

TRAKEHNER (Trakenenskaya)

The Trakehner saddle breed was developed in East Prussia from 1786 to 1878. The first date refers to the transfer of Trakehnen stud to state ownership and to the appearance of Lindenau who set forth clear-cut breeding objectives and began practical work on the improvement of the local horse population. The second date refers to starting the Trakehner studbook.

At Trakehnen stud the aim was the development of a large cavalry horse to be used for the improvement of working and saddle characteristics in utility horses. After this the Trakehner became the improver of the East Prussian, Hanoverian and Mecklenburg breeds.

The basis for the Trakehner breed was the native Lithuanian horses which had been improved by stallions of various breeds, including the Thoroughbred, Mecklenburg, Danish and Turkish. The final stage of breed

formation was strongly influenced by a Turkmenian stallion and by three of his sons.

Later the emerging Trakehner was profoundly influenced by Thoroughbred stallions. By the late 19th century the Trakehner became one of the best high-grade saddle horses well adapted to keeping in stables or on pasture. It became a leading improver in the vast region of Lithuania, Brandenburg, Poznan and Pomerania. By the early 20th century the Trakehner's influence reached the north Baltic area but was cut short by World War One.

Breeding of the Trakehner was resumed in the USSR in 1945 at S.M. Kirov stud in Rostov region. The Trakehner admirably acclimatized to new climatic conditions and its improvement has progressed ever since.

At present the Trakehner is used in classic sports events and in initial crossbreeding with such breeds as the Ukrainian Saddle, Hanoverian and the riding type of Latvian. It is also employed in crossbreeding with other breeds to produce racehorses.

There are approximately 2000 Trakehner horses in the USSR as well as 700 mares which constitute the breeding nucleus at the studs in Rostov, Ryazan, Kaliningrad regions and in Byelorussia, Lithuania, Latvia and Estonia.

It is a large, heavily-muscled and boned horse of classic saddle build. The measurements (in cm) of stallions at stud were: height at withers 165; oblique body length 168; chest girth 196; cannon bone girth 21.7; mares: 162, 165, 193 and 20.7 respectively. It has a large clean-cut head, long or medium-long highly-set neck, high and long withers, back slightly dipped to withers, flat and wide loin, nicely rounded and heavily-muscled croup, sometimes sloping with short sacrum, correctly sloping long shoulders, legs properly set, dry, with well-defined tendons, short cannon with longer forearm, regularly sloping medium-sized pasterns, hard hoofs. The disposition is kind and energetic. Colour: chestnut, bay, black or dark bay; grey is rare.

The performance of the Trakehner is good. It combines speed, strength, endurance and elegance of action. In the USSR the Trakehner is tested in flat and obstacle races, steeplechase and classic events. In speed it is second to Thoroughbreds but may compete with the Budyonny. It has scored quite high records in various races: 1 min 42 sec for 1600 m, 2 min 11 sec for 2000 m 2 min 34 sec for 2400 m. The Trakehner stallion Kover is the holder of the absolute stadium jump record - 225 cm. Trakehner horses have repeatedly won the USSR national obstacle race, three-day events and the dressage. The Trakehner stallion Pepel was the winner of several USSR cups and at the Olympics.

The Trakehner is inferior to other saddle horses in adaptability. Although it requires excellent feeding and thorough management, its fertility is lower; the average foal crop is 70-72 foals per 100 mares. The Trakehner is less resistant to colds and infectious diseases but its physiological adaptability to heavy work is quite high.

