

**MINISTRY OF AGRICULTURE AND WATER MANAGEMENT  
OF TURKMENISTAN  
TURKMEN AGRICULTURAL INSTITUTE  
ACADEMY OF SCIENCES OF TURKMENISTAN  
LIVESTOCK BREEDING AND VETERINARY INSTITUTE**

# **EFFECTIVE METHODS OF KEEPING AND FEEDING THE YOUNG CALVES**

**Scientific-production manual**

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The scientific-practical manual provides information on keeping young calves from birth to 6 months of age, feeding them, grouping them, preventing and treating the diseases that occur in them. This manual can be used by students and veterinarians of higher education, and specialized secondary vocational schools.

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## INTRODUCTION

In the prosperous epoch of powerful state under the unceasing efforts of our Esteemed President, the agriculture of our country including the livestock sector is developing at a rapid pace and many large-scale works to increase the volume of products are carried out.

The work of the industry in the development of animal husbandry in our country is scientific on the basis of establishment, breeding of cattle, selection high efficiency of agricultural livestock using effective methods the formation of productive new genetic groups, newborn calves scientific practice of scientific storage, proper nutrition the significance is enormous.

Today, with the tireless care of our esteemed President built and put into operation in the provinces of our country higher product from foreign countries to livestock complexes breeding cows and valuable breeding bulls are provided. Improving the genetic potential of local beef production considering that it takes a lot of time for with, the use of seed bulls on farms is healthy, high in the future we need to get young calves capable of producing and we need them feeding is of great industrial importance.

In particular, the normal development of young cattle and their protection from various diseases conservation is an important issue. Normal development of calves, in households for growth and disease resistance comprehensive implementation of sanitary-hygienic and special veterinary measures needs to be carried out.

Consider the biological characteristics of young calves as soon as they are born to produce high-quality products if caught, fed and stored fully prepared. Various environmental factors for newborn calves and various pathogens have a great impact. The effect of these factors is on the calves are not the same at different stages of development. Accordingly the development, growth, and future productivity of young calves are unfavorable to them to increase and adapt to the conditions depends on its storage and nutrition.

Based on the above-mentioned urgent tasks, since 2017 at Turkmen Agricultural Institute starting to increase the productivity of cattle, high creation of productive livestock herds, efficient feeding of young calves research work to develop methods began to be transferred.

For the first time in Dashoguz region, Golshtino, a high-yielding domestic cattle breed, was slaughtered by bulls of cattle with friezes, and the calves obtained from them were exposed to the effects of the environment. And their environmental, physiological, nutritional, and conservation characteristics are being studied scientifically.

## **1. WAYS TO GET A HEALTHY CALF**

Highly effective in keeping and feeding young calves healthier than the calf's mother first to develop the technology must gain birth. About getting a healthy calf from cattle the concern must begin with the period of their mother's pregnancy.

With the increase in the calving time of the cow, the fetus the growth rate is also increasing. Enlargement of the fetus in the womb for them, and for them to grow after they have calves in quantity all kinds of nutrients and minerals, vitamins are needed happens. And they should only be fed. To get a healthy calf: cows need to be weaned in a timely manner, you have to prepare them for calving, you have to accept calves, and they are new the calf should be properly cared for.

### **1.1. The period of weaning of pregnant cows and their feeding**

In the first half of the cow's pregnancy, when the main body organs of the calf in the womb, i.e. the heart, lungs, while the liver, the stomach, is growing rapidly, the grass being fed to the cow. Great attention should be paid to the quality of the food. In the second half of the pregnancy (after five months), when the bone system musculature of the calf in the womb, great attention should be paid to the volume of fodder as the plant grows. Basically and the weight of the calf in the womb rises in the last two of the cow's pregnancy even more in the month. The calf weighs up to 17-20 kg at this time.

1.5-2 months before calving, pregnant cows are weaned. If the pregnant cow has 2-2.5 months before the calf calving and if she gives 2-3 liters of milk, she can be weaned at that time without any fear. High-milk cows should be slowly weaned: reduce the supply of concentrates (up to 1 kg per day), juicy the herbs should be completely removed and switched to milking once a day.

Concentrate feed when cows are weaned during the summer months is removed from the diet and the amount of green grass is reduced. 3-4 days a day they stop milking after recovering in time.

The calf in the womb of the cow during the milking of the cow's milk for growth and the milk it will give during the next milking period nutritious for a reserve of substances is created. Of cows that come out of milk feeding them an increase in their daily weight It is necessary to arrange it to be equal to 800-900 grams.

In the diet of cows that come out of milk with very stubborn grasses along with juicy and concentrated fodder should also be added.

*Table №1*

**Feeding norms of pregnant and weaned cows (for each cow day and night)**

Indicators	Measure units	Milk productivity, kg					
		3000		4000		5000	
		alive weight, kg					
		400	500	400	500	600	600
Fodder units	kg	6,6	7,7	7,9	8,8	9,9	10,7
Dry matter	kg	9,4	11	9,6	11	11,6	12,6
Digestive protein	gr	725	850	850	970	1090	1175
Sugar	gr	580	680	680	775	980	1060
salt	gr	40	50	45	55	60	70
Calcium	gr	60	80	70	90	95	110
Phosphorus	gr	35	45	40	50	55	65
Carotene	mg	295	345	385	440	495	535

Concentration of ration of dairy cows should be 20-26%. It is rationale at least 5-6 kg of buckwheat, up to 10 kg of silage, up to 15 kg of haylage added.

Cows are in the pasture if possible during the summer are kept or green grass in the shadows under them is given.

Feeding cows with milk with succulent fodder is not recommended. Gossipol is a large number of cows that come out of milk storage of cotton seeds, sorghum, frozen silage and it is strictly forbidden to feed with decayed fodder. That's right feeding with fodder causes the cows to shed calves may or may not cause the birth of weak calves.

As mentioned above, the milking of a cow after calving and the hour of the calf that was there is in many cases the cow that came out of the milk depends on the care. Demonstration of scientific and

industrial work is the main reason of why a calf is born dead or weak is like that of its mother malnutrition, especially the latter of the throat in months.

*Table №2*

**The composition of the diet for pregnant cows  
(% in terms of nutrition)**

Fodder	Dairy production, kg		
	3000	4000	5000
	<b>During the winter</b>		
Heavy-duty	50	48	47
fodder, in total:	25	25	24
hayfage	25	23	23
silage	28	28	27
concentrates	22	24	26

Live weight of a cow, during breastfeeding (1.5-2 months), 40-55 kg should increase.

The cow should drink gentle water. Hot water is not allowed. Drinking cold water can leave the calf.

In the last 7-10 days of pregnancy, the cow is given a good bed, they reduce the norm of concentrates to 1 kg. In good obesity cows are not concentrated, and they also remove juicy grass from the diet. They are watered three times a day.

**1.2. Preparation of pregnant cows for calving and taking the calf**

The calving period of a cow lasts 280-285 days. The cow is effective knowing in advance the time of fertilization you have to set a time for the calf. To a certain extent, it is strangulation can be calculated on the basis of the calendar (included in the appendix). That's right and it would be better to seek the help of veterinarians, because the owner has to prepare for it by knowing when the cow will calve.

The calf of a cow can be known by the following symptoms: wind and swelling of the external genitalia, the union of the pelvic bones

from the suckers of the wind 1-2 days before weaning and calving the arrival of milk.

To get a healthy calf and protect against all kinds of infections the cow should be well prepared for calving. A cow shed for this (house) should be cleaned and disinfected.

The pregnant cow should be monitored. The first symptoms of the calves are their general discomfort: frequent abdomen. During this time, the cow should not be tied, and should be released in the morning and allow him to find a favorable situation. Often the cows lay. It must be helped the cow if the calf's condition is not good. After the calf is fed, they give it to the cow to lick.

Licking the calf causes the first urine and urine to come out. Calf and the moisture on the outside fall on the cow's body and the milk go down, and help escape easily. So the cow has its own calf it has the property of recognizing from the scent.

### **1.3. Caring for a new calved cow**

After calving, the cow needs special care. On the day of the calf they give the cow high quality buckwheat and warm water. On the 2nd-3rd day 1-2 kg of concentrates are added to the ration. After 4-5 days, juicy and blue grasses are given according to the increasing t of the daily amount depending on the productivity of the milk.

