DYNAMICS OF WEIGHT AND GROWTH INTENSITY OF CALVES

Mammadzade Ilahakhanim Tofig
Azerbaijan State Agricultural University

Introduction.

One of the main indicators of increasing the productivity of cattle in farms, especially in the early postpartum period, is to increase the safety of newborn calves, ensuring the health of young animals. The death of 70-80% of newborn calves in the first week of life of newborn animals occurs as a result of dysfunction of the digestive system in the early postnatal period. At this time, the number of dead and weakly born calves increases, along with the recorded death among newborn calves. [1, p. 148]. The results of epizootological monitoring conducted by researchers show that diarrhea observed in the first 10-15 days of life of newborn calves with signs of gastrointestinal pathology causes the death of 20-30% of young animals. [2, p. 3-7; 3, pp. 179-186].

In the first 7-10 days of life after birth, the growth and development of calves mainly depend on their nutrition, housing conditions and mode of movement. So, animals should be provided with fresh air, light and heat. Particular attention should be paid to the temperature regime. At an air temperature below 18-20°C, hypothermia quickly sets in in a newborn who is not dried and not licked by the mother [4, p.9-10; 5, p. 100-103].

According to the sequence or frequency of occurrence of diseases among animals, diseases of the gastrointestinal department are in the first place. In any farms, each born calf, kid, lamb and goat, etc., is recorded that he is ill with non-communicable diseases at least once a year. Affected infants are stunted in growth and development and thus lose their reproductive potential during puberty. Such large losses are recorded almost throughout the year in most farms [6, p.40].

Physiological features of the digestive system, newborn calves differ from older individuals in natural resistance, immune reactivity, blood circulation, respiration, metabolism, general growth and development, as well as the structural and functional state of all organs. organs and systems [7, p.406; 8, pp. 45-53; 9, pp. 1243-1248].

From the literature it is known that at present many of the proposed methods and means of treatment and prevention of diseases in newborn calves are not 100% effective, there is always a need to improve therapeutic and preventive measures, taking into account the factors that cause the disease. disease . Identification of patterns between the occurrence and course of diseases in calves and the creation and application of new therapeutic and prophylactic agents based on the results obtained is one of the topical issues of animal husbandry [10, pp. 33-35.].

World experience shows that in the treatment and prevention of gastrointestinal diseases in animals, the formation of intestinal biocenosis can be restored by regularly introducing live bacteria into the food of animals expressing normal intestinal microflora. Such preparations, which include microorganisms that ensure the formation of normal intestinal microflora, are known as probiotics. [11, p. 077-078; 12, pp. 61-63].

The wide spread of gastrointestinal diseases among farm animals, especially young animals, the economic damage caused by these diseases to farms, requires the search for new drugs for the purpose of treatment, as well as the development of new treatment regimens, and the constant improvement of treatment methods. existing treatment regimens .

In young cattle, extracts prepared from certain medicinal plants were used. Unlike synthetic drugs, organic substances contained in plants are distinguished by their proximity to human and animal organisms. Therefore, their absorption by the body is higher. Biologically active substances contained in medicinal plants are easily connected to the biochemical processes of the body, have a multifaceted effect, regulate processes, and are safe for long-term use [13, p.40-42 ; 14, pp. 213-214].

Methods and techniques.

Research work was carried out in Kapanly of Shamkir region and Suliddinoglu of Samukh region. The studies were carried out on beef calves raised in a closed farm, and dairy calves raised in Sulid Dinoglu farms.

The purpose of the study is to develop treatment regimens using certain medicinal plants together with antibiotics for the prevention and treatment of diarrhea in young cattle. In these farms, calves with diarrhea were divided into group V, and decoctions and brews from medicinal plants were tested in conjunction with chemical preparations.

On Suliddinoglu farm, group I oak + willow to cook and oletethrin + ceftriaksone; II group with infusion of cranberries + sage and oleterin + ceftriaksone; group III was treated with horsetail infusion + sedges of sedge and oletethrin + ceftriaksone, group IV with infusion of St. John's wort + mullefolium and oletethrin + ceftriaksone, and group V with oletethrin and ceftriaksone.