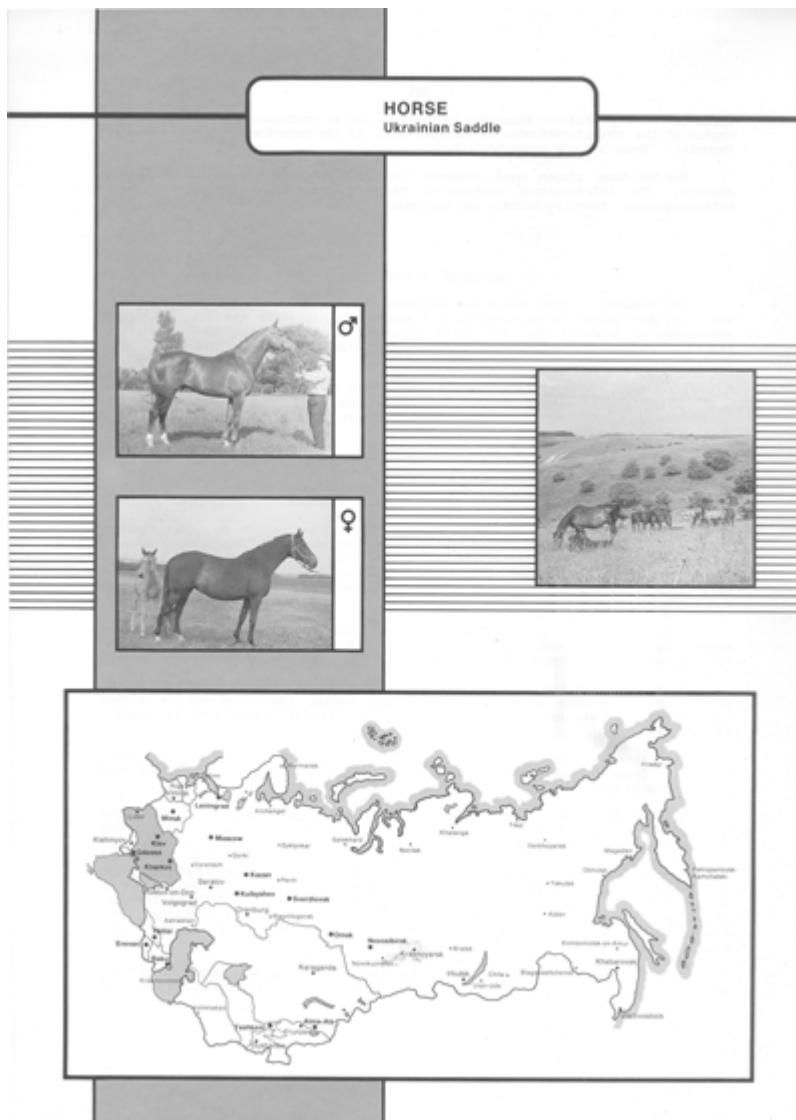
In haemodynamic characteristics the Trakehner is second only to the Thoroughbred. In the volume of blood per kg of live weight it is 11 ml inferior to Thoroughbreds (97 vs 108), in haemoglobin - 1.6 g (16.8 vs 18.4) but almost equal in the number of erythrocytes per kg of live weight. The heart's systolic volume is 1.25 litres.

In spite of the small numbers of the breed, owing to the combination of inbreeding with crossing with Thoroughbred and Arabian stallions no marked inbreeding depression has been observed.

Two intra-breed types have been segregated - typical and heavy. The most popular stallion lines are 6.

The International Congress of Socialist Countries on Horse Breeding has developed a uniform selection programme and exchange of breeding material between Poland, the GDR and the USSR. The Trakehner population has been steadily growing and the breed has good grounds for further increase.

The best breeding centres are S.M. Kirov stud in Rostov region and Nyamun stud in Lithuania.



UKRAINIAN SADDLE HORSE (Ukrainskaya verkhovaya porodnaya gruppa)

This breed group was developed in the studs of the Ukraine since the war by crossing Hungarian mares (Nonius, Furioso-Northstar and Gidran) with Trakehner, Hanoverian and Thoroughbred stallions. Particular value was attached to individuals with a trace of Russian Saddle horse blood.

At the initial stages of breeding the improved taboon system was used. Now stable and pasture management are used.

