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HEMATOLOGICAL INDICATORS OF DRY COWS AT DIFFERENT CONTENT OF FEED ADDITIVE "BIOMAGN" IN THE DIET

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Annotation. The introduction into the diet of cows of experimental groups of probiotic feed additive "Biomagn" had a corresponding effect on the biochemical parameters of their blood. Thus, the concentration of hemoglobin in the blood of cows of the 2nd experimental group was 3.1 g/l less than control, and the 3rd at the level of control. Cows of the 4th experimental group containing a feed additive "Biomagn" in the diet of 11 g/goal/day at the concentration of hemoglobin in the blood exceeded control analogues by 8.4 g/l, or 6.9%. The cows of the 5th experimental group contained hemoglobin in the blood of 3.7 g/l more than control animals, but less than 4.7 g/l compared to the cows of the 4th experimental group. Similar to hemoglobin, the number of erythrocytes increased markedly in the blood of cows of the 4th and 5th experimental groups, respectively by 1.22 and $0.67 \cdot 10^{12}$ g/l. In the blood of cows of the 4th and 5th experimental groups, the level of leukocytes was almost at the level of control, and in animals of the 2nd and 3rd experimental groups exceeded control by 0.39 and $0.20 \cdot 10^9$ g/l. In our experiment, all the test doses of the feed additive "Biomagn" contributed to the increase in the total protein in the serum of the experimental cows. Moreover, the greatest difference (6.4 g/l) is noted between the cows of the 4th experimental group and control. In cows of other experimental groups, this figure exceeded control by 2.1-4.1 g/l. According to data, it can be argued that there is a tendency to increase the albumin fraction in the serum of cows of the experimental groups. However, this increase in cows of the 2nd and 4th experimental groups was only 0.9 and 1.5 g/l compared to control, and in animals of the 3rd and 4th experimental groups-by 2.0 and 2.3 g/l. Increased levels of probiotic feed additive "Biomagn" did not cause an increase in serum concentration of cows of experimental groups of α -globulin and β -globulin fraction of protein, which were almost at the level of control, except for cows.

Keywords: diet, supplement, blood, fractions of protein, animals, productivity, growth

Introduction. With the rapid increase in demand for foods of animal origin worldwide, increasing the productivity of animals to meet growing demand is becoming increasingly relevant. Due to the development and spread of bacteria resistant to antimicrobials that can threaten the health of animals and consumers of animal products, antibiotic growth stimulants were questionable of the use as a feed supplement for animals. The European Union in Regulation (EU) No. 1831/2003 of the European Parliament and the Council of September 22, 2003 for supplements for animal feeding "prohibited the use of antimicrobials and ionophores as growth stimulants in animal husbandry. Since 2006. As a result, there was a need for alternative therapeutic and preventive variants [1, 2, 5, 6].

The focus of research was probiotics, prebiotics, symbiotics and immunomodulators as an alternative to antibiotics in animal husbandry to improve health and keep animals keeping [5].

Probiotics have been widely used in the early 1990s as drugs of non-antibiotic origin, capable of having a positive effect on the host's body due to selective stimulation of the activity of normal intestinal microflora [3].

Biomagn probiotic remedy is a kind of feed additive and is used to add a high content of fiber, corn, soybean to diet. It can withstand the process of feed granulation with a temperature of up to 85°C. It is mainly intended for the breakdown of antinutrient non-starch polysaccharides, starch. It is used to restore the intestinal microflora for antibiotic therapy, as well as as a detoxinant. Due to additional release of nutrients can be achieved improving feed conversion [1, 2].

The purpose and objectives of the study. The purpose of the research is to study the effect of the probiotic feed additive "Biomagn" on the biochemical parameters of the blood of cows.

The scientific and economic experiment was conducted in 5 groups of dry analogues (10 heads each), of which 1 control and four (2, 3, 4 and 5) research groups were allocated. Feeding of cows of all subject groups was carried out according to the same diets. The difference was that the animals of the control group consumed the feed of the main diet, and in the rations of cows 2, 3, 4 and 5th experimental groups were introduced additional "biomagn" 7; 9; 11 and 13 g/goal/day [4].

