

## **Productive and metabolic effect of BVMD in rations of lactating ewes in foothill zone of Carpathians**

**Goal.** To study the influence of BVMD on the components of local production on milk productivity, milk quality and hematological parameters of lactation sheep breeds in the foothills of the Carpathians. **Methods.** Experimental and statistical. The research was conducted on lactation sheep breeds of the Ukrainian mountain-Carpathian breed in the spring-summer period. **Results** The use of fattening livestock sheep breeds of the Ukrainian mountain-Carpathian breed of mixed fodder with BVMD, which consists of high-protein feeds of local production in the foothills of the Carpathian Mountains, made it possible to increase the hopes of commodity milk by 6.5%, the content of fat, protein and skimmed milk residue, and caloric content. **Conclusions** Feeding the BMD with the use of locally produced feeds for bivalve molluscs of the mountain-Carpathian breed in the spring-summer period in the foothills of the Carpathian region positively affects metabolism, milk productivity and milk quality.

*Key words: sheep breeders, BVMD, feeding, milk production, hematological parameters, foothill zone of the Carpathians.*

It is known that milk production, biochemical composition and quality of milk of sheep breeds largely depend on the full value of animal feeding [2-10], which is specific for various natural and climatic zones of Ukraine. As for the Carpathian region, it is characterized by the specificity of the forage base for sheep. The ration of feeding animals of this species is often scarce in terms of protein and certain micro- and macro-elements [6, 8].

In recent years, the lack of protein in ration of sheep in the Carpathian region is predominant are compensated by the use of high-protein feeds of local production (fodder beans, peas, rape, sunflower), and the deficit of minerals - the introduction into the composition of dietary supplements of inorganic salts and natural minerals (glauconites, saponins, perlites, zeolites), whose stocks in the Carpathian region are quite significant [8]. Based on the above, studies aimed at improving the composition of protein-vitamin-mineral supplements (BVMD) for feeding sheep breeds in this region through the use of local feed and mineral supplements in order to increase milk production and moles quality are relevant and make both scientific and practical interest.

The purpose of the work was to study the influence of the BMD of the improved formulation on hematological parameters and milk productivity and the quality of milk of sheep breeds in the spring-summer period in the foothills of the Carpathians.

**Research methodology.** Experimental studies were carried out in the conditions of the Radium-Nova FG (Miloshevichi Village of Pustomyty district, Lviv region) on lactation sheep breeds of the Ukrainian Mountain Cataract breed, selected on the principle of analogues by age, live weight and milk yield. The research was conducted during 90 days of spring-summer period (from 05/26/2014 to 08/23/2014) in two groups of animals at 10 goals. in each one. In sheep breasts, which had been slaughtered in March 2014, on May 25, weaning of lambs was carried out, and from May 26, daily daily 2-time manual milking of animals was carried out in grazing conditions.

Sheepdogs of the control group during the experimental spring-summer period were found on pastures and received 150 g of feed of the following composition every day: wheat germ - 10%, barley germ - 20, oat germ - 20, wheat bran - 15, rape cake - 13.5 , sunflower meal - 20, salt of the kitchen - 0,5, premix - 1%. Sheepdogs of the experimental group received this feed, in which sunflower meal (20%) was replaced by BVMD. The experimental design and recipes for BMD and premix are shown in Table. 1, 2, 3.

1. Scheme of experiment
2. The recipe for protein-vitamin-mineral supplements
3. Premix recipe

At the end of the 90-day experimental period, blood samples (from the jugular vein) and milk were taken from the control and experimental groups of sheep breeders for research.

The quality and biochemical composition of the milk derived from the sheep breeders of the control and experimental groups was investigated by the method of organoleptic evaluation (color and smell), its density, acidity, content of dry matter, lactose, fat, protein and its fractions, ash, dry matter loss, friable milk residue (SZMZ) and caloric content according to known methods [1].

Hematologic indices (number of erythrocytes and leukocytes, hemoglobin content, glutathione, glucose, total protein and fractions thereof) were determined by methods [1].

Biometric processing of the obtained results was carried out by generally accepted methods of variation statistics.

Research results. We did not find any significant differences in the number of control and experimental milk groups from sheep breeders (Table 4). Data tab 4 indicate that there were no differences in the organoleptic parameters (in color, taste) in milk obtained from animals of control and experimental groups. However, the density, acidity and caloric content of the milk of the sheep breeder of the experimental group prevailed over the milk obtained from the animals of the control group. It was also found that the milk obtained from sheep breeders, which was received as a part of the BMD compound feed, was marked by a significantly higher content of dry matter, lactose, fat, protein, ash and SZMZ.

Investigation of the blood indexes of test sheep breeds indicates that the use in lactation sheep breeding diets of ration feeding improved BVMD composition optimizes hematological parameters compared with animals in the control group. In particular, the number of erythrocytes in animals of the experimental group increased by 2.7%, leukocytes - by 2.7, the content of hemoglobin increased by 19.3, glutathione - by 2.6, glucose - by 15.5% compared to the control animals group, which testifies to the positive influence of BVMD on the diet of sheep-pigs on the progress of metabolism in their body.

## Conclusions

As a result of the conducted researches it was established that use in the composition of mixed fodder of Sheepdogs of Mountain Carpathian breed in the spring-summer period in the foothills of the Carpathian region BVMD with the use of feeds of local production optimizes the parameters of metabolism in the blood, improves milk productivity and improves the quality of milk, in particular:

- in the blood of animals that have received BMDs in the diet, the number of red blood cells, leukocytes, hemoglobin, glutathione, glucose, as well as total protein and its albumin and globulin fractions compared to sheep breeders of the control group;
- The use of the BVMD-optimized bovine animal diet raises milk hopes for the lactation period by 6.5% and the content of dry matter, lactose, fat, protein, ash and SZMZ compared to control animals that did not receive supplements in the diet.

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