After calving, the cow's wind is often swollen. In order to get rid of swelling the cow should be milked regularly (5-6 times).

## **2. THE ZOOHYGIENIC REQUIREMENTS OF THE STOCKYARD OF YOUNG CALVES**

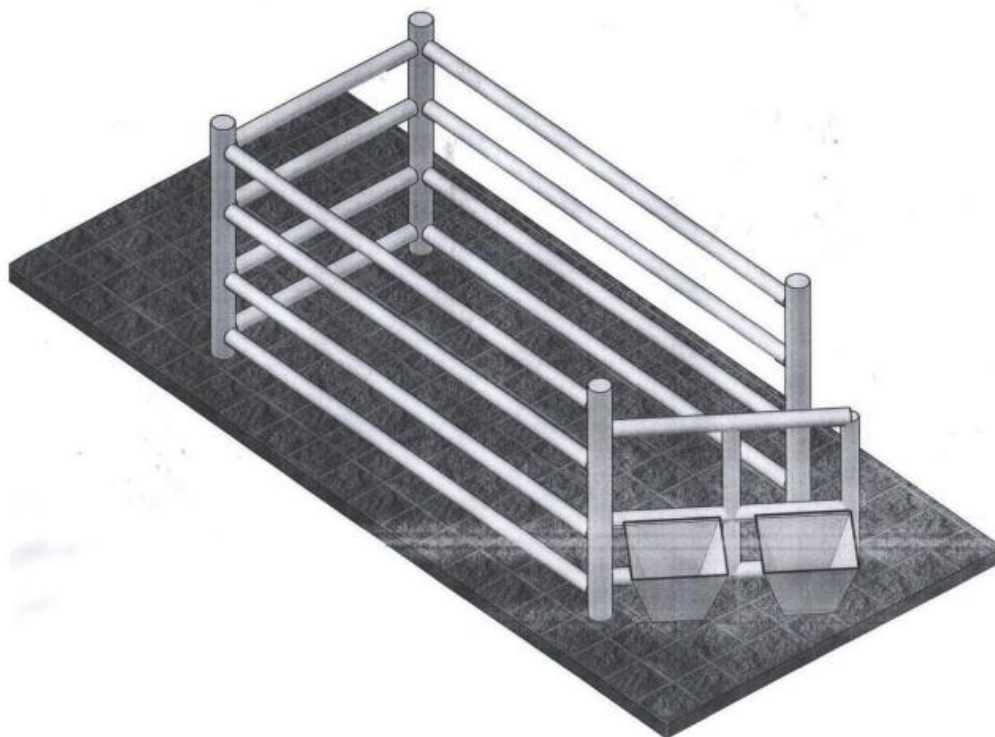
### **2.1. Calf storage**

If the rules of sanitary hygiene are not followed the newborn calves' resistance to disease and genetic potentials affecting future productivity decreases.

First of all, favorable conditions should be created in the storage area of young cattle. Newborn calves are kept in separate calf stall for 15-20 days should be kept. Each calf has its own specialty for food and



water should be. Microclimate indicators in livestock stalls should be in demand.



**Figure 1. Stall of calf to keep separately**

The length of the stall must be 150-250 cm, the width in 110-130 cm, height should be between 120-130 cm. Special logs for water and fodder should be there.

There must be straw in the calf stalls. Damaged straws should be removed and cleaned 2-3 times a day. Complete cleaning work held once a week.

There are good sites as following to keep calves separately:

- it prevented the spread of infectious diseases if calves are kept separately;
- they can be fed separately according to the required rules;
- calves grow physiologically, strengthen their health, resistance to diseases increases. If the calves are if kept in such state, they will bring greater economic benefits to the household. The calves are taken out to the reaching stalls then they are divided into separate groups according to their age.



**Figure 2. Separate storage of calves**

## **2.2. Calf movement**

Once the calves are kept in the stalls for 15-20 days, they must be taken a walk first 10-15 minutes in the day time when it is warm, then for 30-40 minutes under open hinges.

As a result of the walk, the hemispheres of the calves' brains improve. As a result of less movement in calves (hypodynamia), the metabolism is reduced. Oxygen in organs and tissues symptoms of myocardial infarction (myocardial ischemia and dystrophy), osteodystrophy begins to occur, the body adapts and protective functions are reduced. And they affect the calf's growth and future productivity.

Active walking has a great hygienic importance. This during the trip the following amenities have a more positive effect:

- the muscular system is active;
- solar radiation, especially ultraviolet rays;
- normal composition and character of the air;

These complex effects include respiration, digestion, blood circulation, performance coordination in reproduction and other systems activates. Variable environmental influences (temperature, humidity, air movement, etc.) the state of adaptation of the body trains and activates. Young calves are one in the morning and one in summer, and one in winter months is rotated once. If the air is below 15 ° C, the

calves are not allowed to take walking. Calves older than 6 months are if new learned, up to an hour, eventually as adult cattle taken about 3-4 hours. Active in breeding farms a volume tour is organized.

When the calves reach the age of five months, the bulls and calves are separated into group. At that time, calves are sexually mature. That's why it kept as a separate group for a period of 18-20 months.

### **2.3. The microclimate of the calf stalls**

Protecting calves from various diseases is an important issue. For this purpose, integrated sanitary and special veterinarians in households must take action. First of all, young cattle are kept favorable conditions must be created in place. Calves are kept for 1-30 days place temperature must be 17 ° C, humidity 75% (40-75), air movement 0.1 m / s in winter, 0.3-0.5 m / s in summer and 0.2 m / s during transition. The storage temperature of calves for 60-120 days is 15 ° C, humidity 75% (40-85), air movement 0.2 m / s in winter, summer Up to 1 m / s, should be 0.3 m / s during the transition period. Up to 4-12 months calf storage temperature 12 ° C, humidity 75% (40-85), air movement up to 0.3 m / s in winter, up to 1.0-1.2 m / s in summer, should be 0.5 m / s during the transition period.

Calculated according to the microclimate indicators of the fields if the requirements are not met, their development and growth will deteriorate. If the humidity of the calf beds increases, the pathogenic microorganism's conditions for growth are created. Also in large quantities ammonia is released. So calf stalls every 20 days should be cleaned, washed, disinfected and dried daily (ultraviolet microorganisms die under the influence of rays).

### **2.4. General zoo hygiene requirements**

Veterinarians must always control the fodder, water, nuts, microclimate indicators, inventories, and other households. All the new ones used logs once a day, first rinse with cold water and then with boiling water should be cleaned.

Buckets, utensils, and so on used for breastfeeding calves suckers first with cold water, followed by hot alkaline or with a 2-3% soda solution must be washed, dried well and when to use rinse with boiling

water and then it can be used. The size of the nipple hole should be monitored.

That is, the following zoo hygiene requirements must be done:

- groups, taking into account the age and live weight of the calves should be created, calves should be kept at a distance of 8-10 heads, each head calf 1.5 square meters (square) should be set;
- fodder distribution and cleaning of calf stalls to be performed by hand without the use of technique;
- Calves chemically or thermally until calves reach one year of age should be prevented from growing;
- The water supplied to the calves is automatically open at room temperature must be provided on the device;
- The age difference 2 months when groups of calves are formed should not be large or small, live weight should be within 10%.

### **3. FEEDING NEWBORN CALVES**

#### **3.1. The main food for a newborn calf is beestings**

Proper breeding of young calves is one of the main conditions to increase the profitability of the industry: if they have been fed badly then the cattle do not produce much, and the living weight is low. After the calf is born, a thick clean straw is fell down and placed in front of its mother. If the weather is cold the calf stall is heated. For 40-60 minutes it sucks mother and within 5-6 days the calf is kept with its mother and must suck its milk. A calf that sucks a lot of milk is healthy. Then, especially in the first month, the calf should not shrink the milk because it is does not absorb grass at first. The amount of milk should reach 4-4.5 kg per day. The second month begins to eat plants and the amount of given milk less 2.5-3 kg, about 1.0-1.5 kg of milk is drunk in the third month. For 3 months, each rice had 225 kg of calf and 250 kg of milk for the bull if ingested, their live weight at 6 months is 90-100 kg, when taken well it weighs 150-160 kg. After the milk, the calves are hand-fed (from the bucket, specially sucked polyethylene bottles), milk the temperature should be 36-37 ° C. Cold milk passes through the calves. Milk is given 3 times a day for up to 1 month and then 2 times a day. The third month is good 1.0-1.5 kg 1-2 times a day for 15-20 days after sowing drunk and then cut off.