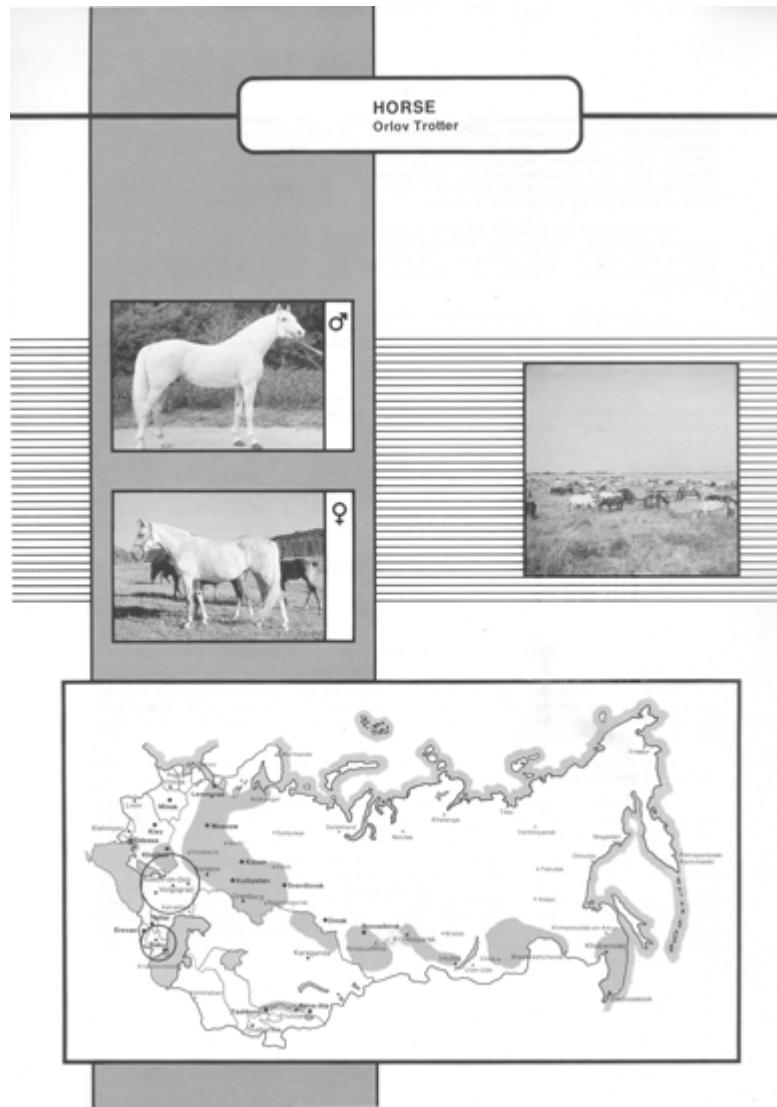
Their breeding began at Ukraine stud in Dnepropetrovsk region and subsequently continued mainly at Aleksandriisk, Derkulsk, Dnepropetrovsk and Yagolnitsk studs. The Ukrainian saddlers are now bred mostly for sport. They are large heavy saddle horses. The head is well proportioned, the eyes expressive; the straight neck is long, as is the poll; the withers are prominent, the back long and flat, the loin broad and well muscled; the croup is long and has a normal slope; the chest is broad and deep, the body

heavy and the limbs well set. The build is solid. The average measurements (in cm) of stallions are: height at withers 165, oblique body length 166, chest girth 191, cannon bone girth 21; the measurements of mares are somewhat less: 160, 160, 188 and 19.8 respectively. The most widespread colours are bay, chestnut and brown.

Transferrin alleles have the following frequencies: D 0.30, F 0.43, H 0.02, O 0.11, R 0.12. Transferrin M is absent.

Ukrainian Saddle horses perform well in classic events, particularly in dressage. The Soviet equestrians riding them have repeatedly won or have been runners-up in the highest-ranking competitions, such as the Olympics and the World and European Championships.

In the long term, the main breeding method is that of pure breeding with corrective crossing with the Thoroughbreds. The Bespechny line of the Ukrainian breed consists of horses derived from the last of the Russian Saddle horse (Orlov-Rostopchin).