On Kapanly farm, group I oak + willow bark to cook and tetracycline + ceftriaxone, group II cranberry + sage infusion and tetracycline + ceftriaxone, group III horsetail + sedges of sedge and tetracycline + ceftriaxone, group IV of St. John's wort + yarrow infusion and tetracycline + ceftriaxone, group V were treated tetracycline and ceftriaxone. For therapeutic purposes, decoctions and decoctions prepared from medicinal plants were given to animals of all groups 15 minutes before feeding twice a day with a 12-hour interval, 150 ml for each calf in the first group and 100 ml for each calf. calf in other groups; oletethrin 2 g, ceftriaxone 1 g, tetracycline 1 g was administered intramuscularly 2 times with an interval of 12 hours.

Among the general methods used in hematology to determine the morphological parameters of blood in studies, the total amount of protein in the blood serum was determined by the refractometric method, protein fractions - by the nephelometric method . To determine the weight gain of animals , the absolute weight gain, average daily weight gain, relative gain and relative growth rate and relative gain were calculated.

The results obtained and their discussion.

The main indicator of growth and development is the weight gain of animals. In the process of growth and development, animals acquire not only species and breed qualities, but also individual developmental characteristics, exterior indicators, temperament, resistance and productivity. Live weight is one of the main indicators characterizing the growth and development of animals. Live weight and average daily weight gain are indicators of the growth rate of an animal at different ages. One of the main indicators is the study of the intensity of growth in assessing the quality of animals .

In the digestive system of animals during lactation, functional changes occur, protein, mineral and water metabolism is accelerated. Since this period is also associated with the intensive development of organs and tissues, intensive weight gain is recorded in calves. The increase in live weight of young animals is the main indicator of their development, health, full and high-quality feeding.

In order to study the change in the live weight of newborn calves diagnosed with diarrhea in the Suliddinoglu and Kapanly farms, where the study was conducted, absolute weight gain was measured after birth, during the period of treatment for diarrhea and at 1, 3, 6, 9 and 12 months after treatment . average daily weight gain , relative growth rate , relative growth rate and relative growth rate were calculated .

 Live weight (weight) and absolute weight gain are of great economic importance, in addition to giving some idea of the growth rate of animals. The weight of calves with diarrhea, set before the start of the experiments and divided into groups for complex treatment with medicinal plants according to different schemes, was 27.50 kg in group I, 26.69 kg in group II, 28.50 kg in group III, and 28.50 kg in group IV. 27.30 kg, In group V it is 28.30 kg. In general, the live weight of newborn calves ranged from 26.69-28.50 kg, and the average live weight of one calf was 27.66 kg.

During the treatment of calf diarrhea in all groups, an increase in the weight of calves was recorded. The absolute increase in live weight of calves in group I was 6.26 kg, in group II 6.10 kg, in group III 5.85 kg, in group IV 5.60 kg, in group V 5.20 kg. We believe that these small reported changes depend on the effect of medicinal plants used in the treatment of calf diarrhea.

In the post-treatment period, the live weight of 1-month-old calves was 51.0 kg, in groups II, III, IV and V - 48.0 kg, 53.5 kg, 50.3 kg, in group V - 49.5 kg. The average daily gain in live weight of 1-month-old calves in groups IV was 783.0 g, 710.0 g, 833.0 g, 766.0 g, 707.0 g, the relative gain was 85.4%, 79.8%, 87 .7%, 84.2%, 74.9%, relative increase of 56.4% in groups I and II, 61.0% in group III, 59.2% in group IV, 54.5% in group V, the relative growth factor was 1.9 in groups I and III, 1.8 in groups II and IV, and 1.7 in group V. .