After 1.0-1.5 hours the calf was born it must. Weak, insufficient sibling calves are suckled a little late, they suck after 2-3 hours. Then during 7-10 days every night the calf suckled 4-5 times a day. Milk should be given at a temperature of 35-36 ° C, do not pass through a cold milk calf suffers from such a disease.

**Beestings milk** is the only one in its early days for a new calf, is an irreplaceable food. If the calf does not drink it or if it is deficient, then it lags behind in growth, unstable to all kinds of diseases occurs, gets sick easily, and often dies.

Milk from the first stool - meconium - the calf's intestines helps to cleanse, in other words, exfoliate does. The period of breastfeeding is up to the first 7-10 days of calf life continues. Active actions immediately after the birth of a healthy calf he does, staying on its feet for the first 30-120 minutes and begins to jump steadily, its appetite improves. But in its early days calves spend most of the day (18-20 hours) sleeping.

The body temperature of healthy calves for 1-3 days is 38.5-39.3oC the pulse warp rate is 50-80 times per minute, e.g. exchange movement is 12-30 times.



**Figure 3. Artificial nursing of young calves**

When the calf is born, it is unprotected by the environment happens. Therefore, the goal is the first hours and days of a calf's life to protect it from all kinds of pathogenic microbes and colds. As we

know, there are no special protective antibodies when it is born (disease-resistant bodies), they take them with their beestings milk. Antibodies are especially good in beestings milk in its first portions. That's why it's must be given a calf no later than 1-1.5 hours.

In the new livestock complex of the “Altyn halka” enterprise there are keeping the calves with their mother on the first day of born and they are nursing. Then the peer group will be created and giving them only beestings milk for the first 10 days. After 10 days they begin to suck milk.

The calf has been fed in 3.5-4.0 liters beestings in the 2-3rd day of birth (36°C) is drunk 3 times a day. From the first ten days, they give 5-6 liters of warm milk to each calf. Then they begin to reduce their milk.

Beestings milk contains proteins, fats, carbohydrates, vitamins, enzymes and rich in essential nutrients such as minerals. Especially calf contains gamma-globulin protein, which promotes the development of the immune system.

Beestings milk has its valuable properties for 5-6 days, rarely 10 days keeps during. Then its composition changes and the milk is soft it turns into milk, its absorption quality is lower than that of beestings milk. Therefore, calves must be mineral from the 5th to the 7th day of age supplement with nutrients and vitamins.

In additional mineral matters include 15 g of crushed lime, 10 g of bone flour and 5 g of foodstuffs a mixture of salt. This is the norm for a calf in a day. Extra mineral additives in a separate feed should be given in dry form.

The composition and properties of oral milk vary from day to day. For example, in 1 liter of milk in the first days after calving if the amount of dry matter is 250-300 g, their after 4-5 days the amount is already reduced to 100-200 g, and a week later it is turns into real milk. They call it “new” until the calf's belly dries up. From the 2-3rd day of the calf, 3.5-4 liters of mother's milk is sucked. It is best to keep the calf in a separate place or on its own put in a cage and keep with the calf for 10-15 days.

The calf can suck its mother at any time and takes milk. A calf that drank the full amount of milk develops well at all ages and is less prone to diarrhea gets sick.

When needed, to drinking water promotes rapid absorption of fodder. Sometimes every drinking fresh cow's milk to the calf for quality reasons will not happen. But even a new calf is deprived of

beestings milk will not happen. So slip another calf clock into the calf milk should be milked or fastened to that cow.

This method is hygienic and physiological is considered correct because the milk that is drunk in large quantities is red it flows into the abdomen into large and narrow abdomen, i.e. the abdomen is still falls on non-working parts. Milk rots in the net and large bellies, leading to digestive disorders and diarrhea. Ours on our advice, milk the first calf milk directly to the calf he must suck himself out of the wind. When they suck beestings, the milk is in the calf's stomach falls from a small number of ovaries, which is also the cause of gastrointestinal diseases reduces output.

### **3.2. Foods used in the absence of beestings milk**

If there is no beestings to give to the calves, there is artificial to make it. To do it, we must cooled the boiled water till 40-50 degrees cool and add 10 grams of table salt to 1 liter of water and Chop 2 clean hand chicken eggs and mix well. 10 ml of prepared solution is given per 1 kg of live weight every day and the calves must drink it 4 times. After half an hour 1kg of live weight is given about 20-50 ml milk of other caw.

The calves received full milk up to 1.5–2 months of age and at 4–5 months of age should be fed with milk without fat. Calves must be fed from 11 days old with soft foods, from the 15th day with concentrated feed. In general, they should be in close contact with the calves until they reach the age of 6 months.

Another important condition for the normal development of calves-cleanness is to provide drinking water. This is the rule should not be overlooked. After 20 minutes taking beestings milk calves will be thirsty. So after 0.5-1 hours is given Water. For 7 days from birth, it should be given milk with boiled at a temperature of 15-20 degrees clean nipple. Later calves are recommended to be watered at room temperature. This is because in the first days of its life, water biochemical processes are normal for the passage and formation of the microflora of the large abdomen is important. 0.5-1 liters for newborn calves depending on water weight to be given in amount. Calves that are born from high-productive cows require 4-7 liters of water during the day.



If calves are fed with an acidophilus thick yogurt at the age of 1-20 days is more useful. It improves the microflora of the digestive system gastric secretion and motor function. It improves the development of young calves and the gastrointestinal tract prevents diseases. The norm of thick acidophilic acid is given in the table.

*Table №3*

**Rule of giving of acidophil yoghurt**

<b>Age, daily</b>	<b>Amount of delivery, g</b>
1	50
2	100
3	150
4	200
5	300
6	400
7	500
8	500
9-10	600
11-14	700
15-17	800
18-20	900

**3.3. Training a calf to drink milk from a bucket**

At the age of three weeks, the calf will be able to drink milk from the bucket. Between the two knees to teach the calf to drink milk from a bucket squeezing and carefully drawing a bucket of milk into his mouth and they suck fingers dipped in milk. When the calf begins to suck milk the fingers should be removed immediately as soon as the mouth begins to suck, otherwise it will be accustomed to “finger” milk. It must be repeated several times until the calf learns. In 3-4 days they drink milk 3-4 times a day for a certain period of time during the day. Then it is given 2 times, during the milking of the cows. This creates the opportunity to drink fresh milk that has not yet cooled.

From the first day the calf<sup>7</sup> fed it is necessary to train them in a stable diet. The calves have been around since the first day a



sustainable “time habit” that helps adapt to the environment (reflection)”.

Therefore, the delay in feeding is due to the hunger of the cattle, the fodder leads to a greedy diet, which is also the stomach leading to malfunction.



**Figure 4. Keeping of young calves in a plastic cage in a complex environment**

At the Altyn Halka farm in the Bagtiyarlyk district of Ashgabat calves give milk 3 times a day for the first 2 weeks, then they give milk 2 times a day from the age of 15 days. At that time including clean water and other fodder (wheat bran, pure alfalfa) free using is provided. Each time milk is given, the milk jars should be thoroughly washed. This is because dirty containers are the main source of gastrointestinal diseases.

### **3.4. Training calves to drink water**

The physiological processes in the calf's body are coordinated the importance of water for its existence is great. In beestings milk and the calf has up to 75-90% water in the milk the body is in dire need of

water because the water in the milk is protein and so on relates to substances and does not do the body's requirements.

A large amount of water is excreted from the body through the perspiration and urine, especially in calves that are new. The surface of the kidneys and sweat glands to the calf's body to produce products that are harmful and unnecessary water is a must. When it does not drink water or take it in small amounts so it will be weak, less active, slow to grow, and stops.

A calf that has not drunk water for a long time can be doomed. You should give water the calf from 4-5 days of age. Drink boiling water, cooled to 18-20 ° C is useful. This water times, given between sucking (1-2 hours after then), 300-400 ml at a time. From the 10th day of its age there is a gradual transition to normal drinking water. To drink the water temperature should not be less than 12 ° C.

