

DUAL-PURPOSE BREEDS
Red Dual-Purpose Breeds
BESTUZHEV (Bestuzhevskaya)

Formation of this breed started late in the 18th century, when cattle breeder S.P. Bestuzhev began to cross the local cattle with the Durham (Shorthorn) breed from England. With the aim of improving milk and beef qualities, the offspring were later crossed with the animals of the Dutch, Shorthorn, Simmental and some other breeds. The formation of this beef-and-dairy breed was completed in the middle of the 19th century. Planned breeding of Bestuzhev cattle started in 1918 when breeding farms were set up in the Tatar ASSR, in Bashkiria, and in Ulyanovsk and Kuibyshev regions. The first volume of the National Herdbook was published in 1928.

A characteristic feature of Bestuzhev cattle is their adaptation to the continental climate of the Volga area. The colour is red, varying from light red to deep cherry red. Some animals have white spots, mainly on the belly, udder and head.

Bestuzhev cattle are not homogeneous in conformation. In most herds dairy-beef animals predominate. In some cows dairy or beef-dairy features prevail. Overall, Bestuzhev cattle have the following features. The head is medium in size, light and clean-cut with a long face; the forehead is narrow; the jaw is wide; the horns are large, white in colour. The neck is medium in length with wrinkled skin; the chest is deep, with well-developed dewlap; the back is straight with wide loin; sloping rump is infrequent. The legs are not long, widely set. The udder is medium in volume; the quarters are clearly defined. Body parts are developed proportionally; the skeleton is strong; the muscles are well developed. The basic measurements of mature cows are (in cm): withers height 131.6, chest depth 71.8, oblique body length 158.3, heart girth 193.8, cannon bone girth 19.9.

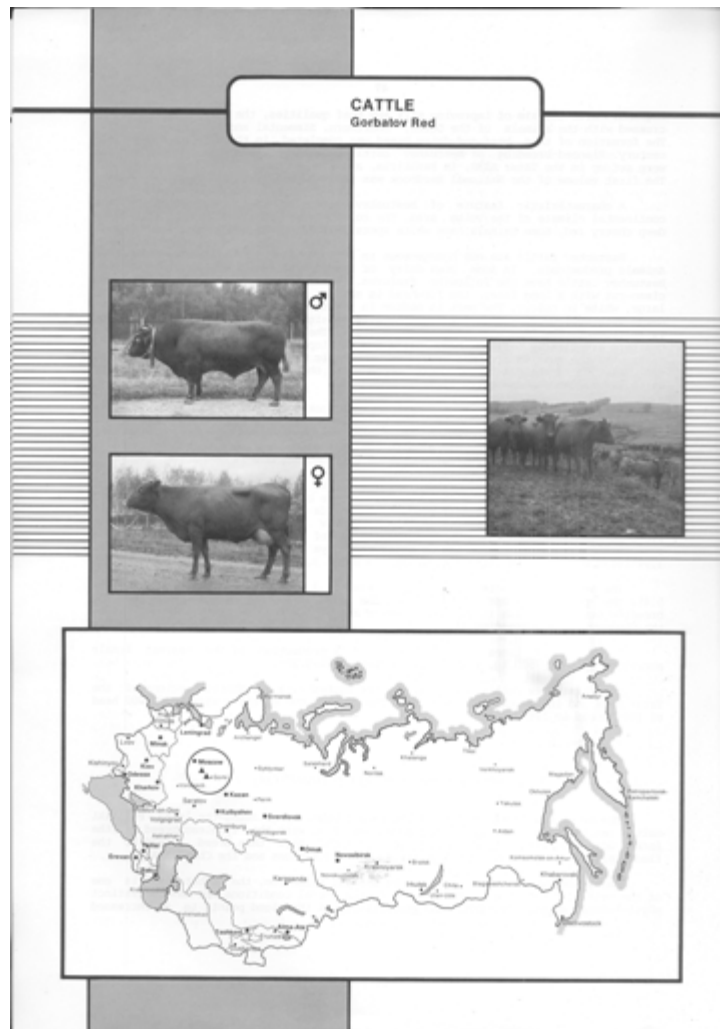
According to volume 10 of the National Herdbook (1982), mature cows weigh 480-560 kg, occasionally up to 710 kg. The bulls weigh 790-950 kg, maximum 1000 kg or more. Bestuzhev cattle are noted for their good beef qualities. The daily live-weight gain of feeder steers is 700-850 g. With lavish feeding yearling steers can reach a weight of 500 kg. The dressing percentage of fattened animals is 58-60.