HARNESS BREEDS ORLOV TROTTER (Orlovskaya rysistaya)

The Orlov Trotter was developed by A.G. Orlov at Khrenov stud beginning sometime between 1775 and 1784. The first date is that of the establishment of the Khrenov stud while the latter is that of the birth of Bars I, the progenitor of the modern pedigree Orlov. Arabian horses were crossed with the Dutch, Danish and Mecklenburg harness breeds. The Orlov evolved under the natural conditions of Voronezh region, characteristic of central Russia, and used natural pastures in the flood plain of the Bityug river. The combination of stable and pasture produced a breed with good action and adaptability to various management conditions. It thus became possible to spread the breed beyond the limits of Voronezh region to different climatic zones of the country, from Poltava to Perm regions, from Pskov to Kurgan regions and from Kirgizia to Altai territory. The Orlov is

also taken to the mountain regions east of Lake Baikal as the principal improver of the native breeds.

The Orlov is widely used as a draught horse, as a utility horse for light and medium-heavy agricultural jobs, as a pleasure and competition horse and as the principal improver of small native horses throughout the Soviet Union.

When the breed was being established and Bars I (a stallion of mixed Danish, Dutch and Arab origin) was in use at Khrenov stud, there were 77 mares of various origins there (including 10 Arabs, 2 Persians, 3 Caucasians, 1 Don, 32 English Thoroughbreds, 5 Mecklenburgs and 1 Spanish). Bars' granddaughters, however, played the decisive role in the establishment of the breed. The number of purebred Orlov Trotters changed depending on market conditions as well as social and economic factors.

Significant damage to the breed was caused by uncontrolled crossing with the American Trotter during 1885-1913, as well as by the First World War and the Civil War, following which the breed had to be re-established. The first volume of the Orlov studbook in 1927 recorded 939 stallions and 1120 mares, while in 1954, Volume 8 listed 3228 purebred mares. Subsequently, however, the number of horses in the breeding nucleus began to decline. Volumes 19 and 20 recorded 432 stallions and 652 mares in 1982.

The modern Orlov Trotter is distinctive in its type and conformation. Its head is well proportioned and clean cut, poll long and jaws broad, neck long and muscular and often high-set, withers medium in height and length, back long and flat and sometimes slightly dipped, loin of medium length and flat, croup straight and nicely rounded, chest wide, medium-deep, ribs well sprung, legs properly set and the joints well developed, often somewhat coarse. The forearm, cannon and metatarsus are medium in size, the pasterns often short and straight. The limbs are sometimes hairy. The colours are grey, bay, black and chestnut.

The measurements of stallions (in cm) are withers height 162, oblique body length 164, chest girth 187, and cannon bone girth 20.5; mares: 160, 164, 186 and 20.2, respectively.

The adaptability of the Orlov Trotter to either stable or pasture management has contributed to its spread to various parts of the country as well as to the development of specific lines. For instance, Dubrovski, Khrenov, Novotomnikov and Perm stud types have been formed, with distinctive exterior features. The Khrenov is the most popular standard type of the Orlov described in all textbooks and guides. The Dubrovski type is distinguished by smaller size, somewhat more primitive build, fleshiness and solid build. The Novotomnikov is characterized by its clean build, prominent "Arabian and swan-like" breed features and more rapid maturity. The Perm type is the most fleshy and large type with a somewhat coarse build characteristic of carriage horses.

Serum proteins and blood type antigens have been studied at Khrenov, Novotomnikov and Perm studs. Five transferrin alleles have been found, as have two each of albumin and ceruloplasmin, four of esterase, and three carbonic-anhydrase alleles. The Orlov has a high concentration of H, R and F transferrin alleles. Six blood group systems have been found (A, C, D, K, P, Q); most rarely encountered are Dh (0.07) and Da (0.20); no Pb antigen has been found. The Dd (0.88) and Aa (0.81) antigens are the most widespread.