Drink the right amount of water on time by the calf -Ensures the rapid absorption of nutrients from the feed. To mark it is necessary, i.e., that young cattle are more deficient in fodder they have a bad water shortage.

Because of the calf's body contains up to 75% water. 40% when cattle are hungry can also withstand the weight of living up to, but without water when he already loses 10% of his weight, his health deteriorates, if it loses 22% of its weight due to dehydration are exposed.

### **3.5. Training calves to eat fodder**

From 7-10 days old, calves are taught to eat large-stemmed herbs. Not a good (200-300 g) good quality body for him they hang on a corner of the cage where the calves are standing, or they shoot at the granddaughter. Bede did not serve as food during this period that is time and other parts of the abdomen (large, narrow, and forty abdomens) promotes growth. When the calf begins to chew the grass (sighs) his large, narrow, and forty bellies begin to work. So with a big stick the sooner they learn to eat grass, the more economically is of great importance. The first calves of healthy calves it begins to appear at the age of 8-14 days.

Chewing is a return to the cavity from the abdominal cavity chewing grass. One night in a healthy animal during 6-8 repetitions of

repetition and it lasts 30-60 minutes continues. Especially, when the infected animal suffers from stomach upset, the swap is weak and rare.

Calves are taught to eat juicy herbs from the age of 2-3 weeks. Feeding calves' concentrated (grain) feed after 3 weeks of age they start. It is not difficult to teach traditional cereals: a little when you put it in the beaker and bring it to the beak, it starts to lick and eat the flour. Barley flour, as well as wheat bran, is good a grain for calves is considered. The fodder for the young calf must be of good quality, otherwise there may be serious illnesses.

#### **4. CARE OF CALVES UP TO 6 MONTHS OF AGE**

One of the main conditions for the good breeding of young calves is to feed them with proper and well-prepared fodder. Calves have a higher ability to grow in the first months of age happens, so it should be fed as much as possible, given you need to get a complete diet of fodder. The quality of the feed provided to monitor. There are also milk and water bottles, ovens, care should be taken to ensure the cleanliness of the beds, the deterioration of fodder should not be allowed.

Sometimes they are suckled and so bred the calf, but in this way the calf cannot normally suck milk and is remained out of development. Up to six months of age, calves are fed according to special rules. During the period shown to them, mainly alfalfa, the grass of the field grass, greens, concentrate feeds (bran, barley cereals, comb feeds, etc.) are given. The silage is given from the second month and the third month is 1 kg per day delivered.

The recommended rules are milk that has been extracted from those previously approved and the root is distinguished by the absence of fruits (beets), but by the amount of the forage unit they were balanced. Burning young calves is a good quality of hay, less dandruff, and mixed feed begins with giving. If alfalfa is given a good ointment, it is true that it is given in the form of reddish-green; more oppressive diarrhea is more likely to occur in calves, especially at 1-2 months of age. When it is wet, it does not heat up and is not damaged.

After 5-6 months, the composition of the rice diet is similar to that of dairy cows should be close, their gastrointestinal organs are well developed, should be prepared to absorb large amounts of herbs and juices. 45-55% of their diet is silage, green grass, 28-30% buckwheat, straw, hay, must have 25-30% concentrate feed.

In the absence of household herbs specified in the ration, they are available depending on the rate (amount of feed unit) replaced by utter grass. The forage provided is good with cutters if crushed and mixed, their value rises and the cattle they eat without work.

To the calves as the neck grows and the weight increases any amount of fodder is needed. Private cattle storage the rule of feeding calves for private use and we present a diagram (Table 4). At the age of 6 months lives weight 140-160 kg. This is to give them the calves they have should be fed in the same amount: 260-280 kg of milk, concentrates 280-300 kg, buckwheat 270-290 kg, green and juicy herbs 450-460 kg. bulls, and feed the chickens, for ours be the hurricanes, as our scientific and industrial work has shown when the hand is nourished and raised to more than 1 kg per day, cattle are obese, making it difficult to come to steam, after calving while they give small amounts of milk. The number of hurricanes has increased overnight it should weigh an average of 650-700 g. Bulls, on the other hand, need to be fed abundantly. Daily weight gain in the first months of age the more, the better the quality of the meat obtained from them. On the other hand, to give too much milk should not be chased because large, net and forty bellies when milk is given in large quantities they do not grow, and then the cattle are large-branched, juicy, and blue reduce the ability to effectively absorb herbs.

*Table №4*

**The table of calf nourishment**

Age		Weight, kg	Daily norm, kg					
month	In ten day		Milk	Bede	Silos, green grass	siftings	Barley flour	Salt, g
1	2	3	4	5	6	7	8	9
I	The 1 <sup>st</sup>		4	teaching	teaching	-	-	-
	The 2 <sup>nd</sup>		5			0,1	-	5
	The 3 <sup>rd</sup>	52	5	-	-	0,3	-	5
<b>The sum of the 1<sup>st</sup> month:</b>			140	-	-	4,0	-	100
II	The 4 <sup>th</sup>		5	0,3	0,3	0,4	0,2	10
	The 5 <sup>th</sup>		3	0,5	0,3	0,5	0,3	10
	The 6 <sup>th</sup>	73	3	0,5	0,5	0,6	0,5	10
<b>The sum of the 2<sup>nd</sup> month:</b>			110	13,0	11,0	15,0	10,0	300
III	The 7 <sup>th</sup>		2	0,8	1,0	0,7	0,6	10

	The 8 <sup>th</sup>		1	1,0	1,0	0,8	0,7	10
	The 9 <sup>th</sup>	95	-	1,5	1,5	1,0	1,0	10
<b>The sum of the 3<sup>rd</sup> month:</b>			30	33,0	35,0	25,0	23,0	300
IV	The 10 <sup>th</sup>			1,5	2,0	1,5	1,0	15
	The 11 <sup>th</sup>			1,5	2,5	1,5	1,0	15
	The 12 <sup>th</sup>	155		1,5	3,0	1,5	1,0	15
<b>The sum of the 4<sup>th</sup> month:</b>				45,0	75,0	45,0	30,0	450
V	The 13 <sup>th</sup>			2,5	4,0	1,5	1,0	20
	The 14 <sup>th</sup>			2,5	5,0	1,5	1,0	20
	The 15 <sup>th</sup>	136		3,0	6,0	1,5	1,0	20
<b>The sum of the 5<sup>th</sup> month:</b>				80,0	150,0	45,0	30,0	600
VI	The 16 <sup>th</sup>			3,5	5,0	1,5	1,0	20
	The 17 <sup>th</sup>			4	6,0	1,5	1,0	20
	18 <sup>th</sup>	160		4,5	7,0	1,5	1,0	20
<b>The sum of the 6<sup>th</sup> month:</b>				120,0	180,0	45,0	30,0	600
<b>Total in 6 months:</b>			280,0	291,0	451,0	179,0	123,0	2350

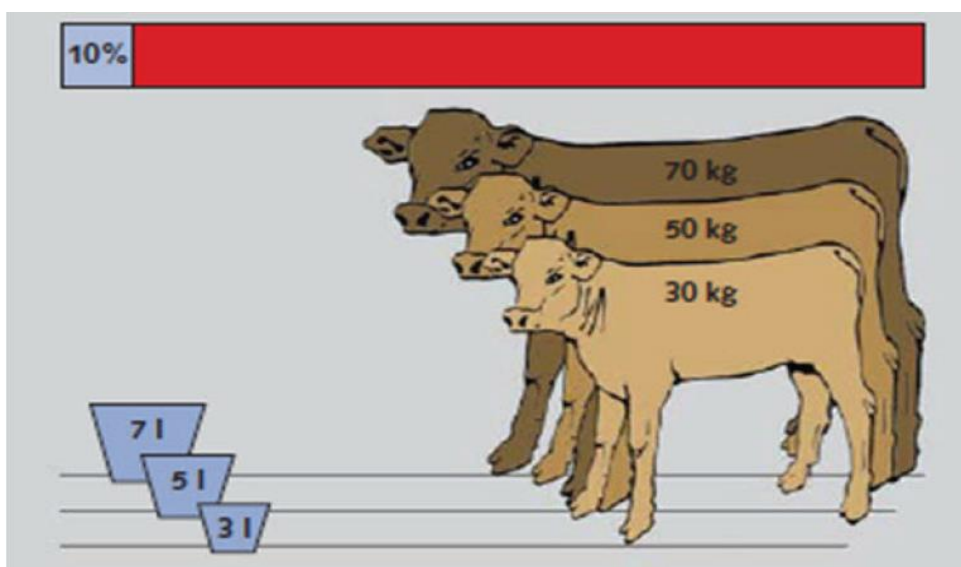
The diagrams and rules of the above feeding, indeed, the full potential of private breeders is not taken into account. For example, juices include silage, potatoes, cabbage; and others. As long as the type of grass given varies, however, their use by calves is high. As mentioned above when one type of grass is replaced by another type of grass the total amount of fodder should not change. This is fodder Milk, concentrates, buckwheat for irreplaceable fodder in the diet can enter. Feeding order or one herb with another herb the replacement should be gradual. Training young calves how to eat grass is a good quality hay, less bran, it starts by giving barley flour. Green alfalfa by rubbing well should give. Calves don't drink milk form a group of 8-10 heads and kept in one staff.