The milk production of mature cows recorded in volume 10 of the National Herdbook (1982) is 4288 kg, with 3.99% fat. At the breeding farms cows average over 4000 kg of milk. In 1982 the best production records were reached in the herd of the experimental farm Krasnogorskoye in the Kuibyshev region, where the average milk yield per cow was 4015 kg. The record holders of this breed with milk production over 10 000 kg per lactation are as follows: Liya - 4th lactation, 10 046 kg milk, 3.7% fat; Basnya - 4th lactation, 10 386 kg milk, 3.77%.

The average fat content of Bestuzhev cows is 3.8-4.0%, occasionally up to 5.0-5.4%; the protein content is 3.3-3.5%. The most productive herds belong to the breeding stations Kanash in Kuibyshev region and KIM in the Tatar ASSR as well as to the Ulyanovsk stock breeding station.

There are 13 lines in the breed. Milk production of the nearest female ancestors is 5000-7500 kg, and the fat content 4.01-5.21%.

Most Bestuzhev cattle are found in the Kuibyshev and Ulyanovsk regions of the Tatar ASSR and in the Bashkir ASSR. According to the census there were 1 890 000 head of this breed in 1980.



GORBATOV RED (Krasnaya gorbatovskaya)

The breed was formed early in the 19th century by crossing the local Priokski cattle (an improved variety of the Great Russian) with the Tyrolean breed in the former Gorbatov district of Nizhegorod province. Later this breed spread to the floodplain of the Oka river in Vladimir and Ivanov regions and the Chuvash ASSR.

Among the cattle breeds created by peasant selection, the Gorbatov Red is one of the best. The cattle are well adapted to the local conditions and have a distinct physiological adaptivity. High lysozyme activity of the blood points to an increased non-specific immunity. The Gorbatov Red breed is also noted for its resistance to leucosis, tuberculosis and brucellosis.

The current proportion of the Gorbatov Red breed in Gorki region is 11.4% as compared with 31.1% in 1964. This reduction is because, since 1976, the breed has not been included in the breed zoning plan in Gorki and Vladimir regions. Pure breeding of Gorbatov Red cattle is still carried on at two breeding centres: Bogorodski in Gorki region and Zimenki in Vladimir region.

Gorbatov Red cattle have a strong constitution and a harmonious conformation. They have a long body but are not tall. The head is rather short and the neck is medium long and wide. The chest is deep and wide. The top line is level; the loin is wide; the rump is slightly raised, wide, and not wedge-shaped. The tail is set high and is long. The udder is medium in size; its quarters are developed proportionally. The skeleton is light and firm. The hooves are firm. The colour is red of various shades; some animals have white markings on the udder and abdomen. The muzzle is usually light pink and the horns are white with black tips.

The characteristics of 1633 animals recorded in Volume 7 of the National Herd-book indicate that Gorbatov Red animals have a satisfactory development. The average live weight of mature cows is 476 kg. The heaviest cows are kept at the Bogorodski breeding station. They weigh 492 kg on the average, up to 600 kg maximum. The bulls kept at the breeding stations are noted for their high live weight at any age: 3-4-year-olds weigh 752 kg; older animals weigh 830 kg; the heaviest weigh 970 kg.