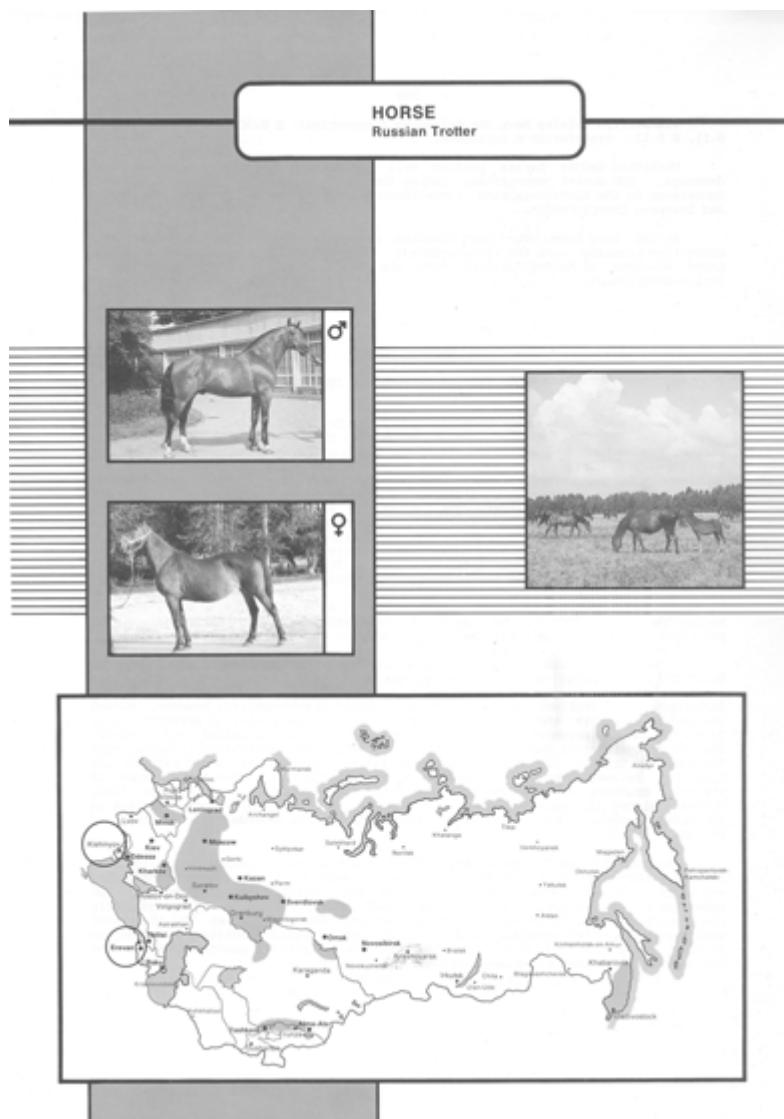
The average speed of adult trotters is currently 2 min 20 sec for 1600 m; the record is 2 min 1 sec.

The Orlov is very fertile. At the studs there are 80-85 live births per 100 mares and the survival rate to one year of age is 78-83%. Its robust constitution and high adaptability result in a long life span. The outstanding stallion Kvadrat was used as a sire up to the age of 32, while the mare Gondola (b. 1933), having won the most prestigious prize at the Bars hippodrome, equivalent to the Derby, lived to the age of 27 years and produced 17 foals.

Pure breeding is the main method of producing the Orlov Trotter. No depression of the main economic characters occurs with up to 5% of inbreeding.

The reduction of the breeding nucleus at studs is mainly attributable to the breed's lower speed potential.

The breed consists of 12 sire lines and 16 mare families. The best studs are Khrenov, Novotomnikov, Perm and Altai.



RUSSIAN TROTTER (Russkaya rysistaya)

The Russian Trotter was developed by crossing the Orlov Trotter with the American Standardbred (American Trotter) and subsequent breeding inter se.

