11.8 % ($P < 0.05$) and 1.12 % ($P < 0.05$) higher contents of unsaturated and polyunsaturated fatty acids.

Keywords: sugarbeet pulp silage, corn gluten, silage, milking cows, milk quality.