The measurements of mature cows (in cm) are as follows: withers height 122, chest depth 68.0, oblique body length 152.5, heart girth 182, cannon bone girth 17.7.

The milk yield of 470 first-calvers was 3009 kg with 4.28% fat; that of 746 cows at the 3rd calving and older was 4003 kg with 4.22% fat. The record holder for milk and fat yield entered in Volume 7 of the National Herdbook, is cow Kama GP-7649 from the breeding centre Bogorodski. In her 4th lactation she produced 7211 kg of milk with 4.20% fat, or 303 kg of fat.

The champion of the Red Gorbatov breed in 1979 was cow Charodeika 191, who belongs to the same farm. During the 4th lactation she produced 7899 kg of milk with 4.0% fat, or 316 kg of milk fat.

Productivity indices of the cows recorded in Volume 8 of the National Herdbook (1983) that belong to the farms of Vladimir region and the Chuvash ASSR point to the high productive potential of this breed. The most productive cows yield over 5000 kg of milk per lactation. The fat content varies from 4.0 to 5.20%.

There are several cows of this breed with a record production. Cow Lenta 8822 produced 10 218 kg of milk with 4.2% fat in 305 days of the 4th lactation. Cow Balerina in 16 lactations produced 68 546 kg of milk with 3.83% fat.

In fat content (4-4.2%) this breed is among the best of the national breeds. The protein content is also high; it varies from 3.30 to 3.77%. These cattle have a high total solids content in their milk (12.91%).

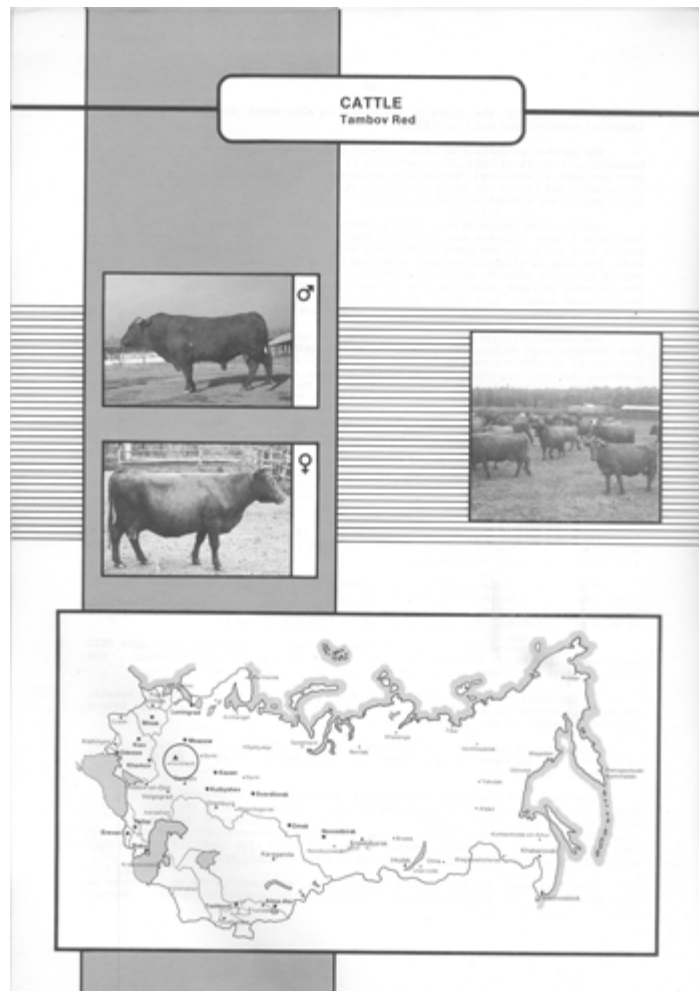
This breed is noted for its good beef qualities. The cattle gain weight rapidly when fattening. The dressing percentage of normally fattened cows is 55% or more and that of steers is 62.7%.