## **5. WATER REQUIREMENTS OF YOUNG CALVES**

### **5.1. Deficit and excess of water of young calves**

Water is the main biological liquid needed for the body. Watering, feeding and partial feeding of livestock intracellular degradation is due

to the dissolution of organic matter. Water is involved in metabolism throughout the body and it is the main solvent in all respects. Formed as a result of metabolism releases various substances harmful to the body with water. Young calves are very sensitive to water shortages. When 10 percent of the water is lost in body, heart failure occurs, the heart the pulse accelerates, the body temperature rises, the food juices the secretion is reduced, the muscles and the moist bars vibrate. The calves hunger is easier than thirst. In the absence of water many physiological functions in the body of the animal are impaired. Substitution disrupts, degrades oxidation processes, in organs and tissues the water is withdrawn and the body's poisoning is further increased. Water excess is also very dangerous for the body. In the body the excess of water leads to the complete disintegration of the electrolytes and the death of the cells brings. Blood pressure rises. Of nutrients that fall into the fodder assimilation decreases.



**Figure 5. The requirements for water of young calves**

The amount of used water depends on the age of the calves, production, nutrition character, ambient temperature and other factors. An average of 4-6 liters of water per kilogram of dry matter is consumed. The calves require more water in the dry heat weather. For single and mass watering calves water springs are used. Optimal (convenient) watering of calves is to provide the state automatically without interruption. The demand for water must be equal to 10% of young calves living weight.

Watered ponds of calves must be periodically cleaned, 1 percent to be disinfected with chlorine, chloramine, and other solutions, and then rinse with clean water. They must not get dirty, of the creators of communicable infectious and parasitic diseases that it does not spread in the water, as well as the mass poisoning of livestock, chemicals (fertilizers, industrial products), radioactive from substances, livestock farms and other facilities must ensure that the running water does not fall.

## **5.2. Requirements for the physical and chemical properties of water supplied to calves**

Drinking water should be certainly safe for epidemics and epizootics. It must have good organoleptic properties. The water to be fed to the calves should be clear, colorless, unheated, and the water shouldn't have an unpleasant taste. The water must be free of microorganisms and helminths. Organoleptic properties of water for cattle, chemical the composition, physical, toxicological and epizootic properties should be studied.

To improve the physical properties of water is used special water storage tanks and filter filters. For sanitary water is boiled or add a 1% chlorine solution to it. The dose of active chlorine is determined. by the degree of dirt of water. Its dose is 0.5-5 mg / l and its effect on water lasts from 15 minutes to 2 hours.

The quality of drinking water, its physical properties and chemical composition can lead to the development of some non-communicable diseases in calves. It contains iodine, fluorine, arsenic, due to the presence of too much or too little lead, molybdenum, etc.

The color of water depends on the amount of the mixture of iron, oxide, clay and lime. If there are brownish-yellow spots in the water, it means that it makes evidence of the presence of substances, used water, feces and urine.

To detect the smell of water it heats to 60 ° C. To determine the smell of water, one should not forget that there is a similar smell. In some cases, the decomposition of organic matter or the addition of water to the water creates the smell of hydrogen sulfide and ammonia in it. This is especially harmful for drinking water, and it requires it's quickly destruction.

The taste of drinking water depends on the amount of salt in it. Good quality water tastes good. In some cases, high levels of dissolved sodium or potassium chloride salts in the water can be stored in a large quantity. They give the water a sour taste. The high content of magnesium salt in the water gives it a bitter taste. Iron oxide, sulfuric acid, copper, manganese create sour and unpleasant taste in water. Such water is doubtfully sanitary and is considered unfit for calving.

The chemical composition of water is determined by the soil, where it comes from and flows from. Taste of water where it is always taken (in a river, a well, in a source) its chemical composition changes little. Water normally contains all water-specific chemicals, for example, micro and macro elements are stored. However, to the standard (standard) depending on drinking water is very rare under normal conditions the amount of chemicals and substances that threaten human and animal health must be regulated.

In saline soils, the amount of chlorides is high. It swam when adding chlorides formed from organic substances. When they are high, they have a detrimental effect on the body of the calf. If in non-saline areas there is a lot of chloride in the water, then this water poses a threat to the health of livestock.

If the water is high in sulfates (sulfuric acid salts), they give the water a bitter taste. It has a detrimental effect on the digestive function of the stomach and the phenomenon of food absorption.

Iron is found in almost all natural water. Its high concentration changes the chemical composition, color and taste of the water.

High content of calcium and magnesium salts in water (its organoleptic properties and the amount of food prepared, negatively affects the taste. With this use of water, the work of the gastrointestinal tract and the digestive tract is disrupted.

## **6. FEATURES OF CARE OF YOUNG CALVES' SKIN**

### **6.1. The importance of care for the skin of young calves**

The skin is the outer shell of the animal and the environment of its body protects against all influences and infections. Many microbes cannot enter the body if the integrity of the skin is not violated. But in



some cases, many microbes can enter the body through the sweat glands.

The skin is out for moisture, gases, mineral salts, harmful substances, various enzymes that destroy pathogenic microorganisms, secreting deadly substances and antiseptic oils. Their bactericidal effect is due to the acidity of the skin. Skin reaction is acidic environment (pH 3-6). Some microorganisms grow well in acidic environment.

Animal health is good if the skin is working properly and becomes resistant to disease. The main methods of skin care are cleansing, washing, bathing, epilation and skin treatment.

The skin is looked after, and the epidermis (the surface of the skin) is one of the dead cells, it is cleared of sweat, dust, dirt, microorganisms and so on. It keeps dirt on the skin for a long time, forming wrinkles and cracks. As a result, it is in those places for the survival of saprophytes, pus-forming and pathogenic microorganisms the environment is created. It is determined that hundreds of millions of microbes live in the skin on an area of 1 cm sq. This can compromise the integrity of the skin, allowing blood to enter and causing a wide variety of diseases. Sweat and fat downgrading result the glands come out. Delays occur that interfere with the skin's ability to absorb and regulate heat.

The skin contains a significant amount of water (up to 68% in cows) and contains mineral salts. The connective tissue balances loose and colloidal. It regulates the relationship between their bonds. When leaving at a low level, the skin is free (lice, warts, late blight), rashes, etc.) accumulate, multiply, eczema and other skin diseases occur.

## **6.2. Methods for skin care of young calves**

Each of the animal skins should be cleaned daily to prevent skin breakouts. It is usually more effective if cleaned in the morning before feeding. In the morning, the first gate of the pasture should open ventilation ducts, but should not be ventilated.

In young calves and cows, the skin is cleaned by hand with a brush made of short, tight horsehair or various synthetic materials. Hard toothbrushes cannot be used to brush hair. It irritates the skin, disrupts its integrity, tears and causes excessive anxiety to the animal.

On the farm, the skin of cattle is cleaned and looked after. it gives the best results if a special person is attached to it. Clean Equipment

used for storage should be stored in special cabinets and disinfected with hot alkaline or creole solution after use.

The first left side of the animal, the head, neck, front leg, its body, its thighs and its hind legs, and then right in that sequence should be removed from the side. You should brush 3-4 times. The left hand with your hand must first run towards the hair, and then in the opposite direction. Then a brush, you should clean the epidermis from rags, hair, dirt, etc. If the dirt is not removed, it is removed if it is dead and softened. Cleaning the animal takes 4-5 minutes. The skin of dairy cows should be cleaned within 30 minutes.

