Main trends and prospects for the development of beef cattle breeding in the Urals federal district

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Abstract. The article presents the main tendencies and prospects of development of the meat cattle breeding industry in the Ural Federal District. It is shown that the industry plays an important role in the production of quality beef. Mentioned is the quantity of cattle of beef production direction in the regions of the Ural Federal District, breed composition of cattle, availability of breeding reproducers. The applied technologies of beef cattle breeding, availability of breeding programs for work with large cattle of beef productivity direction, interrelation between breeding reproducers, peasant-farming farms and fattening grounds are shown. On the basis of the received results prospects of development of branch of beef cattle breeding, necessity of development of the small enterprises on cultivation of breeds of beef cattle are developed, and also necessity of development of fattening pads is established. Along with creation of fattening enterprises, it is necessary to pay attention to breeding work with breeds of beef cattle. Each subject of the Ural Federal District needs its own program of tribal work with breeds of meat production. In order to ensure uninterrupted supply of young animals with fattening pads, it is necessary to develop peasant farms and private subsidiary farms. The existing pedigree factories and tribal loudspeakers will provide small forms of management of tribal youngsters. This will provide jobs and employment for the population of remote villages and villages, and will allow the efficient use of agricultural land. Consumer cooperatives and livestock associations can be a connecting link. These structures will coordinate technological and breeding issues, development of modern technologies. Performance of tasks on increase in production of high-quality beef is connected with effective use of breed resources of large cattle of a meat direction of productivity, realisation of their selection-genetic potential, creation of optimum conditions for the maintenance of animals.

1. Introduction
Livestock production in the Russian Federation has been growing rapidly in recent years. According to reports H A Amerkhanova, S A Miroshnikova [1] beef production in beef cattle breeding increased by 7.5 times in the period from 2009 to 2018, and the number of cattle reproduced according to the “cow calf” technology more than 5 times. By 2025, the number of beef cattle of specialized beef breeds, according to their forecasts, should reach 10 million heads. The development of beef cattle breeding is carried out both with the use of domestic breeds of livestock, and with the involvement of foreign breeds of cattle [2, 3].
In recent years, Russia's beef cattle breeding has involved the world's best beef cattle breeds. The Aberdeen-Angushtian breed is widespread in the country, as well as the French meat breed and the Symmental breed is used as the meat breed.

The natural conditions of the Urals Federal District are favorable for the development of the industry. The region has a sufficient number of pastures, hayfields and pastures occupying 56% of the total area. In recent years, several breeding farms have been formed where beef cattle are concentrated. Creation of pedigree loudspeakers feeds the commercial part of the industry with highly productive animals of meat breeds. In addition, bulls raised in breeding loudspeakers are used for industrial crossbreeding. The region has created breeding reproducers of cattle breeds of beef production direction. It has allowed providing commodity farms with necessary quantity of breeding young animals for the organization of meat farms on reproduction of animals for fattening, and also cultivation of bulls for their use in industrial crossing with dairy breeds of cattle [4-8].

The aim was to analyze the state of beef cattle breeding in the Urals Federal District and determine the main trends in the industry.

2. Material and research methodology
The development of the meat cattle breeding industry makes it possible to reduce dependence on imports of both beef and pedigree animals. According to the statistical data, the breed composition of cattle of the meat production direction in the Ural Federal District has been analyzed. The comparative estimation of dynamics of cattle population of beef breeds and quantity of cows of beef direction of productivity is carried out. Quantities of cattle of the meat direction of productivity of the English root of origin (Aberdeen-Angus, Gereford), and of the French origin (limousine, ruck, salers and charolais) were determined. Availability of pedigree reproducers in the regions of the Urals Federal District. The applied technologies of beef cattle breeding, availability of breeding programs for work with large cattle of beef productivity direction, interrelation between breeding reproducers, peasant-farming farms and fattening grounds are shown.

On the basis of the received results prospects of development of branch of beef cattle breeding, necessity of development of the small enterprises on cultivation of breeds of beef cattle are developed, and also necessity of development of fattening pads is established.

According to the statistical data, we analyzed the livestock breed composition in the regions of the Urals Federal District. Based on the results obtained, we have developed prospects for the development of the meat industry from cattle breeding.

3. Results of the research
The dynamics of cattle of specialized beef breeds bred in the Urals Federal District of the Russian Federation is shown in Figure 1.

**Figure 1. Dynamics of the number of cattle in the beef production direction.**

In the Urals Federal District, the Chelyabinsk Region is the leader in the number of beef cattle. The quantity of cattle of a meat direction of productivity has made 34046 heads. Over the past three years, the
Chelyabinsk Region has seen a significant reduction in the beef cattle productivity by 17.4%. Over the past three years, the number of beef cattle increased by 5.8% in the Tyumen region, 28% in the Kurgan region and the increase in beef cattle productivity in the Sverdlovsk region was 37%. In general, the number of beef cattle in the Urals Federal District decreased by 1233 heads. The ability to reproduce and further develop the industry depends largely on the number of breeding stock. The number of cows is shown in Figure 2.

