ды и средства профилактики гельминтозов. Тенденция развития ветеринарной паразитологии на прост. СНГ. 28-30 апреля 2021 г., г. Самарканд. Мат-лы в Интернете. 4. Oripov A.O., Davlatov R.B., Yo'ldoshev N.E. Veterinariya gelmintologiyasi. Toshkent, 2016. 239 b.

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CREATING AN OPTIMAL DIET STRUCTURE AS A WAY TO PREVENT DISORDER RUMEN DIGESTION IN BULLS

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Poor-quality protein in the diet leads to excessive formation of ammonia in the rumen. The use of concentrated feed against the background of strict proportional administration together with coarse feed with intensive cultivation and fattening of dairy bulls and the normal course of enzymatic processes in the rumen and throughout the body allows you to achieve an average daily increase of up to 1420 g by 14 months of age and reduce feed conversion. ***Keywords:*** *rumen fermentation, cellulolytic activity, amylolytic activity, rumen microflora, concentrated feed, bull calves.*

СОЗДАНИЕ ОПТИМАЛЬНОЙ СТРУКТУРЫ РАЦИОНА КАК СПОСОБ ПРОФИЛАКТИКИ НАРУШЕНИЙ РУБЦОВОГО ПИЩЕВАРЕНИЯ У БЫЧКОВ

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Некачественный белок в рационе приводит к избыточному образованию аммиака в рубце. При интенсивном выращивании и откорме молочных бычков использование концентрированных кормов на фоне ограниченного кормления грубыми кормами и нормальном течении ферментативных процессов в рубце позволяет добиться среднесуточного прироста до 1420 г к 14-месячному возрасту и снизить конверсию корма. ***Ключевые***

слова: *ферментация рубца, целлюлозолитическая активность, амилолитическая активность, микрофлора рубца, концентрированные корма, бычки.*

Introduction. In the transition to intensive forms of animal husbandry, it is necessary to supply the protein deficit by feeding with protected protein and normalizing the functioning of rumen digestion.

The preparation of an optimal diet provides for taking into account the necessary amount and quality of protein in the feed. An unbalanced diet, especially of young calves, leads to the development of all kinds of rumen pathologies and impedes the implementation of pedigree qualities [1].

The aim of the research is to determine the optimal level of stable protein consumption, which allows to completely provide the growing animal organism with protein, as a guarantee of future health and productivity potential and a barrier to the development of rumen pathologies.

Material and methods of research. The research was conducted in the vivarium of the All-Russian research institute of physiology, biochemistry and animal nutrition. During the experimental work, two groups of animals with 7 heads each were formed. Control and experimental group. The experimental group was introduced into the diet of extruded rapeseed cake as a source of rapidly digestible protein. In the control group, the animals were kept on a low-protein diet, typical for dairy farms. The experiment was conducted under controlled feeding and maintenance conditions from the age of 40 days to 14 months in accordance with the norms of the Russian academy of agricultural sciences [3].

The study included 7 bull calves of the Kholmogory breed with an average age of 4, 9.5 and 14 months and an average body weight (BW) of 156.0 ± 0.76 kg, 381.9 ± 1.86, 553.8 ± 4.12 kg (mean value ± standard deviation) respectively. Milk substitute feeding was carried out until the age of 70 days with free access to compound feed and hay. In the after milk period, the animals, in each age period, received an appropriate diet for 4.5 months of the experimental period consisting of compound feed, hay and silage, taking into account the eatability based on natural humidity.

The given feeds and their leavings were collected and recorded each day to calculate the average dry matter intake (DMI). The energy level and feed composition were determined using generally accepted physiological, biochemical, and zootechnical methods. The effective disintegration of feed protein was calculated from the data of determining the relative disintegration in the rumen in sacco and the rate of evacuation from the rumen.

The average daily gain (ADG) was calculated by dividing the BW gain by the number of experimental days.

For the study of physiological, biochemical and microbiological parameters, ruminal fluid was sampled. The number of microorganisms, pH, concentra-

tion of VFAs (GOST 33819-2016), ammonia, cellulose and amylolytic activity (VI Georgievsky, 1976) were determined in the samples.

Statistical analysis of the obtained values of the studied indicators was evaluated using the Wilcoxon-Mann-Whitney U-test.

Results and discussion. The study determined no significant deviations from physiological norms indicating that a high-concentrate type of feeding does not cause disturbances in the microbiocenosis of the rumen during the growing of bulls. Towards the end of the feeding period, an increase in cellulolytic and amylolytic activity is observed, which correlates with the total increase in microbiota activity.