This breed is conserved by long-term pure breeding in several conservation herds. The best pedigree herd is at Bogorodski breeding station in the Gorki region where Gorbatov Red cattle originated. Out of 2965 animals purebreds account for 98%. Over 60% are in the highest evaluation classes. The conservation herd of the Gorbatov Red breed in Vladimir region is a small part (200 head) of the Zimenki breeding centre herd; it is closely related to the Bogorodski herd.

A bank of over 120 000 semen doses of bulls, representing the major lines of the Gorbatov Red, is stored at various breeding establishments and genetic depositories.

Urgent measures are required to halt the decrease in the total population (to 294 000 head by 1980) and the lower proportion of purebreds. It is necessary to create a specialized dairy type that can be used at industrial dairy complexes, as well as to carry out intensive selection to increase live weight and milk yield and to improve conformation, udder quality and milkability. It will be expedient to introduce the blood of the Danish Red and Angeln breeds to increase the adaptability of the cows to industrial methods of cattle management.

Gorbatov Red cattle are characterized by a comparatively high heterogeneity of the allele pool. The common allele U_2U' points to a remote phylogenetic connection of Gorbatov Red cattle with the Latvian Brown breed. The formation of the latter, as is known, involved the participation of Danish Red and Angeln cattle.



TAMBOV RED (Krasnaya tambovskaya)

The breed was formed in the middle of the 19th century by crossing the local improved cattle in Tambov province with the Tyrol breed. Some Devon and Simmental blood was also introduced. Following the recommendations of Prof. M.M. Pridorogin, after 1911 the crossbreds were bred inter se. He was against complete upgrading with the total disappearance of the blood of the local cattle; this might have resulted in the loss of their most valuable properties. His well-grounded ideas as regards crossing and its handling promoted the success of the Tambov Red breed.

The directed breeding of Tambov Red cattle started after 1924. Of great importance was Kirsanov state breeding station. Lenin collective farm in Kirsanov district which bred the founders of the lines and families also made a considerable contribution to its improvement.

The breed was recognized in 1948. At present, its principal breeding zone is Kirsanov district in Tambov region, where the population of these cattle is 9500. The total number of the Tambov Red breed in 1980 was 45 000.

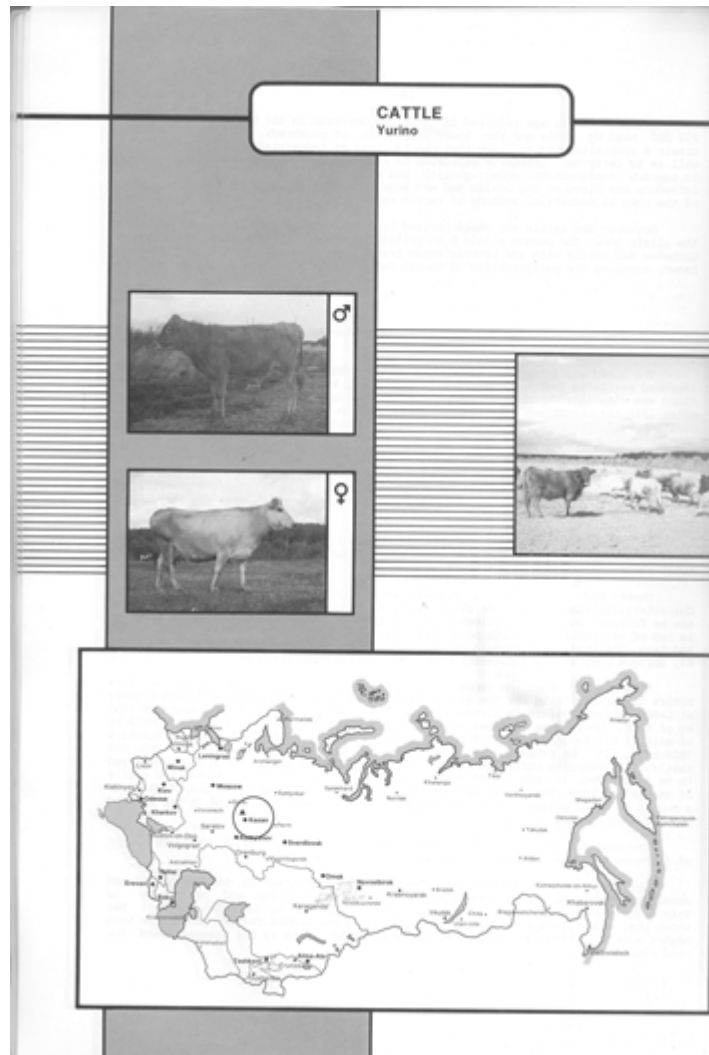
Tambov Red cattle have a strong constitution and a compact conformation. Characteristic features are the short head and deep and wide body. Frequent defects are as follows: sway back, hollowness behind the