The absolute increase in live weight of 3-month-old calves ranged from 37.7-40.6 kg. The highest absolute weight gain (40.6 kg) in group IV, the lowest absolute weight gain (37.7 kg) in group II, the highest average daily weight gain (676.0 g) in group IV, the lowest average daily weight gain was in group II.

Table 1. Weight dynamics of calves of Suliddinoglu farm

Indicators	Practice Groups

	I am a group	Group II	Group III	IV group	The group
Newborn					
Live weight, kg	27.50±0.62	26.69±0.54	28.50±0.61	27.30±0.45	28.30 ±0.55
During treatment					
Live weight, kg	33.76±0.87	32.79±0.98	34.35±0.99	32.9±1.12	33.50±0.10
Absolute weight gain, kg	6.26±0.95	6.10±0.80	5.85±0.75	5.60±0.60	5.20 ±0.55
1 month					
Live weight, kg	51.0 ±1.02	48.0 ±1.03	53.5 ±2.08	50.3 ±1.11	49.5 ±0.90
Absolute weight gain, kg	23.5	21.3	25.0	23.0	21.2
Average daily weight gain, g	783.0	710.0	833.0	766.0	707.0
Relative growth rate, %	85.4	79.8	87.7	84.2	74.9
Relative growth	1.9	1.8	1.9	1.8	1.7
Relative growth, %	59.9	57.0	61.0	59.2	54.5
3 months					
Live weight, kg	91.1 ±3.06	85.7 ±2.43	93.1 ±1.29	90.8 ±3.20	89.2 ±2.14
Absolute weight gain, kg	40.1	37.7	39.6	40.6	39.7
Average daily weight gain, g	668.0	628.0	660.0	676.0	661.5
Relative growth rate, %	78.6	78.5	74.0	80.7	80.2
Relative growth	1.8	1.8	1.7	1.8	1.8
Relative growth, %	56.4	56.4	54.0	57.5	57.2
6 months					
Live weight, kg	138.8 ±2.15	131.1 ±2.13	141.5 ±2.02	139.6 ±2.03	135.3 ±1.99
Absolute weight gain, kg	47.7	45.4	48.4	48.7	46.1
Average daily weight gain, g	795.0	757.0	806.0	812.0	769.0
Relative growth rate, %	52.4	53.0	51.9	53.6	51.7
Relative growth	1.5	1.5	1.5	1.5	1.5
Relative growth, %	41.5	41.9	41.2	42.3	41.1
9 months					
Live weight, kg	173.2 ±3.32	167.2 ±3.21	176.2 ±2.89	175.8 ±4.01	170.7 ±2.06
Absolute weight gain, kg	34.4	36.1	34.7	36.2	35.4
Average daily weight gain, g	573.0	601.0	579.0	604.0	590.0
Relative growth rate, %	24.8	27.5	24.6	26.0	26.2
Relative growth	1.2	1.3	1.2	1.3	1.3
Relative growth, %	22.0	24.2	21.9	23.0	23.1
12 months					
Live weight, kg	204.6 ±3.32	196.6 ±2.25	211.8 ±1.69	209.1 ±2.66	202.2 ±3.01
Absolute weight gain, kg	31.4	29.5	35.6	33.3	31.4
Average daily weight gain, g	524.0	491.0	593.0	555.0	524.0
Relative growth rate, %	18.2	17.6	20.2	18.9	18.4
Relative growth	1.2	1.2	1.2	1.2	1.2

Relative growth, %	16.6	16.2	18.3	17.3	16.9

The highest value of the relative growth rate (53.6%) - in group IV, the lowest value (51.7%) - in group V, the highest value of relative growth rate (42.3%) - in group IV, the lowest value (41, 1%) was registered in group V. The same similar indicators were recorded in 6-month-old animals.

The absolute weight gain of 6-month-old animals was 46.1-48.7 kg. The greatest absolute increase in body weight (812.0 g) was in group IV, the smallest absolute increase in body weight (757.0 g) - in group II.

