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THE EFFECT OF PROBIOCORM PROBIOTIC ON MORPHO-PHYSIOLOGICAL PARAMETERS OF RABBITS' BLOOD

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Abstract
Probiotic feeds have a positive effect on the general condition of the organism, reproduction and development of rabbits, hematological and biochemical parameters of animals , morphofunctional state of the liver and excretory organs. Its addition to the ration of animals in the amount of 200 g/t onna helps to adapt easily and better to the conditions of intensive technologies that are currently widely used . The moderate functioning of the body, its growth and development, and resistance to various diseases depend on the nutritional value and proper organization of the feeding. Regular and orderly feeding is the basis for getting good quality meat and fur. If the feeding is organized correctly, the quality indicators of any studied breed will improve. On the other hand, incorrect or poor feeding of rabbits causes even in the best breeds productivity and endurance ability, that is, resistance to diseases to decrease. Pro Bio Korm one of the types of food consumed by animals is a nutritional supplement made by local probiotic bacteria. Universal food additive improves the quality of additional food and digestibility and absorption of substances, prevents and treats various bacterial diseases of animals as well as increases productivity of agricultural animals and improves its quality.

Keywords: Probiotic food, Pro Bio Corm, erythrocytes, leukocytes, Hikol, clinic, hemoglobin, fluff.

Introduction

Relevance of the topic: In 2017-2021, the implementation of the measures provided in the state program for the implementation of the action strategy on the five priority directions of the development of the Republic of Uzbekistan in the "Year of supporting active entrepreneurship, innovative ideas and technologies" ensures the stable economic development of our country, the well-being of the population, all-round improvement in the quality of life and gives us some tasks to do. Currently, due to the rapid increase in the population of the whole world, the large-scale use of available meat reserves (cattle, sheep, goats, etc.) as food leads to a sharp decrease in the number of animals. Poultry farming , fishing and rabbit farming are the main sources of supplying population with high-quality meat and meat products . Therefore, it is one of the urgent problems of today to achieve a positive solution to the problem of meat shortage by determining

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the favorable conditions for the care and feeding of rabbits in extreme conditions, developing practical recommendations for increasing their productivity and introducing them into production. Based on the above, in order to further develop rabbit breeding in Samarkand region , local rabbit breeds with low productivity were obtained by crossbreeding with rabbits of high productivity. In order to assess the adaptability to extreme conditions of hybrid generations and breeds brought from abroad ProBioKorm, an additional food product created on the basis of local probiotic bacteria, was added to their feeding rations and it was determined that adding ProBioKorm has a positive effect on all physiological processes.

After adding different doses of "Probiokorm" food to the diet:

- the effect of "Probiokorm" food to daily growth and development of rabbits and morpho-biochemical indicators of blood was evaluated;
- the tasks of evaluating the effect of the use of biologically active food on the activity of protective factors in blood serum were determined;
- the effect on the clinical and body mass of rabbits fed with a food additive created on the basis of ProBioKorm local probiotic bacteria was studied.

Object of Research

Hikol breeds of rabbits imported from abroad were selected as an object of research.

Because of the biological activity of probiotics , they are widely used in animal husbandry and veterinary medicine . One of the main advantages of using probiotics is their harmlessness, the absence of side effects for the health of animals and the end consumer of the product, while the probiotics are absorbed by the animal's body. It should be noted that rabbit farming is one of the most effective branches of animal husbandry , and while reducing the cost of production per unit of product, it opens up unexplored and unused aspects of the branch [1-3]. The rapid breeding technologies introduced in the rabbit industry allows to increase the number of animals, but it leads to an increase in the anthropogenic and microbiological load on the breeding organism and, first of all, it leads to a disruption of the processes of digestion and metabolism, and a decrease in productivity. [4-6].

The organization of scientifically based nutrition standards and biologically valuable balanced feeding technology are finally paid special attention by using biologically active substances included in the diet and promoting rapid growth of newly born rabbits . In this regard, it is necessary to change the quality of food supply through the use of new generation effective drugs capable of optimizing metabolic processes in the body [7-11], which in turn will require to moderate the microbial balance in the digestive tract , stimulate growth, and to increase the natural resistance of the target animals organism. One of the important biological risks in rabbit farms is the high sensitivity of these animals to the effects of pathogenic microorganisms. To reduce the susceptibility of livestock to pathogenic infections, antimicrobial growth stimulants - antibiotics are used as feed additives, the mechanism of action of which is to reduce the number of microorganisms that compete with rabbit cells for nutrients [8, 12].

These antibiotics include fodder probiotics that help to increase the resistance of the animal body,moderate intestinal microbiocenosis, and improve the processes of assimilation of nutrients

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in the stomach and intestinal system [9]. Recently, the use of probiotic feed additives has been proposed to solve this problem.

