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Abstract. Currently, in Uzbekistan, livestock accounts for 57.9% of the total gross agricultural output. The article discusses a new method of growing and feeding young cattle in the hot climate of Uzbekistan. The factors influencing the growth and development of animals in the early postembryonic period, methods of feeding milk and colostrum, modern methods of feeding, zoohygienic parameters of the microclimate in lightweight rooms and in individual houses, morphological parameters of blood and exterior features of calves are taken on different ways of content. For the purpose of more intensive rearing of young cattle in the hot climate of Uzbekistan, is recommended to use inexpensive lightweight premises and individual houses. Analysis of the data on the content of erythrocytes, leukocytes and hemoglobin indicates that age-related changes in these indicators in bulls of all groups are within the physiological norm.

1. Introduction

Currently, in Uzbekistan, livestock accounts for 57.9% of the total gross agricultural output. This industry plays an important role in the regeneration of the income of rural residents of the country, therefore, the problems and prospects of its development are in the priority of the agricultural policy of Uzbekistan. During the years of independence, significant changes have taken place in the country's agricultural sector. Dekhkan and private farms have become the main agricultural producers as an alternative with state and collective farms. Currently, more than 90% of all livestock production is produced on small dekhkan farms [1-6].

Analyzing data on meat production by categories of farms for January-June 2020, it should be noted that the largest volume of meat was recorded on dekhkan (personal subsidiary) farms - 1,057.7 thousand tons, or 92.7% of the total production. During this period, the smallest volume of meat production was observed in state organizations involved in agricultural activities - 37.4 thousand tons, or 3.3% of the total production. The problem of increasing the production of meat, particularly beef, improving its quality and reducing the cost are some of the urgent problems of the agro-industrial complex of Uzbekistan and of great national economic importance. The solution to these issues largely depend on the development and usage of practicing of effective technologies for growing and fattening young animals, a more complete use of the maximum genetic potential of meat productivity with minimum consumption of feed, funds and labor per unit of production.

The use of innovative technologies play an important role in all areas of our life, and their main

function is to make the process better, faster and more efficient. The genetic potential of young cattle in the production of beef is not fully realized in most agricultural enterprises, dekhkan (personal subsidiary) and private farms, so the raising and fattening of bull calves are carried out with high labor costs, material and technical resources, which lead to low efficiency and profitability of beef production , makes the industry uncompetitive in market economy. The lack of such studies in the Republic prompt us to conduct scientific and economic experiments on developing a comparative study of the influence of various methods of keeping, growing and fattening young cattle, in lightweight buildings and in individual houses.

2. The purpose and objectives of the study

The purpose of the study is to comparatively study the effectiveness of resource-saving technology for growing and fattening young cattle in light rooms of an arched structure and in individual houses. To achieve this goal, the following tasks were set:

To study the growth rates of development of calves raised in lightweight buildings and in individual houses; determine feed costs per unit of gaining weight of livestock.

Give quantitative and qualitative assessment of the meat productivity of the experimental young animals. Calculate the economic efficiency of raising young cattle bulls in lightweight buildings and in individual houses.

3. Scientific novelty of the research

For the first time in the hot climate of Uzbekistan, rational options for resource-saving technologies for growing and fattening bull calves in a cold way are being developed.

4. The theoretical and practical significance of the work

The obtained research results are scientific justification for the development of recommendations on the technology of growing and fattening of young cattle in lightweight buildings and in individual houses. The results of the research done will make it possible to determine new technological solutions for raising young cattle, in order to increase the production of beef on specialized farms, on small farms and farms of Uzbekistan.

5. Materials and research methods

The methodological basis for the research was the works and positions of scientists in the field of beef cattle breeding. In the studies, analytical, zootechnical, clinical, computational-static research methods were used generally accepted in zootechnics. To carry out the experiment, 3 groups of red-steppe bulls, 15 heads each, were formed according to the principle of analogs according to the following scheme (Table 1).