The crossbreeding began in the 1890s. Prior to 1914, 156 stallions and 220 purebred mares were used. After World War One and the Civil War the importation of American Trotters stopped; systematic activity began so as to improve the speed, conformation and the measurements of the crossbreds. The goal was to find the best combination of these features. By 1950 the breed formation was completed. In 1960, in order to improve the breed's speed, a second crossing of Russian Trotters with American Standardbred stallions was made. The crossing still continues.

The modern Russian Trotter is a typical harness horse. Characteristically, it is generally clean and proportionately built and has well-developed muscles and tendons. The head is light, profile straight, neck long and straight,

withers medium in height, back and loin straight and well muscled, croup flat, long and broad. In appearance the Russian Trotter is, however, inferior to the Orlov; it more frequently possesses such defects as bowed legs or close hock-joints, drooping and short croup, exostoses and curb. The commonest colours are bay, black and chestnut; grey horses are less common. The average measurements (in cm) are: stallions -height at withers 161, oblique body length 163, chest girth 185, cannon bone girth 20.5; the mares' measurements are smaller: 159, 162, 184 and 19.8 respectively.

The speed of the Russian Trotter is quite high. The 1600 m trot record is 1 min 56.9 sec.

Twelve lines have been isolated in the breed.

Blood group and transferrin alleles have the following frequencies: blood group antigens - Aa 0.83, Ac 0.03; Ca 0.89; Da 0.28, Db 0.21, Dd 0.77, Dc 0.28, Dh 0.19; Ka 0.19; Pa 0.76; Qa 0.12; transferrins - D 0.26; F 0.39; H 0.08; O 0.08; R 0.17. No M transferrin has been found.

Russian Trotters have adapted well to varied conditions. Their distribution is broad, extending from the Baltic republics to western Siberia.

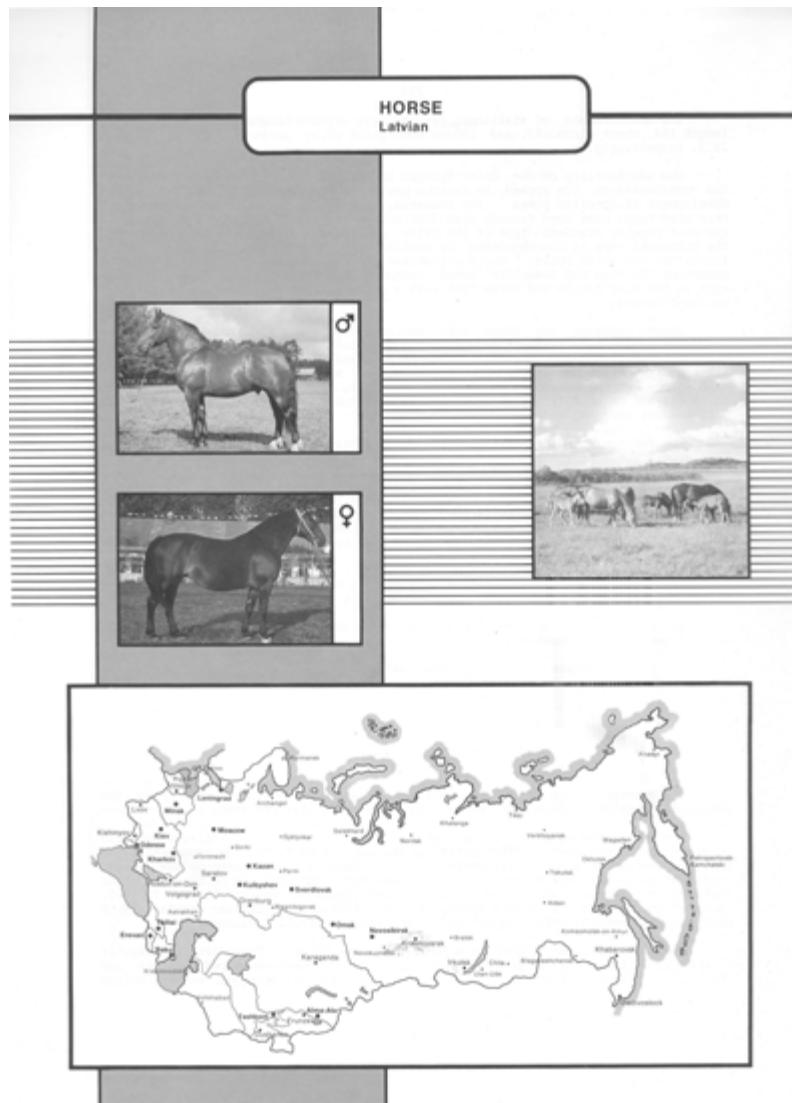
The breed's fertility is up to 75 foals per 100 mares. The life span averages 15-17 years. The highest longevity was displayed by the stallion Podarok (b. 1935) who founded a line, lived to be 29 and was used in mating up to the age of 28; and the mare Mazurka (b. 1954) who lived until 1980 and produced 16 foals.

