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Canadian Western Agribition

The Next Generation

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Canadian Herefords in Russia

A Report from Russia

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Beef cattle breeding is a new area of livestock breeding in Russia. The share of beef cattle has increased from three per cent to 15 per cent over the last decade. However, most available beef in the country still originates from dairy cattle and combined breeds, that generally have inferior carcass quality. An increase in the beef herd and the reclamation of more than 12 million hectares of fallow land will contribute to the solution of this problem.

The Hereford breed is of particular value for Russia. This independent, long-established breed is competitive with many beef breeds. And the highly adaptive qualities of livestock make it possible to reclaim new climatic zones. Herefords are bred in more than 20 regions with different

natural and climatic zones: from the fertile Krasnodar and Stavropol Territories to extreme the Buryatia, Southern Urals, Khakassia, Krasnoyarsk Territory and the Altai Republic.

The adaptability to breeding in steppe, forest-steppe and semi-desert conditions is an important quality of Herefords. They are known for making good use of pasture, while maintaining high fertility and good weight gain on feed, even without additional supplementation with concentrates or other feeds. Easy calving, calm temperament and a strong constitution, allow them to move several dozens of kilometers every day. The special significance of these animals is their contribution to hybridization. Reproductive crossbreeding with the Kyrgyz and

Kalmyk cattle contributed to the development of the Kazakh White-Breed. However, the Herefords bulls are widely crossed with the Kazakh white-headed cows in breeding and commercial herds. The purebred Hereford bulls are successfully used for breeding dairy cattle.

Herefords first arrived in Russia in the 1930s from countries with highly developed beef cattle breeding. Animals of the Canadian selection were the most widespread. Up to 80% of livestock were bred in different climatic zones of Russia.

From 2006 to 2015, the number of the Hereford cattle on breeding farms increased from 39.8 to 90.0 thousand head. Hereford cattle represent about 12% of existing beef breeds in Russia. The best livestock is concentrated on 20 breeding



Sire Snow 27094 - Ural Hereford (From selected Canadian genetics).
Live Mature Weight: 1,300 kgs (2,866 lbs) * Age: 6 years
The elite record class. Owned by LLC "Experimentalnoye" of Orenburg region



Sire Nectar 24038 - Ural Hereford (From selected Canadian genetics).
Weight: 1,150 kgs (2,535 lbs) * Age: 5 years * Height at rump: 150 cm
The elite record class. Owned by LLC "Experimentalnoye" of Orenburg region

farms and 67 multiplication farms. The breeding work aims at improving genetics and productive qualities of animals, through use of the best sires and the creation of highly productive brood stock.

Rearing of animals under certain climatic conditions makes it possible to create cross-breeding

calving to insemination is 59.1 days, the calving interval is 393 days, the calf crop is 92 per cent and the average age-at-first-calving is 25 months.

Animals belong to the tall type. The live weight of sires is 750-1100 kgs (1,650 - 2,425 lbs) and cows are 577-654 kgs (1,270 - 1,440 lbs). On

weights are 970-1200 kgs (2,138 - 2,646 lbs). Carcass weight of 16-month-old bulls was 360 kgs (794 lbs) and yield was 54.7 per cent. Animals are well-adapted to the breeding zone and pasture management. The yield of calves per 100 cows is over 95 per cent and milking ability is in the range

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types well adapted to the environmental conditions. Thus, in the 1960s, Canadian Hereford cattle were imported to Khakasia, Russia. Selection work was aimed at improving the breed's adaptation to new conditions and resulted in improved productivity. As a result of the targeted breeding work, two types were created: "Sonsky" in 1998 and "Sadovsky" in 2005. Animals showed good adaptability to breeding in conditions of Siberia and were characterized by good reproductive capacity and growth. Specialists of LLC «Andrianovsky» and employees of the State Research Institution of The Siberian Research Institute of Animal Husbandry developed the new in-breed type of Herefords in the Republic of Khakassia - «Andrianovsky». A new type of Hereford is well-adapted to Siberian frosts, has high productivity and good reproductive qualities. Thus, the period from

average, animals of the new type Hereford surpassed conventional Herefords in weight by 18 per cent with an increase in profitability from production, by 17 per cent. At present, there are about 2,000 head of cattle in the herd, of which 750 are cows.

In the Stavropol Territory, another new type of the Hereford breed - "Dmitrievsky" - was created. Canadian bulls FORDER BANNER MARK 8M (1915126) and GLENLEES 121 I TALLI 65X are the main ancestors of the "Dmitrievsky" type. Selection was carried out according to the given parameters of productivity. The model group was selected according to live weight (i.e. elite class, elite-record), height at hips, body length and volume. The indicators of sex-age bulls exceeded the average data in herd by 10-13 per cent. Live weight of 15-16 month bulls is 470-530 kgs (1,026 - 1,168 lbs) and mature bull

of 215-220 kgs (473 - 485 lbs). These new types of Herefords are able to withstand competition in market conditions and further promote stable development of beef cattle breeding.