Table 1. Experience scheme

Group	Technology option		
	From birth to 2 months	From 2 to 12 months	From 12 to 18 months
Control	Closed rooms, group content without a tether.	On sites with a shady canopy, group content without a leash.	Fattening indoors on a leash.
The 1st experiment	In individual houses	On sites with a shady canopy, group content without a leash.	Fattening in shady areas on a leash.
The 2nd experiment	In lightweight buildings and in individual cages.	In buildings of lightweight construction for group maintenance with walkings.	Fattening in shady areas on a leash.

The change in live weight and the main body measurements of the experimental groups were carried out when setting up for the experiment at the age of 3, 6. 9, 12, 15, 18 months. The calves were weighed before morning feeding and drinking. Based on these data, the absolute, relative and average daily gain in live weight was calculated. The linear growth of animals was studied by taking basic body measurements. Body indices were calculated based on these measurements. The consumption of feed was taken into account by the given feed and their residues during two adjacent days.

The morphological composition of blood was studied by seasons of the year on 5 gobies from each group. The number of erythrocytes and leukocytes - by counting through the Goryaev's chamber. The content of hemoglobin in the blood - according to the Sali method. Calcium content - according to De Ward's method, phosphorus - according to Brisg, total protein - using a refractometer. The obtained digital materials was processed by the method of variation statistics by K.E. Merkurova.

6. Research results

In our experiment, afterbirth, bulls were kept in a stall together with the materials for two days. Then the gobies of the controled group were transferred to the premises and kept in group pens for up to 2 months (five heads in each). And the bulls of the 1st experimental group were transferred to individual houses. A calf house is made of fiberglass reinforced polyester, so it is not affected by solar radiation and extremely high and low temperatures.

This palette guarantees the necessary strength, so the service of the houses is practically unlimited. The dimensions of the pallete are: length - 150, width - 120, height - 125 cm. Fencing: length - 150, width - 120, height - 1000 cm. The bulls of the II experimental group in rooms of lightweight construction: a room is an arched structure covered with a tarpaulin; the posts of the arched frame are made of corrugated sheet steel with a thickness of 1 mm, the contact area of the metal post with the tarpaulin covering is 5 cm, which keeps heating on hot days. In addition, the white color of the tarpaulin reflects excessive solar radiation. The area of the room depends on the number of arches to be installed. For the experiment, we chose a room 10 m long, 8.2 m wide and 3.5 m high. Inside the room, there are individual cages with dimensions: length - 1.95 m, width 1.10, height - 0.93 m.

At the age from 2 to 12 months, the animals under control- and I-st experimental group are in open areas with shady canopies, the II-nd experimental group - in buildings of lightweight construction has walk.

At the age of 12 to 18 months, the animals' groups under the control are enclosed in rooms on a leash. The fattening of livestock of the I and II experimental groups is carried out on the site with a shady canopy on a leash.

The feeding ration of the experimental young animals was arrenged into ages, live weight and planned (expected) productivity [7]. It is known that the individual development of an animal occurs as a result of a complex interaction of the genotype and certain conditions of feeding and housing, in which the genetic potential is realized. The change in the live weight of the experimental bulls with different methods of keeping and individual age periods are presented in table 2.

Table 2. Experience scheme

	Group		
Age, months	Control	The 1st experimental	The 2nd experimental
1-15 days	36±0.82	35.7±0.88	38±0.84
3 months	83±0.88	87.6±1.04	90.2±1.02
6 months	140±1.60	147±1.72	149±1.38
9 months	204±1.36	215.6±1.44	217.6±168
12 months	270±2.82	285±2.64	290±2.90

From table 2, it can be seen that the use of various methods of keeping young cattle in lightweight buildings, in individual cages and in houses had a noticeable effect on the characteristics of growth; significant differences were established between groups of separate age periods. Gobies raised in lightweight buildings and in individual houses at 12 months of age outnumbered their peers in the control group by 20 and 16 kg, or 7.40 and 592% (P> 0.990).

