

## IMPACT OF BIOSTIMULANT „LAKTOSOL-K“ ON COW MILK COMPOSITION AND REPRODUCTIVE PERFORMANCE

Viktorija Ivanovaitė, Denis Makarevič, Vaidas Krištaponis, Petras Tamašauskas, Vytuolis Žilaitis  
*Lithuanian University of Health Sciences, Veterinary Academy, Department of Non Infectious Diseases  
Tilžės str. 18, LT-47181 Kaunas, Lithuania; Phone: +370 37 36 34 02; e-mail: vituolis@lva.lt*

**Abstract.** The aim of this study was to evaluate the effect of biostimulant „Laktosol-K“ on milk yield, milk composition and reproductive performance of dairy cows. The experiment was carried out in March–June in 3 dairy farms of Lithuania. 68 cows with 5000–6000 kg milk yield in their third and fourth lactation were selected. Cows were divided into two groups: experimental (n=45), where cows were given a diet with 12 ml of the supplement “Laktosol-K” from 5 days after calving for 60 consecutive days, and control group, where cows received physiological saline instead of the supplement. Nutrition in both groups was organized equally. Milk samples were taken from 5 days after calving until the 90 days in milk. Milk yield, somatic cell count, lactose, protein, fat and urea concentration were measured. Milk protein and fat ratio, reproduction indices – service period and index of insemination were calculated. There was no positive effect on milk yield. The milk of experimental group contained by 0.35 percent more milk fat 30 days and by 0.63 percent more milk fat 60 days after calving, The content of protein 30 days after calving was by 0.36 percent higher ( $p<0.05$ ). Milk urea nitrogen concentration 60 days postpartum was by 28.15 percent lower in milk of experimental group ( $p<0.05$ ) compared with the control group. Cows index of insemination in the experimental group was by 25.15 percent lower ( $p<0.001$ ) compared with the control cows. At the beginning of lactation, the ratio closer to 0,8 specifies positive influence on metabolism of albumins and carbohydrates. The tested preparation, judging by the lactation curve, has a positive effect on cow's physiological processes. At the beginning of lactation, higher protein–fat ratio in the experimental group shows more optimal protein–carbohydrate metabolic status. According to these results, it is suggested that the preparation optimizes metabolism and can be used as a supplement in the early lactation diet.

**Keywords:** biostimulant, cow milk composition, service period, insemination index.