shoulders, sloping rump. The colour is red of various shades, with occasional white markings on the abdomen, udder, chest and legs. The basic measurements of cows are (in cm): withers height 127, chest depth 67, oblique body length 155, heart girth 183, cannon bone girth 19. Milk yield of cows on conservation farms in 1983 was 2337 kg with 3.63% fat. Before the Second World War the milk production of Tambov Red cattle was much higher; at Lenin collective farm in Kirsanov district of Tambov region 195 cows averaged 4059 kg of milk. There were a number of record holders of this breed: Krasavka - 6650 kg of milk, 4.81% fat; Boginya - 6069 kg, 4.0%; Angela - 6734 kg, 3.70%; Vakhtanka - 7820 kg, 3.71%. At present, this collective farm has 125 head of purebred Tambov Red cattle. The remaining cattle in Kirsanov district (13 600 head) which are considered to be Tambov Red, include recent first crosses with the Danish Red breed, and cattle of Tambov Red type. The latter closely resemble Danish Red cattle in 20% of cases in a number of blood antigens. The most frequent (0.4) are the following in the B blood group system: B₂, O₂, Y₂, Q'.

The beef and fattening qualities of Tambov Red cattle are good. The live weight of fattened bullocks goes up to 1100-1250 kg.

The valuable characters of this breed are its adaptation to the ecological and economic conditions of Tambov region, strong constitution and resistance to infectious diseases. Experience at Degtyanski state farm in Sosnovski district has shown that under similar conditions of feeding and management Tambov Red cattle have higher milk yield and fat content than the Simmental which is the planned breed for this region.

The aim to preserve Tambov Red cattle and to improve them further is being realized by setting-up a conservation herd at Lenin collective farm in Kirsanov district, and by the establishment of a frozen semen bank for sires of the two original lines.



YURINO (Yurinskaya)

The breed was formed under the influence for almost a century of the Tyrolean and later of the Swiss Brown on the local Chuvash-Mari cattle in Gorno-Mari district of the Mari ASSR. The Tyrolean blood has remained dominant in the type of the Yurino cattle as indicated by the solid red-brown colour. The Tyrolean x Great Russian cattle later named Gorbatov Red also had their influence in the formation of the Yurino breed. The crossing was probably carried on for one generation only with subsequent interbreeding of the first crosses. The result was an increase in size, improved fleshiness and higher milk fat content. Since the 1880s-90s the Swiss Brown, Allgau, Simmental, Dutch, Kholmogory and other breeds have been imported into the area and have had an influence in the further improvement of the Yurino cattle. The Swiss Brown and the Allgau considerably increased milk yield but to some extent lowered the butterfat content. The influence of the Dutch and Kholmogory cattle was slight. After 1908 the Yurino cattle were bred inter se.

