

## THE EFFECT OF USE OF SYNTHETIC METHIONINE IN FOXES (*ALOPEX LAGOPUS L.*) FEEDS

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**Summary.** The study was carried out with 100 Arctic foxes (*ALOPEX LAGOPUS L.*) to investigate the influence of synthetic 99% DL-methionine on the feed digestibility and to determine the nitrogen metabolism. The synthetic DL-methionine was mixed to the daily rations of the experimental foxes and daily consumption of methionine from the total consumption of feed was calculated. The live weight and digestibility of the general proteins in experimental groups compared with the control foxes were statistically higher through all experiment. The assimilation of proteins increased on 84.4% and on 88.3% or 3.9% in the 1 and 2 experimental groups compared to the control groups, respectively. Furthermore, the foxes in experimental groups increased digestibility of organic nutrients on 1.2% and 2.1% ( $p < 0.05$ ) and nitrogenless extract substances on 1.8% and 2.9% ( $p < 0.05$ ) compared with the animals in control groups. It was concluded that the efficiency of fat digestion is influenced by the chemical composition of fat acids. The fat of various origin is used in the rations of foxes. Fat in the form of oil (fish fat and rapeseed oil) is characterized by higher level of assimilation (96% and 95%) in comparison with fat in solid form as beef tallow (88%). In our experiments the assimilation of fat in the 1 experimental group was 93.2% and in the 2 experimental group 93.2%. However, in both experimental groups the foxes assimilated comparable amount of nitrogen - 8.4g/per day, and excreted comparable amount of nitrogen with faeces - 1.10g and 1.13g, respectively. It was concluded that the higher amount of nitrogen accumulated in the foxes of experimental groups is directly correlated to the higher digestibility of the general proteins. The results from this study indicate that synthetic DL-methionine have potential value for improvement of arctic foxes growth rate and quality of production, and can be recommended as a feed supplement in doses of 1.5g-3.0 g per 1 kg of feed.

**Keywords:** arctic fox, nutrition, synthetic methionine, growth, digestibility.