The results of the study and their discussion. The morphological composition of cattle blood is closely linked to the overall life of the body and can be used as an indicator of animal adaptation to certain environmental conditions. The introduction into the diet of cows of experimental groups of probiotic feed additive "Biomagn" had a corresponding effect on the biochemical parameters of their blood. Thus, the concentration of hemoglobin in the blood of cows of the 2nd experimental group was 3.1 g/l less than control, and the 3rd at the level of control. Cows of the 4th experimental group containing a feed additive "Biomagn" in the diet of 11 g/goal/day

at the concentration of hemoglobin in the blood exceeded control analogues by 8.4 g/l, or 6.9%.

The cows of the 5th experimental group contained hemoglobin in the blood of 3.7 g/l more than control animals, but less than 4.7 g/l compared to the cows of the 4th experimental group. Similar to hemoglobin, the number of erythrocytes increased markedly in the blood of cows of the 4th and 5th experimental groups, respectively by 1.22 and $0.67 \cdot 10^{12}$ g/l.

Regarding the content of leukocyte experimental cows, there were no clear changes under the influence of the factor under study. In particular, in the blood of cows of the 4th and 5th experimental groups, it was practically at the level of control, and in animals of the 2nd and 3rd experimental groups exceeded control by 0.39 and $0.20 \cdot 10^9$ g/l, respectively.

In our experiment, all the test doses of the feed additive "Biomagn" contributed to the increase in the total protein in the serum of the experimental cows. Moreover, the greatest difference (6.4 g/l) is noted between the cows of the 4th experimental group and control. In cows of other experimental groups, this figure exceeded control by 2.1-4.1 g/l.

Given that the experiment was conducted on dry cows, the quantitative evaluation of the fractional composition of protein, including albumins and globulins, is of particular importance. According to data, it can be argued that there is a tendency to increase the albumin fraction in the serum of cows of the experimental groups. However, this increase in cows of the 2nd and 4th experimental groups was only 0.9 and 1.5 g/l compared to control, and in animals of the 3rd and 4th experimental groups- by 2.0 and 2.3 g/l.

Increased levels of probiotic feed additive "Biomagn" did not cause an increase in serum concentration of cows of experimental groups of α -globulin and β -globulin fraction of protein, which were almost at the level of control, except for cows of the 2nd experimental group, which contained α -globulins in the blood of 1.4 g/l. However, with regard to γ -globulins, they were more than serum control of cows of all experimental groups. Moreover, the greatest difference (4.1 g/l) was noted in the cows of the 4th experimental group, in the diet of which the level of feed additive "Biomagn" was 11 g/goal/day

The dose of feed additive "Biomagn" 13 g/chil/day led to a decrease in the content of γ -hemoglobin in cows of the 5th experimental group compared to the 4th experimental group by 2.2 g/l. However, this indicator of cows of the 5th experimental group did not approach the level of control. Additives in the diet of cows of experimental groups of the drug "Biomagn have a positive effect on reducing ketone bodies in their blood by 0.001-0.006 g/l, which is quite important for pregnant animals.

In studies, it was not possible to note the unambiguous impact of high doses of "Biomagn" feed additive on such blood indicators as alkaline reserve, the concentration of inorganic phosphorus, calcium, sodium and potassium. The experimental animals also increased catalase and peroxidic activity, which obviously contributed to the better course of redox processes in the body.

The unequal levels of feed additive "Biomagn" in the diet caused changes in the concentration of glutathione, which is closely related to the enzyme peroxidase. In particular, in the blood of the cows of the experimental groups increased the content of the total (by 2.27-12.52 mg%) and restored (by 8.29-15.85 mg%) glutathione by reducing the fraction of oxidized glutathione. In the blood of the cows of the experimental groups compared to the control of less, volatile fatty acids (LZHK) were contained, which, in our opinion, indicates their better absorption by the body of animals. As the results of blood tests showed, in the cows of the experimental groups the concentration of α -tocopherol increased against control by 6.96-20.4 μ mol/l and carotene-by 0.002-0.010 mg%.

Conclusions. Therefore, the increase in the diet of dry cows of the level of feed additive "Biomagn" to 7-13 g/day/day contributed to the improvement of biochemical parameters that characterize protein and carbohydrate-fat metabolism and vitamin supply and enzymatic activity of the blood.

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