For the last 15-20 years, Herefords in the herds of the Southern Urals have been selected taking into account live weight and conformation. The "Ural Hereford" was created by the scientists of the All-Russian Institute of Beef Cattle Breeding by pure breeding and the use of the best Canadian sires FORDER BANNER MARK 8M (1915126), KILMORLIE 359S HOUDINI 139Y, REMITALL YORK 173Y, GLENLEES 121 I TALLY 65X and VICTOR 212 102G COPPERTONE I BARY (1S15155). The progeny from bulls Snow 27094, Talc 45032, Volume 27012, Som 20018, Signal 20064, Nos 23014, Neil 22028 and India 24032 were obtained in the herds. Animals of the new type are



Cow Herd of Agricultural Production Cooperative "Rodina", of Stavropol Territory



Auction 2017



Winter facilities for young cattle in LLC "Kalininskaya Agrofirma" of Chelyabinsk region

distinguished by exceptionally good adaptation to the sharp continental climate and forage conditions of the dry steppe of the Southern Urals. A significant number of polled animals is characteristic of the Ural Hereford herds.

Ural Herefords are the most numerous in the herds of the LLC "Experimentalnoye" of Orenburg region, LLC "AF Kalininskaya", "Chelyabinskaya", LLC "Energia" and JSC "Varshavskoye" of Chelyabinsk region.

The new type of cattle is well-adapted to the insufficient pastures of the dry steppe zone and is able to compete successfully with other beef breeds now. The selection, based on productivity and conformation is continued for the purpose of further improvement of livestock and for the development of animals with higher growth for the feedlot. Foreign-sourced genetics allows a real opportunity for this. Thus, since 2003, progressive methods of reproduction such as artificial insemination and embryo transfer of Canadian genetics have been used in LLC "Kalininskaya" Ltd. for the production of cows used as mothers of bulls for pure breeding.

Studies on the use of DNA markers

are being conducted in the selection of the Hereford cattle. Beef productivity of bulls of the Hereford breed is established, taking into account the selection of parental pairs, by the genes of meat tenderness, marbling and growth of the animal. The effect of calpain (CAPN1) on the chemical composition of meat varies in the range of 10 - 25 per cent protein and 30 -10 per cent (moisture and dry matter). The amount of fat in the body of experimental animals is determined by the genotype only by 15.48 per cent. The genotype, according by growth hormone marker (bGH) has a significant effect on the moisture and dry matter content of slaughter products, at

25.97 per cent and only the slightest effect on the amount of protein, at 0.26 per cent. Accumulation of fatty tissue in an organism of an animal is determined by a certain genotype by 19.94 per cent.

The National Hereford Breeders Association of Russia is the first organization to unite breeding enterprises. It was established in December 2009, after which, a charter was adopted and goals and tasks were determined at the organizational conference. Annual congresses are held.

The association has all the prospects for further growth, development and strengthening of its position. The Association's goals include developing purebred



Auction of breeding bulls in LLC "Experimentalnoye" of Orenburg region



Replacement bulls. Dmitrievsky type. Owned by agricultural production cooperative "Rodina" of Stavropol Territory. Live weight at the age of 17-18 months is 535-550 kg, height at rump 128-130 cm, length of the body is 154-158 cm, elite record class

Hereford markets, supporting scientific developments and facilitating the exchange of experience, information and genetics with breeders. It also serves to protect the rights and interests of breeders and facilitates

One important result of the Association activity has been the delivery of about 600 head of Canadian heifers to the breeding farm "AF Kalininskaya," along with semen and embryos.

demonstrations and auctions of purebred livestock.

Association members are the best breeding enterprises in Russia, agricultural enterprises, and peasant farms. The most active members of the Association are LLC "Kalininskaya Agrofirma", breeding farm "Energia", PJSC "Poultry farm Chelyabinskaya", LLC "Krasnoarmeyskoye", LLC "Varshavskoe", LLC "Soyuz"

presented at exhibitions and sold by auction to breeding farms of Russia.

The close collaboration of the Association and the Breeding Center of the All-Russian Research Institute of Beef Cattle Breeding allows more effective implementation of the rich scientific experience on breeding, keeping technology, selection and genetics. A genomic evaluation of

animals of the breed association and an immunogenic examination with determination of the origin authenticity is carried out. Herd assessment, testing of young animals by their own productivity and testing of bulls by the quality of progeny are performed, together with the employees of the All-Russian Research Institute of Beef Cattle Breeding. Within the framework of the Association work, Volume II of the Book of Purebred Hereford Cattle was published.

The Automated system of breeding and zootechnical record keeping "Assessment of breeding value of beef cattle" was implemented, (certification "1: Compliant" No.14597 dated January 13th, 2012). The database includes 17,000 thousand stud stock. Animals are tagged with chips and tags.

Further breeding and improvement of Herefords in Russia involves an increase in the number and quality of breeding stock. In connection with this, it is necessary to strengthen and expand the breeding base by using highly productive animals of foreign and Russian selection. The experience of foreign associations confirms the necessity of coordinated work with the world's beef cattle breeding systems. The association of breeders in the system-forming structure will ensure the solution of global issues of beef cattle breeding and promote consumption and promotion of beef as a healthy and important food product.



Bulls tested for their own productivity, agricultural production cooperative "Rodina" of Stavropol Territory