During the studies, it was found that the addition of hay and silage to concentrated feeds does not make it possible to pH decrease with the active breakdown of concentrates and the release of a great amount of oligosaccharides [2]. This balance helps to provide the body of bull calves with energy not only to maintain metabolism, but also to super-maintain the growth. Throughout the feeding, the pH level was within the physiological norm. In our studies, it was found that with a decrease in protein cleavability in diets, the indicator of the concentration of hydrogen ions in the scar content of animals of the experimental groups tended to increase the acidity.

A decrease in ammonia in the rumen indicates an intensification of the reactions of direct amination of keto acids with ammonia as the main way of microbial amino acid synthesis [1, 2].

Thus, strict coordination of the complex processes of digestion and metabolism can lead to a change in the degree of feed nutrients transformation into any type of product. Only in this way real opportunities open up for intensification of growing and fattening, improvement of product quality, active intervention in saving feed costs and reducing the cost of production of livestock products.

Conclusion. The analyzed physiological and biochemical parameters fit into the reference values. The highly concentrated type of feeding does not cause disturbances in the rumen microbiocenosis during the growing of bull calves. By the end of stage 3, an increase in cellulolytic and amylolytic activity was observed, which correlates with the total increase in microbiota activity and contributes to improved health and, as a result, daily weight gains. The use of concentrated feed for intensive rearing and fattening of dairy bulls allows achieving an average daily increase of up to 1420 g by the age of 14 months and increasing the efficiency of the production cycle with the normal course of enzymatic processes in the rumen and throughout the body. The results obtained are significant from the point of view of increasing productivity, especially in regions with a large number of dairy cattle and the availability of concentrated feed.

References. *1. Lemiasheuski, V. Assessment of Rumen Digestion Processes and Productivity of Fattening Bull Calves with a High Level of Concentrates in the Diet / V. Lemiasheuski, K. Ostrenko, .I. Kutin // Fundamental and Applied Scientific Research in the Development of Agriculture in the Far East. – 2022. –*

Vol. 2. – pp. 709-718. –https://doi.org/10.1007/978-3-030-91405-9_78. 2. Predictive ability of host genetics and rumen mcrobiome for subclinical ketosis / G. Gebreyesus, G.F. Difford, B. Buitenhuis, J. Lassen, S.J. Noel, O. Højberg, D.R. Plichta, Z. Zhu, N.A. Poulsen, U.K. Sundekilde, P. Løvendahl, G. Sahana // J. Dairy Sci. – 2020. – no 103(5). – pp. 4557-4569. – https://doi.org/10110.3168/jds.2019-17824. 3. Norms and diets of feeding farm animals. Reference manual / A.P. Kalashnikov, V.I. Fisinin, V.V. Shcheglov, N.I. Kleimenov (Ed.). –3rd edition revised and enlarged. – Moscow, 2003. – 456 p.

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EXAMINATION OF CATTLE HELMINTHIASIS IN THE REGIONS OF SAMARKAND AND KASHKADARYA

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This article describes helminthiasis in cattle breeding farms in some districts of the Samarkand and Kashkadarya regions of the Republic of Uzbekistan's southern and central regions, as well as in population households. ***Keywords****: cattle, helminthiasis, extenszarylation, marshallagiasis, nematodirosis, gastrointestinal strongylates, fasciolosis, monieziosis.*

ОБСЛЕДОВАНИЕ НА ГЕЛЬМИНТОЗ КРУПНОГО РОГАТОГО СКОТА В САМАРКАНДСКОЙ И КАШКАДАРЬИНСКОЙ ОБЛАСТЯХ

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В данной статье описаны гельминтозы в животноводческих хозяйствах некоторых районов Самаркандской и Кашкадарьинской областей южных и центральных районов Республики Узбекистан, а также в хозяйствах населения. ***Ключевые слова:*** *крупный рогатый скот, гельминтозы, экстензарилизация, маршаллагиоз, нематодироз, желудочно-кишечные стронгилезы, фасциолез, мониезиоз.*

Relevance of the topic. Today, the development of cattle breeding and the protection of this area from various casualties, including helminthiasis, remain important tasks. However, one of the factors that will become the main obstacle to the preservation of cattle, given their increase in number of heads, is the various infectious, non-infectious, and invasive diseases that occur among animals.