

ЛИТЕРАТУРА

1. Сельское хозяйство Республики Беларусь. Статистический сборник [Электронный ресурс]. – 2021. – Режим доступа: <http://www.belstat.gov.by>. – Дата доступа: 25.01.2021.
2. Развитие и поддержка крестьянских (фермерских) хозяйств в Республике Беларусь [Электронный ресурс]. – 2020. – Режим доступа: <https://mshp.gov.by/farmer/kfh/ad389662246a2236.html>. – Дата доступа: 23.01.2021.

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APPLICATION OF MAIZE-SAPROPEL FEED IN THE RATIONS OF DAIRY COWS

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The conversion of proteins of plant origin in the body of cows presupposes a sufficient intake of a complex of essential amino acids in a form accessible for assimilation and in a certain proportion as a necessary level of homeostasis in the body for normal growth, development and an increase in the resistance of the animal to the pathogenic microbial community [1-3].

Raw maize feed, which is a technological waste in the production of corn starch, in terms of the content of crude protein (20-30 %), crude fiber (over 10 %), is an energy feed and is effectively used in animal diets to increase their productivity and resistance to various diseases. Less studied is raw corn feed mixed with sapropele for feeding dairy cows.

Objective of the study: to assess the effect of maize-sapropele feed on milk productivity of cows and milk quality.

Materials and methods of research: scientific and economic experience was carried out on the livestock of dairy cows in the conditions of the dairy farm SPK «Progress-Vertilishki». We used animals of the black-and-white breed, taking into account the origin, age and number of lactations (3 lactations), live weight (550-580 kg), productivity (20-22 kg). In the groups (control – group I and experimental – group II), clinically healthy livestock (12 animals) were selected using the analog pair method.

According to the research methodology, maize-sapropele feed was introduced into the composition of the feeding ration instead of 2 kg of standard compound feed KK-60S, taking into account their nutritional value. The test animals were fed using a complete feed mixture, which was distributed twice a day. The objects of these scientific studies were dairy cows, maize-

sapropel feed, the quality of milk of cows (protein, fat, SNF, density, etc.) according to STB 1598-2006, microbial contamination (GOST 30519).

Research results and their discussion. Conducting control feedings and taking into account the given feed and residues showed that the feed mixture consumption was approximately the same in the animals of the control and experimental groups. The KSK used in the ration did not have a negative effect on the appetite and feed intake of cows.

In terms of organoleptic indicators, the milk of the experimental cows did not differ and corresponded to the standard milk (STB 1598-2006). In appearance and consistency, the milk samples were a homogeneous white liquid with a slightly creamy shade, without sediment and flakes, there were no foreign odors.

The dry matter content in milk was 0.8 % higher than in the control group. The content of proteins, the amount of which is another important indicator for assessing the quality of milk, was higher by 0.03 % in group II. The inclusion of corn-sapropel feed into the diet of dairy cows was accompanied by an increase in milk fat content by 0.03 %. Evaluation of milk quality in accordance with GOST did not reveal inhibitory substances, and according to the degree of frequency, all milk samples were assigned to the first group, the number of somatic cells in 1 cm³ did not exceed 396000-401000, and the microbial content was 273060-273080 CFU / cm³.

Thus, it can be assumed that the protein fraction of corn gluten, consisting mainly of zein, a hydrophobic protein, and glutelin (soluble in aqueous alkaline solutions), which is contained in raw corn feed, is poorly soluble and, accordingly, is degraded into scar fluid. In addition, the introduced sapropel, which has a preservative effect due to humic acids, phenolic and carboxyl compounds, acting on the quaternary and tertiary structure of proteins, helps to reduce this process in a multicameral stomach. The above information, as well as the results of our digestibility experiment, were the basis for the assumption that the protein from maize-sapropel feed can be protected from decay in the rumen of animals.

Studies have shown that the inclusion of maize-sapropel feed in the diet of dairy cows can be economically justified, since it allows increasing milk productivity and improving milk quality in terms of fat and protein content and organoleptic indicators (color, smell, consistency).

ЛИТЕРАТУРА

1. Gorlov, I. F. Influence of new biologically active feed additives on the physiological state of the body of bulls / I. F. Gorlov [et al.] // *Izv. Lower Volzh. agrouniv. complex. Science and higher prof. education.* – 2012. – No. 2. – P. 86–90.
2. Kravchuk, E. G. Efficiency of using raw corn feed and feed additives based on it in the diets of bull calves raised for meat / E. G. Kravchuk // *Agriculture – problems and prospects: collec-*

tion of scientific papers / Educational institution «Grodno State Agrarian University»; ed. V. K. Pestis. – Grodno, 2017 – Т. 37: Animal husbandry. – S. 155-163.

3. Kravchuk, E. The optimization of the biological value of the raw corn by spropel / E. Kravchuk // International youth scientific environmental forum «Ecobaltica», Международный молодежный научный форум «Экобалтика»: Сборник трудов – Гродно: Изд-во Гродн. Гос. Аграрн. Ун-та, 2017. – С. 211-219.

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