One of the potent factors on the growth and development of animals in the early postembryonic period is the "cold" way of keeping, which ensures, first of all, the presence of fresh air and the absence of ammonia, which is harmful to the calf's lungs. The presence of ammonia, even 5-10 times lower than the MPC (26 mg / m3), inhibits the development of the body, contributes to pulmonary and intestinal diseases. Natural sunlight, isolation of each calf from potential sources of infection, elimination of feed competition, individual observation and care of the calves make it possible to ensure better development growth [8, 9].

Thus, the cultivation of red-steppe gobies in lightweight buildings, in individual houses and on sites in Uzbekistan makes it possible to increase the average daily sprout and live weight of gobies with the same feeding. The most important economically useful characteristics of animals, their stability and ability to adapt to the conditions of keeping in lightweight rooms and on the site are expressed in their interior parameters, in particular, in the morphological composition of blood (Table 3).

Table 3. Morphological parameters of the blood of experimental bulls

	Group		
Age, months	Control	The 1st experimental	The 2nd experimental
	Hemoglobin, g /%		
1	9.50±0.5	9.56±0.4	9.53±0.9
3	9.70±0.7	9.86±0.6	9.90±0.5
6	10.1±0.3	10.21±0.5	10.28±0.6
9	10.2±0.3	10.18±0.4	10.25±0.6
12	9.78±0.4	9.84±0.3	9.90±0.6
	Erythrocytes, mln / ml^3		
1	7.11±0.9	7.15±0.8	7.12±0.7
3	7.28±0.5	7.36±0.3	7.40±0.4
6	7.50±0.4	7.61±0.7	7.70±0.6
9	8.16±0.5	8.20±0.4	8.30±0.3
12	7.68±0.5	7.70±0.5	7.76±0.3
	Leukocytes, thousand / ml^3		
1	5.76±0.7	5.80±0.6	5.79±0.9
3	5.80±0.6	5.78±0.5	5.82±0.3
6	6.0±0.6	5.90±0.4	5.88±0.5
9	6.18±0.7	6.16±0.6	6.14±0.4
12	5.86±0.7	5.80±0.5	5.82±0.6

From Table 3 it can be seen that when setting the hemoglobin content in all groups was 9.50, 9.56 and 9.53 g%. At 12 months of age, bulls kept in lightweight rooms outperformed their peers in the control group by 0.6 g%, 0.12 g%, or 0.61 g%, 1.22%. Similar differences between the compared groups of bulls are observed in the number of erythrocytes in the blood, which indicate a higher metabolism of the first and second experimental groups in animals, a better ability to absorb oxygen during respiration, supplying tissues and organs with them. Leukocytes play an important role in the reactivity of the organism. The analysis of numerous literature data shows that livestock of different breeds under the same feeding procedures, not under similar conditions of housing, uses the nutrients of th*9+/e feed differently and possesses different productivity [10, 11, 12]. The mechanism of their action is aimed at incubation of outer influences, the formation of cellular and humoral factors of the body's defense, migration into tissues for their restoration. So, at 1 month of age, the content of this component in the blood of animals was 5.76 5.79 5.80 at 12 months of age 5.86 5.80 5.82.

The analysis of the data on the content of erythrocytes, leukocytes and hemoglobin indicates that age-related changes in these indicators in bulls of all groups are within the physiological norm.

7. Conclusions and recommendations

Growing red-steppe gobies in lightweight rooms and in individual houses or on sites allows increasing the average daily gain and live weight of gobies with the same feeding. In all age periods, bulls are characterized by a higher metabolism; the 1st and 2nd experimental groups kept in lightweight rooms are distinguished by better values of cellular and humoral factors of the body's defense than in the controlled group. For the purpose of more intensive rearing of young cattle in the hot climate of Uzbekistan, is recommended to use inexpensive lightweight premises and individual houses.

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