Mechanical cleaners and vacuum cleaners are also used for mechanical cleaning of leather. In this case the quality of cleaning is even higher. Mechanical cleaning of livestock, they quickly get used to it.



**Figure 6. Mechanical brush for skin care**

In hot weather, the cattle are washed and watered. If the used water is below body temperature, then local colds may occur.

The skin of the skin evaporates slowly. 4 times more warmth than dry skin loses a lot. Washed skin dries slowly. Cattle are washed with water at a temperature of 30 ° C. Nowadays four cows are washed for 5-10 minutes using a special cattle washing machine (DUK, LSD-1 and LSD-2).

Animals are washed twice a day on hot days in the air and an hour before feeding in the morning.

## **7. TRACE ELEMENTS REQUIREMENTS OF YOUNG CALVES**

### **7.1. Signs of micronutrient deficiency in calves**

**Iron deficiency in calves** is associated with maternal feeding. That is, the white calf's flesh is slaughtered, there are signs of anemia. That's all Iron deficiency is also known as white calf. Right calves gradually lose their appetite, their growth slows down and calves slow down. All bars are white. To the development of opportunistic infections a condition arises.

**Signs of copper deficiency in calves.** Copper animals provide growth in the body, blood production, normalization of redox processes, keratinization and pigmentation does. Absorption of copper iron from food is necessary for hemoglobin synthesis. Accelerates oxidation by direct air oxygen and several enzymes involved in tissue respiration, for example, they store.



**Figure 7. Copper Deficient Calf (Wall Licking Condition)**

Calves show symptoms of anemia and inactivity with copper deficiency. Difference from iron deficiency - iron deficiency does not improve with treatment. Then metabolism is disrupted and pathologies

such as swelling of the joints begin. As a result, lameness begins. Calves walk and bone fractures begin as a result of mechanical trauma. In calves, myopathy occurs and collapse, shortness of breath begins. Calves feel better after special treatments.

**Calves lack vitamin 12 or cobalt.** Young calves receive vitamin 12 with milk. When calves start eating on their own, large stomachs can usually avoid cobalt foods. This deficiency causes symptoms of anemia in calves. The use of copper and iron preparations does not relieve the symptoms of anemia. Cobalt is one of the most important substances in the formation of the microflora of the large abdomen. Diarrhea occurs with cobalt deficiency. Intestinal flatulence increases. Wet white wool, hard feces, sick calves eat soil and other dirty things.

**Symptoms of iodine deficiency in calves.** Hormonal deficiency occurs. Calves are born without hair swelling appears on the skin. The volume of the thyroid gland is increased in comparison with the correct calves. The gland grows like a hen's egg. In Iodine absence, the calves cannot survive and will die as a result of infections.

**Signs of manganese deficiency in calves.** In calves indicates a lack of manganese. Birth anomalies signs of weakness, dysplasia arthromidosis, enlarged joints, many the bones are short, the frontal jaws are swollen, with signs of lameness it happens.

**Signs of selenium deficiency in calves.** Myopathy symptoms include degenerative symptoms in muscle tissue differs in its output. Calf lameness occurs. The posture of calves changes, and asthma occurs as a result of a malfunction of the heart system. The backs of the calves are hollow, it is in a position where the tail is left and the legs are joined together. The breath diaphragm is short, kinked, the diaphragm moves. Calves are severely malnourished.

## **7.2. Preventive and treatment measures of micronutrient deficiencies of calves**

Injection of iron oxide (dextran) of calves –introduced in 1 gram. Various types of vitamins, mineral premixes without copper, zinc and other trace elements are used. Potassium iodide, a product of iodine, is used to treat iodine deficiency. But the result of treatment is low than prevention.

Iodized table salt is used to prevent disease. 1 kg of table salt contains 25 mg of potassium iodine. It works well with vitamin A and

potassium phosphorus supplements, as well as potassium iodide. gives results.

In case of copper deficiency 8-10 mg per 1 kg of dry matter for feed, otherwise, the calves should be supplemented with copper sulfate.

## **8. PROTECTING THE CALF FROM DISEASE AND TREATMENT**

Calves often get sick at an early age. 60-65% of calf diseases are caused by diseases of the gastrointestinal tract, especially diarrhea occurs within the first three weeks.

A healthy calf is always in motion, the hair is smooth and shiny costs. It has good appetite. The main indicators of calf health are: body temperature, and heart rate. These indicators of a healthy animal are: body temperature 37.5-39.5°C, pulse 50-80 beats per minute, respiratory rate 12-30 times.

Calf fever with infectious diseases, colds of the lungs, gastrointestinal tract and other internal organs rises. Often outdoors in direct sunlight or occasionally kept indoors without ventilation can exacerbate calf fever. Something when it is poisoned or sick, its body temperature drops below.

**Diarrhea** - is a common disease in calves. This can occur differently for a number of reasons, as well as minor errors in feeding and storage conditions. The main way to protect calves from gastrointestinal diseases is however, the cleanliness of the utensils used, the established agenda compliance with requirements, feeding only with good quality feed.

In case of diarrhea the milk is given to him immediately must halven, boiled water's amount should be increased and 2 hours after breastfeeding need to drink. Bitter tea in the form of a diuretic can be mixed milk, tea - a cup of tea in half a liter of milk.

Another of the most common diseases of calves is constipation. When the calf has constipation, its belly swells. We need to reduce the daily feed, as before. You have to give him some oil and massage his stomach.

Newborn calves also suffer from asphyxia (asthma) collided. The disease occurs when the calf is too large and the calf is too heavy. New Calf Breathing for Asthma you need to quickly clear the respiratory tract and get rid of moist moisture.

It must be given the heart medicine. If the recommended vaccine does not help with the aforementioned conditions, you need to apply contact veterinarian immediately

## **9. PREVENTION OF DIARRHEA INFECTIOUS DISEASES IN YOUNG CALVES AND TREATMENT**

### **9.1. Causes, prevalence and clinical symptoms of diarrhea in young calves**

Eighty-five percent of young calves present early in life are associated with diseases of the digestive system. Food -Diseases of the digestive system occur for various reasons. goes out and affects the development of young calves, reducing their resistance to disease.

If the calf is not immune to flies and insects and is depressed, then it is sick. If the calf constantly moans, makes noise, sticks out its tongue and breathes out of the mouth and if other behavioral changes have changed, it means that the physiological state is impaired.

The preservation of calves is the most important thing in animal husbandry; it is one of the most important tasks. Young calves in the first month often suffer from a variety of gastrointestinal diseases.

Diarrhea is caused by inappropriate feeding of livestock, storage on wet, dirty bedding, inappropriate handling and long periods of milking. Also, a new calf during suckling and late suckling, during periods of wind pain with improper sucking, dirty containers are used or calves flutter in the wind this happens even with storage and poor feed.

Young calves are more likely to be diagnosed with diarrhea early in their growth. So these are young calves Disease prevention is one of the most important tasks. These are acute infectious diseases caused by colienteritis and colisepsis. The main source of the causative agent of diarrheal diseases is urine, excreted from sick and sick calves, and urine is a liquid for the common cold. Through sick calves the causative agent of the disease is an epizootic. Diarrheal diseases are transmitted to calves through food and through the respiratory tract. Dirty feed, water, equipment used, soil, classes and livestock care are the main factors driving the pathogen. Unpleasant liquid aromatic diarrhea in calves during the first 5-10 days. It happens that the appetite does not increase, the temperature does not rise, on the contrary, the

temperature in severe cases decreases. In the case of abdominal contractions, the eyes are beautiful collapsed, and the area around his tail is always dirty.

The question arises as to why the calves do not have thirst symptoms. With diarrhea, sodium and potassium salts enter the small intestine with bile. And fluids were thrown out of the intestines. There is no need for water, as the amount of sodium and potassium salts in the blood decreases. As a result, the body absorbs large amounts of water. loses and dehydrates. Diarrhea and eye symptoms there are symptoms that seem to have disappeared. Squeezing of the ear sails is a sign of severe water loss in the body.

Prevention of diarrhea, sore throat, rice silage and other fast growing grasses to the rice rate should add less. He must be removed from milk in a timely manner and given a high-quality bed. You need to clean the cow's calf. The calf is clean keep him indoors and suck on milk as soon as possible, then breastfeed 4-5 times a day. This is the case with young calves also do not drink cow's milk.