The planned breeding work of improving the Yurino cattle started only after the 1917 Revolution: breeding state farms were set up, shows were organized, recording associations began work, competitions for young stock raising and cow milk production were organized, the Gorno-Mari state breeding station was founded. In 1934 the better animals of the Yurino breed began to be registered in the regional and national herdbooks. In Gorki region the first volume of the National Herdbook was published in 1937, and in the Mari ASSR it was published in 1940.

In that period the best farms displayed outstanding Yurino cows at the shows: Sinichka GU-329 (3rd lactation - 5151 kg of milk with 3.84% fat), Lezgina GU-80 (6th, 6396kg, 3.64%), Valka GU-81 (6th, 6684 kg, 4.47%), Diana MU-41 (4th, 6482 kg, 4.18%). The live weight of these cows ranged from 525 to 712 kg.

In 1941 the breed group of the Yurino cattle was recognized as a breed of dual-purpose type.

Yurino cattle were used in Gorno-Mari district of the Mari ASSR till recently. But grading up with the sires of other breeds has resulted in a dramatic decrease in their numbers, from 46 000 in 1974 to 3500 in 1983.

In conformation and colour the animals of this breed are not homogeneous. They are brown or red of various shades; white markings on the lower barrel and on the legs are occasionally observed. The head is light but compact; due to the short facial bones it seems wider and deeper than it is. The poll is protruding. The horns are small, fairly thin, mostly light in colour with dark tips. The neck is wide and level. The dewlap is large. The withers are narrow and emerge beyond the topline. The back is level and straight. The loin is wide, level but frequently roof-shaped. The rump is raised; the hindquarters are wide; the tail is set high. The udder is medium in size with equally developed quarters and well-developed widely-spread teats. The mammary veins and milk wells are clearly defined. The skeleton is thin. The skin is loose, elastic with soft hair cover.

The basic measurements of Yurino cows are (in cm): withers height 120-123, oblique body length 146-149, chest depth 62-64, chest width 34-35, cannon bone girth 17-17.5. The defects are hollowness behind the shoulders, sagging and roof-shaped hindquarters, and incorrect leg setting. The live weight of calves at birth is 23-28 kg. Heifers have a live weight of 415-430 kg. Cows at third calving or older weigh 480-500 kg. The live weight of some cows reaches 700 kg. Bulls are of medium weight: 650-700 kg; some bulls can weigh 900 kg or more.

The milk yield of cows, according to the National Herdbook, is 2500-3000 kg; the best cows produce 5000-6000 kg or more. In butterfat content Yurino cows are one of the first among the national breeds (3.80-4.20%). They are able to maintain high milk production up to the eighth lactation or later. Some cows of that age produced 6000 kg.

Yurino cattle are resistant to diseases: at the pedigree state farm Yurinski in the Mari ASSR no cases of leucosis, tuberculosis or brucellosis were reported in the last decade.

To preserve the Yurino breed the breeding state farm Yurinski has been approved as a conservation farm. The Ail-Union Research Institute for Animal Breeding and Genetics has evolved a scheme of selection and rotation of sires. The milk production of the female ancestors of the bulls of the first rotation is as follows: 4082-4607 kg with butterfat content of 4.04-

4.11% and 168-186 kg of milk fat; that of the bulls of the second rotation is 4353-5107 kg with butterfat content of 4.15-4.17% and 181-213 kg of milk fat.

At the end of 1984 the dairy herd of the conservation farm at Smena collective farm in the Mari ASSR consisted of 110 cows. The sires of the first rotation in this herd are characterized by a fairly high milk production of their female ancestors: milk yield ranged from 4026 kg to 5134 kg and the butterfat content varied from 4.13 to 4.38%. The sires of the second rotation in the herd have somewhat higher indices of milk production: 5107 kg of milk with 4.17% butterfat.

According to their blood groups the Yurino breed is similar to the Gorbatov Red and Swiss Brown. The genetic distance between the Yurino and Gorbatov Red breeds is 0.2.