

EFFECT OF MALT SPROUTS ON NUTRIENT FERMENTATION IN THE RUMEN OF COWS AND THEIR PRODUCTIVITY

Darius Šidagis, Virginijus Uchockis, Saulius Bliznikas

*Institute of Animal Science of Lithuanian University of Health Sciences
R. Žebenkos 12, LT-82317 Baisogala, Radviliškis Distr., Lithuania, tel.8422 65383, e-mail virginijus@lgi.lt*

Abstract. The trial was conducted with twenty Lithuanian black-and-white milking cows at the LUHS Institute of Animal Science in February-May 2010. The cows were allotted into two groups of ten cows each, analogous by age, production and calving time. In the pre-experimental period, the cows in both groups were fed with wet mash composed of maize silage, 62.5 percent, perennial grass silage, 37.5 percent, and compound feed (barley, triticale, rapeseed cake, mineral-vitamin supplement). During the trial, the cows in the control group were additionally offered 2 kg of barley meal and those in the experimental group 2 kg of malt sprouts. The purpose of this study was to investigate the effect of malt sprouts on nutrient metabolism in the rumen of cows, their production and milk quality. The study indicated that somewhat bitter flavour of malt sprouts increased the intake of wet mash and improved the energy value of the diet by 2.2 percent. Also it turned out that the usage of malt sprouts in the feed allowance (2 kg daily) created favourable conditions for infusoria growth and development in the rumen. Infusoria count in the rumen of the treated animals was on average by 139.19 thou/ml or 68.94 percent higher than that in the control group ($p < 0.05$). Supplementation of the diet with malt sprouts had no significant influence on the other investigated biochemical indices of the rumen. Supplementation of the compound feed with malt sprouts had no significant influence on the nutrient breakdown processes in the rumen of cows. Production studies indicated that malt sprouts in the diet of cows had a positive influence on the milk yield because during the trial the cows yielded on average by 12.45 percent ($p < 0.05$) more whole milk and by 0.41 percent more milk fat. However, this feed had no significant influence on milk protein content.

Keywords: malt sprouts, milking cows, rumen, cow productivity, production quality.