The main causes of diarrhea:

- late suckling;
- delivery of cold milk;
- suckling with milk fat cows;
- mud - used equipment;
- non-observance of a certain interval during suckling;
- change of feed for dairy cows;
- the amount of protein in the feed is excessive to be;
- keeping calves in the wind;
- non-observance of sanitary rules on calves.

Table 5

**The symptoms of diarrhea in newborn calves**

Types	Causes		Period of emerging the disease	The symptoms of the disease	Types of typical dung
	Infections	Infections			
Noninfectious	Alimentary	Osmatic diarrhea	At different age	Chronic passes: cachexia, retention of development, often sleeps, unable to get up without help	The size of the dung is big like white land
				Acidosis, cachexia and the body lose a lot of water	The size of the dung is big like white land
				Chronic passes: cachexia, retention of development, often sleeps, unable to get up without help	The volume is less liquid Feces
			At different age	First of all, it remains hot-tempered-hypothermia	A lot of feces, liquid and Becomes yellow
				Temperature, depressin Syndrome, septicemia	Wet diarrhea, Fiber should be deposited and Unpleasant odor
			Hypopophoshatemi a	At different age	Vaccination, endotoxemia, and unexpected death
Infectious	Bacteria	E.coli	1-15 days	Fever is high, No treatment, hypovolemia Dies as a result of 72 hours	First thick, white moist, Then slides
		Salmonella spp	4-28 days and above	It has a temperature, depression sindrom	Yellow or blood dyed moist diaper
		C.Perfringens A,B we C	1-15 days and above	Pain, endotoksemises, suddenly death	
	Viruses	Rotaviruses	5-21 days	Fever is high, no treatment, hypovolemia Dies as a result of 72 hours	First thick, white moist, Then slides
		Coronaviruses	5-30 days		Yellow or blood dyed moist diaper



## 9.2. Prevention of infectious diseases with diarrhea and treatment

For the treatment of diarrhea in calves the following sequence is used:

- absorption of blood bacteria and their toxins prevent;
- antibiotics should be used;
- increase the acidity in the intestines;
- use mineral salts;
- improved storage conditions for calves and high quality to provide forage.

Calves have profuse diarrhea, great loss of body water, the use of symptomatic agents and aqueous solutions of electrolytes is recommended.

For the prevention of gastrointestinal diseases in young calves drink the following recommended remedies 1-3 days after birth:

- oral immunoglobulin, oral serum (serocolostrin) or nonspecific immunoglobulin should be taken;
- Take probiotics 2-3 times a day - bifidofluoro, enterobifidin, bifidumbacterin, lactobacterin and the like;
- vitamins (A, D, E), trace elements (selenium, iodine, cobalt) use;
- use immunostimulants (T-active, B-active, apistimulin-A, thymalin, mastim, buddy, etc.);
- Calf metabolism should be monitored. Special premixes, vitamins and minerals are used to improve metabolism and mineral supplements (kostovit forte, Immunofor, Biovit-2, Oligovit, etc.).

When calves are transferred from one feed to another, glucose or sucrose (100-120 grams) is added to the isotonic sodium chloride solution(1 liter). .

Intravenous in calves in the amount of 40-50 ml of 40% intravenous glucose solution should be released once a day.

Calves show clinical symptoms of gastrointestinal disease. 1% sodium chloride solution, flax seeds, shepherd's purse boils and boils of other medicinal plants should be drunk in small quantities (0.5-0.7 liters).

Calves are highly contagious with rotavirus, coronavirus and parvovirus, which means vitamin A deficiency. In such cases 50,000 - 100,000 units of vitamin A in meat should be administered once a day.

If the calves are deficient in other vitamins in the body, 50-100 mg of milk (vitamin B1) with milk during the day and ascorbic acid (vitamin C) in the amount of 0.5-1 grams should be drunk.

In this case, the food is prepared and drunk from traditional tea. For its preparation, a liter of tea contains three egg whites and 10 grams of table salt is added. 1 kg of live weight from the resulting solution must drink 5-10 grams.

With a decrease in the hemoglobin level in young calves, the following clinical symptoms were taken:

- decrease in behavioral activity;
- begins to suck the equipment out;
- the skin begins to stick to the wall at night;
- what the body finds due to lack of nutrients licks and begins to swallow.

To maintain the stability of the microflora of the digestive system, probiotics-bifidofluoro, enterobifidin, bifidumbacterin and lactobacterin is used. These probiotics have no side effects. It regulates digestion. Increases the absorption of fats, salts and iron. It has an immunostimulating effect. In body reduces nitrate retention and makes food toxic (toxic) prevents their effects. These drugs are environmentally friendly the product is calculated. They are found in the wet bars of the digestive tract.

It performs a barrier function. Reduces the harmful effects of foods produced by other bacteria and viruses. Probiotics 50-100 ml once a day for three days drunk. 100 ml twice a day for the treatment of diseases is drunk with the addition of milk.

Regulates cellular immunity to prevent immunodeficiency in young calves - thymopoietin, thymosin, thymolin, thymostimulin, T-activin, apistimulin-A, vitamin C, mastimoma, dostim, etc. used.

Regulate the enzymatic activity of shepherd calves, improve the function of the pancreas, gastric juice, cuticulin, pepsin, chymopsin, pancreatin, renin, etc. used.

In the early stages of gastrointestinal disorders, 1-2% sodium bicarbonate solution for pathogenetic treatment is given 10-15 minutes before feeding in 200 ml.

This neutralizes the acidity of the shepherd, her peristalsis restores and increases the buffering properties of the blood. 700 grams of tea added a teaspoon of baking soda, 100 grams of table salt, 30 grams of rivanol and a cup of tea before feeding the calves 2-3 times a day. 50

grams instead of rivanol you can also use furazolidone. Made from plants such as wormwood, chickpeas and beets. alcoholic solutions also have a strong therapeutic effect. Their boil 20 grams of dry matter in 2 liters of water for cooking, Leave for 45 minutes and strain through cheesecloth. Ready boiling water 5% alcohol solution 15 ml of iodine, 200 g of glucose ash and 300 grams of wine is added. Then add 3 liters of boiling water. Each calf is injected with 500-600 ml of the finished solution.

Also, the course of treatment includes 100-150 ml of alcoholic solutions for intravenous administration. it also has an effective effect on dispensing or drinking alcohol. For its preparation, 500 ml of 0.9% sodium chloride solution, 50 grams of glucose and 50 ml of purified (processed) ethyl alcohol.

To relieve dehydration and intoxication in sick calves, the following saline solutions are used (intravenously, into the skin, into the stomach):

- 0.85% of sodium chloride solution;
- Kalinat;
- 5% of glucose solution;
- rehydroltan;
- Ringer-Locke;
- arterial hypertension (according to L.A. Afanasyev);
- serohydrolysin and the like.

Plasma substitutes are also:

- hemodesis;
- polyglucin and the like.

Polyglyukin:

- regulates blood volume;
- regulates blood pressure;
- regulates the blood flow of tissue fluid;
- Regulation of kidney function and intoxication (poisoning)

removes.

### **Polygamy Uses:**

It is allocated at the rate of 10-15 ml / kg for live weight for calves. For example, the live weight of a calf is 30 kg, 300-450 ml, released for 2-3 days. To reduce the loss of water by the body after isotonic solutions intravenous hypertonic solutions are used. This is 5-10% sodium chloride solution, 10% calcium chloride solution, 20% calcium borgluconate, 20-40% glucose solution with ascorbic acid (50-100 ml).

It also prevents and treats gastrointestinal diseases antibiotics are also used. The desired result can be better obtained if antibiotics are used to determine their susceptibility to microbes. Therefore, obtaining pathological material from sick calves is bacteriological. Tests determine their susceptibility to microbes.