The live weight of 9-month-old calves varied from 167.2 to 176.2 kg, and the live weight of 12 two-month-old animals - from 196.6 to 211.8 kg. A comparative analysis of the indicators of absolute weight growth in 6-, 9-, and 12-month-old animals shows that this indicator decreases in 9- and 12-month-old animals compared to the indicators of 3-month-old animals. The absolute index of body weight gain in 12-month-old animals is lower than in 6-month-old animals (Table 1).

Although the body weight of 12-month-old animals was higher than the body weight of 9-month-old animals in all groups, the absolute weight gain was lower than that of 12-month-old animals. If the absolute weight gain in 9-month-old animals ranges from 34.4-36.2 kg, then in 12-month-old animals this figure decreases to 29.5-35.6 kg. It was found that the indicators of daily live weight gain in 12-month-old animals decreased by 49 g in group I, by 110 g in group II, by 66 g in group IV and increased by 14 g in group III compared with the corresponding indicators of 9-month-old animals. animals. - old animals. The value of the relative growth factor varied from 1.2 to 1.3 in animals of both age groups. A decrease in the value of the relative growth rate and relative growth rates of 12-month-old animals was also recorded. The value of the relative growth rate in 9-month-old animals is 24.6-27.5%, the relative growth rate is in the range of 21.9-24.2%, these figures are reduced to 18.2-20.2% and 16.2 -18 in 12-month-olds. animals, varies from 3%.

In the treatment of diarrhea in newborn calves at the Suliddinoglu farm, the dose of infusions and brews prepared from a mixture of medicinal plants in a ratio of 1:10 was increased to 300 ml, and the change in body weight of the calves was monitored. Twice a day, animals of group I were given a decoction of oak + willow, animals of group II - a decoction of cranberries + sage, animals of group III - a decoction of horseradish + sedge, animals of group IV - a decoction of wild herbs. Horsetail + boymaderan was used as chemical preparations, and Oliterin, Ceftrazone were used as chemical preparations. Group V animals were injected with Oliterin and Ceftraxone twice a day at a dose of 2 g. The results obtained show that the complex treatment of calf diarrhea with medicinal plants and chemicals leads to the normalization of physiological processes [15, p. 352-355].

of the live weight gain of calves immediately after the complex treatment of calf diarrhea for 12 months, the dynamics of the live weight gain of calves divided into 5 groups in Kapanly farms was monitored.

The live weight of newborn daily calves in a closed farm was in the range of 27.2-28.0 kg. The average weight of calves in groups I, II, III, IV and V was 28.0 kg,

27.4 kg, 27.8 kg, 27.2 kg, 27.5 kg, respectively. As can be seen from the data obtained, there is no significant difference between the live weight of newborn calves.

The absolute weight gain of calves during the treatment period was 7.2 kg in group I, 7.8 kg in group II, 6.5 kg in group III, 6.3 kg in group IV, and 5.95 kg in group V. If we consider the average weight of calves divided into groups in the pre-treatment period, it can be seen that the absolute weight gain of calves in all experimental groups, regardless of the treatment regimen, is similar (Table 2).

The average daily weight gain of calves at 1 month of age ranged from 416.7 to 690 g. The highest absolute weight gain and the average daily weight gain were in group I. The absolute weight gain in this group was 20.7 kg, and the average daily weight gain was 690.0 g. The relative growth rate, relative height and relative growth coefficients of group I were higher than those of groups II, III, IV and V.

In group I, the relative growth rate was 75.3%, the relative growth rate was 1.8, and the relative growth was 54.7%. In groups II, III, IV and V, respectively, the absolute weight gain is 12.5-13.9 kg, the average daily weight gain is 416.7-463.0 g, the relative growth rate is 45.5-50.7%, the relative growth rate was 1.5-1.8% , the relative growth rate varied within 37.0-40.5%. As can be seen, these figures are significantly lower than those of group I (Table 2).