In recent years, instead of antibiotics, various probiotic complexes have been widely used, containing active components that directly affect the metabolism and homeostatic conditions of young rabbits. In addition, Probiotic drugs, unlike antibiotics , do not have a harmful effect on the intestinal microflora, but suppress the pathogenic microflora that caused various diseases of the gastrointestinal tract. Based on the above, we conducted the scientific research to assess the effect of the addition of the biologically active nutrient "Probiokorm" to the diet of rabbits not fed by their mothers on the amount of food consumed by them, on the digestion of nutrients and on the natural resistance of the organism.

Research Methods

The experiments of this research work on Hikol white rabbits imported from France were conducted in the vivarium and laboratory of the Department of "Human and Animal Physiology and Biochemistry" of the Faculty of Biology of The State University of Samarkand, in the "GULMAR" medical service laboratories and at the "Tarnov Vegetables" farm. Feeding of laboratory animals was provided with a standard rational in vivarium and farm conditions. Blood elements, hemoglobin content, leukocytes and their types (Sysmex XS 1000i) were analyzed in an automated hematological analyzer.

Animal feeding (Kalugin Yu.A. 1980, Laktionov K.S. 2007) was carried out according to the clinical indicators of rabbits (Kondrakhin I.P and others 2004.)

The following methods were used to conduct hematological and biochemical analyzes of the blood of rabbits :

- the following indicators were analyzed: the amount of erythrocytes, leukocytes, hemoglobin concentration.(Erythrocytes and leukocytes were measured in the Goryaev counting type while hemoglobin was in Sali's hemometer);
- blood cells, the amount of hemoglobin (*Medonic CA 620)* was determined by a hematology;
- the amount of bilirubin (L. Jendrassik et al., 1938; N.U. Titsa, 1997) was determined;

Animals blood was taken from the left auricular vein before the experiment and in the morning after the experiment on an empty stomach without feeding.

Table 1 Morphological parameters of rabbits' blood (M±m, n=5)

Blood cells	The norm	Groups		
		Experiment-1	Experiment-2	Control
Leukocytes, 10^9/l	7-8	7.86±0.37 **	8.04 ± 0.2 0 *	6.74±0.20
Erythrocytes, 10^{12}/l	5.36-8.13	6, 9 ±0.35 **	7.82±0.3 *	5.8 ± 0.5
Platelets, $10^{9/l}$	193-725	592 ± 23.9 *	572±11.6 *	490±18.2
Hemoglobin, g/l	113-171	136.6±3.9 **	143.4±6.07 *	120.8±3.9
Hematocrit, %	30-44	34.2	36.6	39.8

Reliability: *r < 0.01.

Although the quantitative indicators of hemoglobin, erythrocytes, leukocytes, platelets in control and experimental group animals were almost within the physiological norm, the concentration of hemoglobin in experimental group 2 was 19.5%, and in experimental group 1 it was more than 13.07%. Similar changes were observed in the total amount of leukocytes and erythrocytes.

Table 2 Biochemical parameters of rabbits' blood (M±m, n=5)

Parameters	The Norm	Groups		
		Experiment-1	Experiment -2	Control
AlAT, E/l	0-61	43.6±4.06 *	44.6±2.76 *	55.8±2.08
AsAT, E/l	0-28	20.4±1.03 *	21.2±2.08 *	28.2±1.06
Albumen g/l	p	4, 5 ±0.30 *	4.5±0.30 *	5, 6±0.45*
Bilirubin, mmol/l	5-13	7.7±1.18 *	8.32±0.88 *	11.06±0.62
Total protein g/l	59-74	62.4±3.28 *	63.52±2.24*	52.24±1.91

Reliability: *r < 0.01.

The use of probiotic "ProBioKorm" in feeding rabbits helps to increase the mass fraction of protein in the diet and blood. The highest amount of protein was observed in meat of experimental group 2 rabbits.

Table 3 shows the clinical condition of rabbits fed with probiotic preparation:

Table 3 Common clinical conditions of rabbits (M ± m , n=5)

Parameters	The norm	Before the experiment	After the experiment		
			Groups		
			Experiment 1	Experiment2	Control
Body temperature °C	38.5-39.5	38,6±0.01	38 .1 4 ±0.1 *	38.2±0.04 *	39,02±0.3 1
Heart contraction frequency	120-160	14 6 ±1.7	143.8 ± 1.3 *	141 ± 1.2 *	149,6±1,4
Breath movement	50-60	54.2±0.7	52.6±0.7 *	52.8±0.5 *	54.4±0.4

Reliability: * r < 0.05

From the data presented in the table, it can be seen that the general clinical condition of rabbits fed with proBioKorma was within the normal range.

Conclusion

The addition of 200 g of probiotic supplement to 1 ton of the food mixture used for feeding rabbits activates the metabolic and hemapoetic processes in the rabbit's body, ensures an increase in the amount of blood cells, and maintains the general clinical condition of rabbits at a normal level.

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