*Table 6*

**Methods of using antibiotics in young calves**

<b>Names of antibiotics</b>	<b>Releasing way</b>	<b>Transmission of the disease types</b>	<b>The amount of use and frequency</b>
1	2	3	4
Gentamicin	Peroral (drink)	Intestine	750 mg on the first day of treatment, 600 mg in the last 2-4 days used twice a day
Gentamicin 4-5% liquid	Into the meat	Septic	During the day and night 4-5 ml twice 3-5 days used during
Neomycin sulfate	Into the meat	Septic	During the night at 360-450 mg Used 3 times a day for 3 days
	Peroral (drink)	Intestine	During the night at 1-1.2 g Used 3 times a day for 3 days
Polymyxin M and B sulfate, ash	Into the meat	Septic	The living weight of the body is 10,000 2-3 times per day per kg once every 3-5 days
	Peroral (drink)	Intestine	The living weight of the body is 20-50 per thousand units per day Used 3-5 days 2-3 times
Enroxan injection for (5% enrofloxacin)	Into the meat	Septic	Living weight is 1 ml per 20 kg. 3-5 days once a day is marked
Oxytetracycline-200, (1 ml 200 mg oxide tracycline)	Peroral (drink)	Septic	Living weight is 20 mg / kg or 1 ml 10 kg live weight per day used once every three days
Sultprim, 100 grams ash 10 grams tetracycline, 5 grams sulfamethoxazole and 2grams trimetoprim holds	Into the leather	Intestine	10 kg self weigh 2.6 grams throughout the day once 30 minutes of forage 3-5 days before delivery used

Table 7

## Antibiotic compatibility (side effects)

	пенициллины	цефалоспорины	эритромицин	тетрациклины	тилозин	стрептомицин	неомицин	канамисин	gentamisin	linkomisin	flýumekwin	sulfanilamidler	tiamulin	kolistin	spektinomisin	doksisiklin	enrofloksasin
penisillinler		++	-	-	-	++	++	++	++	-	++	+	-	++	++	-	++
sefalosporinler	++		-	-	-	++	++	++	++	-	++	+	-	++	++	-	++
eritromisin	-	-		++	++	-	++	-	-	+	x	++	++	++	++	++	x
tetrasiklinler	-	-	++		++	+	-	+	+	++	-	++		++	-	++	-
tilozin	-	-	++	++		++	++	++	++	-	x	x	++	++	++	++	x
streptomisin	++	++	-	+	++		x	x	x	+	++	+	++	x	++	-	++
neomisin	++	++	++	-	++	x		x	x	+	++	+	++	x	++	-	++
kanamisin	++	++	++	+	++	x	x		x	+	++	+	++	x	++	-	++
gentamisin	++	++	-	+	++	x	x	x		-	++	+	++	x	++	-	++
linkomisin	-	-	+	++	-	+	+	+	-		x	++	++	++	++	++	x
flýumekwin	++	++	x	-	x	++	++	++	++	x		+	++	++	++	-	++
sulfanilamidler	+	+	++	++	x	+	+	+	+	++	+		++	++	-	-	+
tiamulin	-	-	++	++	++	++	++	++	++	++	++	++		++	++	++	++
kolistin	++	++	++	++	++	x	x	x	x	++	++	++	++		x	++	++
spektinomisin	++	++	++	-	++	++	++	++	++	++	++	-	++	x		-	++
doksisiklin	-	-	++	++	++	-	-	-	-	++	-	-	++	++	-		-
enrofloksasin	++	++	x	-	x	++	++	++	++	x	++	+	++	++	++	-	

Note: "++" - enhances the effect, "+" - weakens the effect, "-" - weakens the effect, "x" - increases toxicity.

It is also important to know which medications to use in order to improve the effectiveness of treatment and prevention availability, exact quantity and choice of uses should be able to. Calves need to have antibiotics with them.

Prescribe drugs that improve the microflora of the gastrointestinal tract. Eitropic treatment is prescribed in the direction of pathogenic microbes.

That is, antibiotics, sulfonamides and other antibacterial agents are used.

For that:

- bacterial sensitivity;
- compatibility of antibiotics with other medicines;
- duration of treatment;
- Indicators such as the method of use are selected and taken into account

Diseases of the anterior chambers of the stomach of calves treatment:

- to reduce the rate of nutrition;
- reduce the amount of large grasses if the calf does not digest;
- healthy large, to regulate the fermentation of a large stomach

The animal should insert a tube into the abdominal cavity to measure the weight of the abdomen or to release a mixture of propionic acid and trace minerals.

## **10. VACCINATION OF PREVENTION OF INFECTIOUS DISEASES OF YOUNG ANIMALS**

- Infectious rhinotracheitis, viral diarrhea at the age of 7-10 days and must be vaccinated against parainfluenza-3 (epizootic condition) depending on indicators);

- vaccinate against paratyphoid fever and pasteurellosis at the age of 14-17 days;

- Against delayed diarrhea after 21-24 days of age (ringworm) get vaccinated;

- Infectious rhinotracheitis, viral at the age of 28 to 31 days it is necessary to re-vaccinate against diarrhea and parainfluenza-3 (epizootic depending on the indicators of the situation);

- Against paratyphoid fever and pasteurellosis after 30-35 days of age revak shinashi;

- Against delayed diarrhea between the ages of 38 and 40 days (ringworm) must be vaccinated.

## REFERENCES

1. *Gurbanguly Berdimuhamedow*. Türkmenistanyň dermanlyk ösümlükleri. – Aşgabat, 2010.
2. “Türkmenistany dumaş-ykdysady taýdan ösdürmegiň 2011-2030-njy ýyllar üçin esasy ugurlary“. Milli maksatnamasy, 2010.
3. *Annamammedow Ö.*, *Nurgeldiýew H.*, *Nazarow N.* – Gara maldarçylygy alyp barmak boýunça gollanma. – Aşgabat: Ýlym, 2011.
4. *Nurgeldiýew H.*, *Çerkezow A.* – Gara maldarçylykda ýaş mallary ösdürmegiň tehnologiýasy. Kitap: Berkarar döwletimiziň bagtyýarlyk döwründe maldarçylyk ylmy ösüş ýolunda. Ýlmy makalalaryň ýygyndysy. – Aşgabat: Ýlym, 2017. 35-49 sah.
5. *Гусева К.М.* Телята в домашнем хозяйстве // Московский рабочий, 1985.
6. *Лазаренко В.Н.*, *Эпштейн*. Выращивание телёнка. – М.: Россельхозиздат, 1985.
7. *Мухеев Г.Д.*, *Гаврилова Т.И.* Корма Туркменской ССР (состав и питательность). – Ашгабад: Ылым, 1977.
8. Нормы и рационы кормления сельскохозяйственных животных. Справочное пособие. – М.: Агропромиздат, 1985.
9. *Сидоров М.А.* Основы профилактики желудочно-кишечных заболеваний новорожденных животных.// Ветери нария. 1998. №1.

### Cows calving calendar (average 280 days)

<b>Fertilized</b>	<b>To be calved</b>	<b>Fertilized</b>	<b>To be calved</b>	<b>Fertilized</b>	<b>To be calved</b>	<b>Fertilized</b>	<b>To be calved</b>
<b>Date</b>		<b>Date</b>		<b>Date</b>		<b>Date</b>	
<b>January</b>	<b>October</b>	<b>April</b>	<b>January</b>	<b>July</b>	<b>April</b>	<b>October</b>	<b>July</b>
1	70	1	5	1	6	1	7
5	11	5	9	5	10	5	11
10	16	10	14	10	15	10	16
15	21	15	19	15	20	15	21
20	26	20	24	20	25	20	26
25	31	25	29	25	30	25	31
<b>February</b>	<b>November</b>	<b>May</b>	<b>February</b>	<b>August</b>	<b>May</b>	<b>November</b>	<b>August</b>
1	7	1	4	1	7	1	7
5	11	5	8	5	11	5	11
10	16	10	13	10	16	10	16
15	21	15	18	15	21	15	21
20	26	20	23	20	26	20	26
25	1 (december)	25	28	25	31	25	31
<b>March</b>	<b>December</b>	<b>June</b>	<b>March</b>	<b>September</b>	<b>June</b>	<b>december</b>	<b>september</b>
1	5	1	7	1	7	1	6
5	9	5	11	5	11	5	10
10	14	10	16	10	16	10	15
15	19	15	21	15	21	15	20
20	24	20	26	20	26	20	25
25	29	25	31	25	1(July)	25	30



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INSTITUTE OF LIVESTOCK BREEDING AND VETERINARY

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EFFECTIVE METHODS OF KEEPING AND  
FEEDING THE YOUNG CALVES