Weight dynamics of crossbred calves on a closed farm

Indicators	Groups (n=5)				
	I am a group	Group II	Group III	IV group	The group
Newborn					
Live weight, kg	2 8 .0 ±1.25	27.4±1.32	27.8±1.37	27.2±1.24	27.5 ±1.11
During treatment					
Live weight, kg	35.2 ±0.97	35.2 ±0.88	34.3 ±0.59	33.5 ±0.78	33.5 ±0.98
Absolute weight gain, kg	7.2 ± 0.90	7.8 ± 1.10	6.5 ±0.85	6.3 ±0.90	5.95 ±0.95
1 month					
Live weight, kg	48.2 ±1.99	41.3 ±1.96	41.0 ±1.36	40.1 ±1.04	40.0 ±1.29
Absolute weight gain, kg	20.7	13.9	13.2	12.9	12.5
Average daily weight gain, g	690.0	463.3	440.0	430.0	416.7
Relative growth rate, %	75.3	50.7	47.5	47.4	45.5
Relative growth	1.8	1.5	1.5	1.5	1.5
Relative growth, %	54.7	40.5	38.4	38.3	37.0
3 months					
Live weight, kg	97.2 ±2.30	84.5 ±1.36	83.8 ±1.52	82.9 ±1.58	82.0 ±1.87
Absolute weight gain, kg	49.0	43.2	42.8	42.8	42.0
Average daily weight gain, g	816.7	720.0	713.3	713.3	700.0
Relative growth rate, %	101.7	104.6	104.4	106.7	105.0
Relative growth	2.0	2.0	2.0	2.1	2.1
Relative growth, %	67.4	68.7	68.6	69.6	68.9
6 months					

Live weight, kg	143.3 ±2.54	127.3 ±1.99	121.7 ±1.25	103.3 ±1.53	118.7 ±1.72
Absolute weight gain, kg	46.1	42.8	37.9	20.4	36.7
Average daily weight gain, g	768.3	713.3	631.7	340.0	611.7
Relative growth rate, %	47.4	50.7	45.2	24.6	44.8
Relative growth	1.5	1.5	1.5	1.2	1.4
Relative growth, %	38.3	40.4	36.9	21.9	36.6
9 months					
Live weight, kg	182.0 ±2.60	165.8 ±1.36	140.5 ±1.75	141.1 ±1.93	152.1 ±1.52
Absolute weight gain, kg	38.7	38.5	18.8	37.8	33.4
Average daily weight gain, g	645.0	641.7	313.3	630.0	556.7
Relative growth rate, %	27.0	30.2	15.4	36.6	28.1
N wild growth	1.3	1.3	1.2	1.4	1.3
Relative growth, %	23.8	26.3	14.3	30.9	24.7
12 months					
Live weight, kg	219.3 ±1.69	200.3 ±2.76	174.2 ±1.55	173.9 ±2.06	182.5 ±2.06
Absolute weight gain, kg	37.3	34.5	33.7	32.8	30.4
Average daily weight gain, g	621.7	575.0	561.7	546.7	506.7
Relative growth rate, %	20.5	20.8	24.0	23.2	20.0
Relative growth	1.2	1.2	1.2	1.2	1.2
Relative growth, %	18.6	18.8	21.4	20.8	18.2

The results of the study show that the value of the increase in live weight of 3-month-old calves of group I increases significantly compared to the indicators of other groups. The live weight of calves for 3 months increases to 97.2 kg in group I, 84.5 kg in group II, 83.8 kg in group III, 82.9 kg in group IV and 82.0 kg in group V. In the dynamics of the weight of animals of this age, compared with the corresponding indicators of 1-month-old calves, an increase in the average daily weight gain, relative growth rate, relative growth and relative growth rate is observed. In group I, the value of the coefficient of relative growth rate was lower than in other groups. In this group, the value of the relative growth rate was 101.7%, and in groups II-IV this figure ranged from 104.4-106.7% .