As the percentage of the American Standardbred blood increases, three out of every four crossbreds display marked growth retardation, deteriorating conformation and dramatically reduced fertility. At the same time, the use of inbreeding against the background of crossbreeding causes no inbreeding depression even if the inbreeding coefficient is as high as 12%.

There are 1600 stud mares in the pedigree nucleus of the Russian Trotter.

The total number of purebreds is as high as 27 000; there are some 290 000 crossbreds of various generations. The breed is bred in 27 studs, the best of them being Elan, Smolensk, Zlynsk, Alexandrov, and Dubrovski.

Studbooks are published regularly, with 23 volumes out so far. In the long term, pure breeding and corrective crossbreeding with the American Trotter are to be used.



LATVIAN (Latviiskaya)

The Latvian breed was developed in Latvia from the beginning of the 20th century up to 1952 by crossing the native horses with west European harness and harness-saddle breeds. Oldenburg, Hanoverian and to a less extent Holstein stallions had most influence. Between 1921 and 1940, 65 Oldenburg stallions and 42 Oldenburg mares were imported from the Netherlands and Germany; they became the core of the breed. Besides the purebred Oldenburgs, Oldenburg crosses and Hanoverian, Norfolk Roadster, Ardennes and East Friesians were widely used. A special role in breed formation was played by the Okte stud in the Talsa region. Two types, the harness horses and the equestrian sports horses, have been evolved. Prior to 1960, the harness type was emphasized. Subsequently, as mass scale equestrian sports developed in Latvia on a large scale, the number of horses of the sport type was increased through infusion of the Hanoverian and, to a less extent, Thoroughbred blood.

The modern Latvian is a successful combination of the features of the utility and saddle horses. Tall, heavy muscled and bony, in format they are intermediate between saddle and harness horses. Latvians have a well-proportioned and solid build; the joints are sometimes coarse. Muscles are well developed, bone structure solid, chest broad, withers moderately pronounced or high and long, shoulder long, back and loin flat, long and well muscled, croup long and with a normal slope, legs properly set and with well-developed knee-joints and hocks. Defects include short and ringboned pasterns and cow hocks. The commonest colours are bay, brown and black; chestnut is less frequent.

The average measurements (in cm) of stallions are: height at withers 164, oblique body length 166, chest girth 190, cannon bone girth 23. Taller stallions (168 to 170 cm) are now being used due to the popularity of the riding type. The average measurements (in cm) of the mares are 161, 167, 191 and 22 respectively.

Latvian horses have shown good results in performance tests both in harness and under saddle, particularly in competitions. The records are: 2000 m draught walk with a pull of 150 kg, 13 min 40.6 sec; 2000 draught trot with a pulling effort of 50 kg, 4 min 36.8 sec; draught endurance with a pull of 300 kg, 1537 m and the maximum pull 927 kg.

The breed consists of 2 intra-breed types, harness and sport horses, and of 4 major lines.

Pure breeding and limited crossing with Hanoverian and Oldenburg stallions are the main improvement methods. The best farms are Burnieke state farm, Uzvere and Tervete collective farms and the Sigulda experimental farm of the Institute of Animal Breeding.