**Figure 2.** Evolution of the number of cows in the meat production area.

The total number of cows of meat productivity in the district was 28359 heads. The largest number of cows in the Chelyabinsk region is 15692 heads, which is more than half of all cows of meat direction in the region. Three constituent entities of the Russian Federation are experiencing an increase in the number of meat cows. Thus, in the Tyumen Oblast the number of cows increased by 1662 heads, in the Kurgan Oblast by 1468 heads, and in the Sverdlovsk Oblast by 646 heads.

A huge role in the development of the industry is played by pedigree reproducers and pedigree factories. Pedigree factories and reproducers carry out purposeful work on improvement of breeding and productive qualities of animals, influence all branch.

The Chelyabinsk Region is a historical region with developed meat cattle breeding, as evidenced by the number of breeding enterprises. The Chelyabinsk Region has six breeding plants for breeding the Gereford breed, four breeding reproducers of the same breed, and two breeding reproducers for breeding the Simmental breed of Bradyn meat type.

In the Tyumen region, there are three breeding reproducers for cattle breeding of the Gereford breed: Bison LLC, Omutinsky District, Padunskoye CJSC, Zavodoukovsky District, Gereford LLC, Tobolsk District. Since November 2018, Bison LLC has been a pedigree reproducer for the fraction breed.

In the Kurgan region there is a breeding plant for breeding the Aberdeen-Anguska cattle breed, two breeding reproducers for the Aberdeen-Anguska breed and one breeding reproducer for breeding the Gereford cattle breed.

In the Sverdlovsk region there is one breeding reproducer for breeding a Gereford breed cat.

In the Ural Federal District, the Gereford breed is the most popular among agricultural producers and farmers. In the Sverdlovsk Oblast all meat breeds are represented by the Gereford breed. In the Chelyabinsk Oblast, its share in the total structure of beef cattle breeds is 91.2%, in the Tyumen Oblast 55.9, and in the Kurgan Oblast 65.3%.

The greatest variety of beef cattle breeds in the Tyumen Oblast, where 6 breeds are bred. The most widespread after the Gereford is the breed of oracle - 23.5% of the total number of cattle. The percentage of other breeds is not significant.

Beef cattle breeding promotes employment in remote rural settlements. Further development of beef cattle breeding is constrained by the lack of differentiated prices for high-quality beef obtained from young beef breeds.

The region has accumulated sufficient experience in working with "cow-calf" reproducers. Further rearing and fattening of the calves is most often done directly in these reproducers. The effectiveness of
this method is extremely low. Therefore, it is necessary to create fattening pads, which will be engaged in rearing and fattening of young meat breeds and super-repair young milk breeds and the sale of the resulting cattle for slaughter. The concentration of livestock on such sites can be from 10 thousand heads to 20 thousand heads.

Feeding grounds can be equipped with super-repair youngsters from specialized dairy farms. When constructing fattening grounds, one should take into account the requirements to them, taking into account the fact that this is a complex engineering structure.

It is necessary to take into account that the fattening ground is a complicated production both technically and organizationally. The effectiveness of such content will depend on the analysis and implementation of science and industry achievements in this area. Creation of fattening grounds will allow intensifying beef production, animals will be fed until high slaughter conditions are reached.

Along with creation of fattening enterprises, it is necessary to pay attention to breeding work with breeds of beef cattle. Each subject of the Ural Federal District needs its own program of tribal work with breeds of meat production. This program should provide for modern methods of selection of livestock breeds, which are able to ensure the improvement of individual structural elements of the breed. Moreover, it should ensure the competitiveness not only within the region and zone, but also at the Russian level as a whole. This is important because the share of beef cattle breeds in the region will continue to grow.

In order to ensure uninterrupted supply of young animals with fattening pads, it is necessary to develop peasant farms and private subsidiary farms. The existing pedigree factories and tribal loudspeakers will provide small forms of management of tribal youngsters. This will provide jobs and employment for the population of remote villages and villages, and will allow the efficient use of agricultural land. Consumer cooperatives and livestock associations can be a connecting link. These structures will coordinate technological and breeding issues, development of modern technologies.

All pedigree work will be concentrated in pedigree factories and pedigree reproducers, the commodity part of the breeding stock will be transferred under the contract or under other conditions to small forms of management. This will allow the industry to operate more efficiently.

4. Conclusion

Performance of tasks on increase in production of high-quality beef is connected with effective use of breed resources of large cattle of a meat direction of productivity, realisation of their selection-genetic potential, creation of optimum conditions for the maintenance of animals.

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