The live weight of 6-month-old animals continues to increase, reaching 143.3 kg in group I, 127.3 kg in group II, 121.7 kg in group III, 103.3 kg in group IV, and 118.7 kg in group V. The live weight of animals continued to increase in all groups and at 9 months of age reached 182.0 kg, 165.8 kg, 140.5 kg, 141.1 kg, 152.1 kg, respectively, in groups I, II, III, IV and V on a monthly basis. in animals it increases to 219.3 kg, 200.3 kg, 174.2, 173.9 and 182.5 kg. The highest value of absolute and average daily live weight gain in 6-month-old animals (46.1 kg and 768.3 g) was in group I, and the lowest (20.4 kg and 340.0 g) - in group IV. Although body weight gain, absolute weight gain, average daily weight gain, relative growth rate and relative growth rate were high compared to other groups, the value was low and the relative growth rate was the same in all groups. Similar changes recorded in the dynamics of the weight of calves on the Suliddinoglu farm were also recorded in crossbred calves on the Kapanly farm. So, despite the increase in live weight of 6.9-month-old animals,

in this farm, the absolute weight gain, average daily weight gain, relative growth rate, relative gain and relative growth coefficients decreased. In group III, absolute gains, average daily gains and relative growth rate of 9-month-old calves sharply decreased. The live weight of animals in this group was also lower than in other groups.

Intergroup comparison of indicators of 12-month-old calves shows that the largest live weight (219.3 kg) was recorded in group I. In this group, the absolute weight gain and the average daily weight gain are higher than the corresponding indicators of II, III, IV and V groups, and the value of the relative growth coefficient was the same in all groups, the value of the relative increase in the rate coefficient was lower than the indicators of II, III and IV groups, and the corresponding values of group V are higher than the indicator. The highest value of the relative growth factor (21.4%) was recorded in group III, and the lowest - in group V.

Result.

Weight dynamics in the complex treatment of calves with medicinal plants and medicinal preparations on farms, shows that the daily live weight of calves on the Suliddinoglu farm averages 27.55 kg, and the live weight of calves on the Kapanly farm averages 27.5 kg, of which 28 kg.

During the treatment period, the average live weight of calves on the Suliddinoglu farm was 33.46 kg, on the Kapanly farm - 32.79-33.76 kg, 34.34 kg and fluctuated within 33.50-35.2 kg. It was established that during the treatment period the largest absolute weight gain (6.26 kg) was in Suliddinoglu farm group I, and Kapanly (7.8 kg) in group II.

As a result of an intergroup comparison of calves' performance over the treatment period , the difference recorded in live weight and average daily gains, we believe that due to illness, animals do not digest feed well, due to water loss due to diarrhea.

After treatment, the study of the dynamics of the weight of 1-month-old calves showed that, compared with the indicators of the calves of the Kapanly farm and the indicators of the calves raised on the Suliddinoglu farm, there was a decrease in life expectancy . take the weight of calves, absolute and daily weight gain, relative growth rate and relative growth rate in all groups. We believe that this decrease is due to the effect of tetracycline used for treatment in the post-treatment period. Because Oletetrin was used in the complex treatment of diarrhea in calves on the Suliddinoglu farm. This idea is supported by the results of treating calves with oletethrin and ceftriaxone in the treatment of diarrhea. In the Suliddinoglu farm, the indicators of group V calves treated with Oletetrin and Ceftriaxone were at the level of indicators of groups II and IV. In both farms, the increase in live weight of animals is recorded in the following months. The highest average daily gains are observed in 3-month-

old calves. It is known that this age is the period of complete formation of calves. Probably for this reason, the average daily weight gain of these 6- and 9-month-old calves is lower than that of 3-month-old calves.

has a positive effect on metabolic processes in the body of black and crossbred calves.

Thus, it has been established that for the treatment of newborn calves with diarrhea, the introduction of medicinal plants together with drugs has a positive effect on absolute and average daily weight gain, relative growth rate and relative growth intensity, which are the main indicators of calves.

Literature

1. Khertman, A. M. Treatment and prevention of diseases of young cattle / A. M. Khertman, T. S. Samsonov. - 2nd ed., erased. - St. Petersburg: Lan, 2022. - 148 p. - ISBN 978-5-8114-9819-2. — Text: electronic // Lan: electronic library system. - URL: https://e.lanbook.com/book/199481

2. Amosova, L.A. Amosova L.A., Lomako Yu.V., Novikova O.N. [et al.] Experimental studies on the development of technology for the manufacture and use of a polyvalent vaccine with adhesive antigen genes against colibacillosis (escherichiosis) of calves // Epizootology, immunobiology, pharmacology , sanitation. - Minsk: - 2015, - No. 1, - p.3-7.

3. Gulyukin, M.I. Gulyukin M.I., M.A. Mnikova, T.A. Ishkova [et al.] Development and implementation into practice of an effective system for diagnosing and preventing viral gastrointestinal diseases in cattle. // Proceedings of the All-Russian Research Institute of Experimental Veterinary Medicine. Ya.R. Kovalenko. Moscow: - 2015, - v.78, - p.179-186.

4. AND I. Batrakov, K. V. Plemyashov, V. N. Videnin, A. V. Yashin prevention and treatment of dyspepsia in newborn quadro calves St. Petersburg 2021. p.9-10.

5. .Gracheva , OA Prevention and treatment of dyspepsia in calves with the drug " Yantovet " / OA Gracheva // Scientific notes of the Kazan State Academy of Veterinary Medicine. N.E. Baumann. - 2019. - T. 239. - No. 3. - S. 100-103.

6. Batchaev R.I., Gochiyaev Kh.N. Illnesses of youth: Guidelines for practical exercises in the discipline of students of the specialty 11801.65 Veterinary medicine, - Cherkessk: BIS SevKavGGTA , - 2014, - 40 p.

7. Voronin, E.S. Immunology / E.S. Voronin , A. M. Petrov , M. M. Serykh [and others]. - Moscow: Kolos-Press, - 2002. - 406 p.

8. Podgorsky A. Metabolic disorders in dairy calves in the postpartum period // ActaVeterinaria Brno, - 2007, - v.76, -№8, - p.45-53.

9. Quigley, JD Cost, CJ, Wolfe, TM Protein and IgG uptake in calves fed a colostrum supplement or substitute // Journal of Daily Science, - 2002, -v.85, - p.1243-1248.

10. Bondarenko E., Bezborodov N. Hormonal blood parameters in the treatment of - newborn calves with dyspepsia // - Moscow: Milk and animal husbandry, - 2009. - No. 1, - P. 33-35.

11. Elenschleger A.A., Khe A.A. The influence of the probiotic "Veles 6.59" on biochemical blood parameters in dyspepsia of newborn calves // - Barna-ul: Bulletin of the Altai State Agrarian University, - 2012. - No. 11 (97), - p. 077-078.

12. Elenschleger A.A., Khe A.A. Evaluation of the clinical condition of newborn calves when using the Veles 6.59 probiotic for the treatment and prevention of dyspepsia // - Barnaul: Bulletin of the Altai State Agrarian University, - 2013. - No. 4 (102), - p. 61-63.

13. Batrakov A.Ya., Krotov N.N., Balyuk V.K. Improving the functions of nutrition and nutrition in newborn calves by natural means // - Moscow: Veterinary Medicine, - 2010, - No. 1, - p. 40-42.

14. Mammadzade, I.T. The importance of using herbal extracts against diarrhea. II International scientific conference of young scientists. Ganja: 2017, October 26-27. - S. 213-214.

15. Mammadzade , I.T. Influence of plant collections on the dynamics of growth and development of calves . Fundamental and practical aspects of feeding farm animals and feed technologies: Proceedings of the conference dedicated to the 120th anniversary of M.F. Tomme , (June 14-16 , 2016, Dubrovitsy region). - Dubrovitsy: VIZH im. OK. Ernst, -2016. - With. 352-355 .