

5. HORSES

A.N. Kosharov, E.M. Pern and G.A. Rozhdestvenskaya

A great number of horse breeds have been developed in the vast territory and differing climatic zones of the USSR as a result of deliberate breeding or by unconscious selection under the influence of varied natural, social and economic conditions.

Table 5.1 HORSE NUMBERS IN THE USSR ON 1 JANUARY 1980
(Data of CSU - Central Board of Statistics)

Breed	Total	Purebred
Kazakh	312 447	63 329
Russian Trotter	287 267	26 803
Orlov Trotter	252 112	18 514
Yakut	134 014	133 431
Don	127 684	18 120
Byelorussian Harness	93 040	27 560
New Kirgiz	56 650	10 713
Russian Heavy Draught	48 490	4 314
Bashkir	45 717	15 368
Kustanai	41 772	2 922
Kushum	38 901	4 829
Soviet Heavy Draught	35 039	3 375
Kabarda	28 543	8 549
Karabair	28 223	25 499
Budyonny	22 293	5 668
Vladimir Heavy Draught	16 962	1 255
Tori	15 643	3 349
Latvian	13 939	1 200
Altai	10 011	3 500
Lithuanian Heavy Draught	9 000	5 122
Lokai	8 900	7 344
Ukrainian Saddle	7 458	923
Thoroughbred	6 990	6 990
Zhmudka	3 782	2 392
Akhal-Teke	3 579	1 168
Trakehner	2 839	1 765
Vyatka	1 840	11
Tersk	1 198	518
Iomud	964	616
Arab	784	484
Estonian Native	182	152
Deliboz	94	94

Some breeds were widespread and used in crossbreeding with the less productive ones. Others were kept pure but the area of their breeding is restricted. The breeding of some breeds has declined and they are now on the verge of extinction, for instance the Mingrelian, Mezen, Pechora and Tushin.

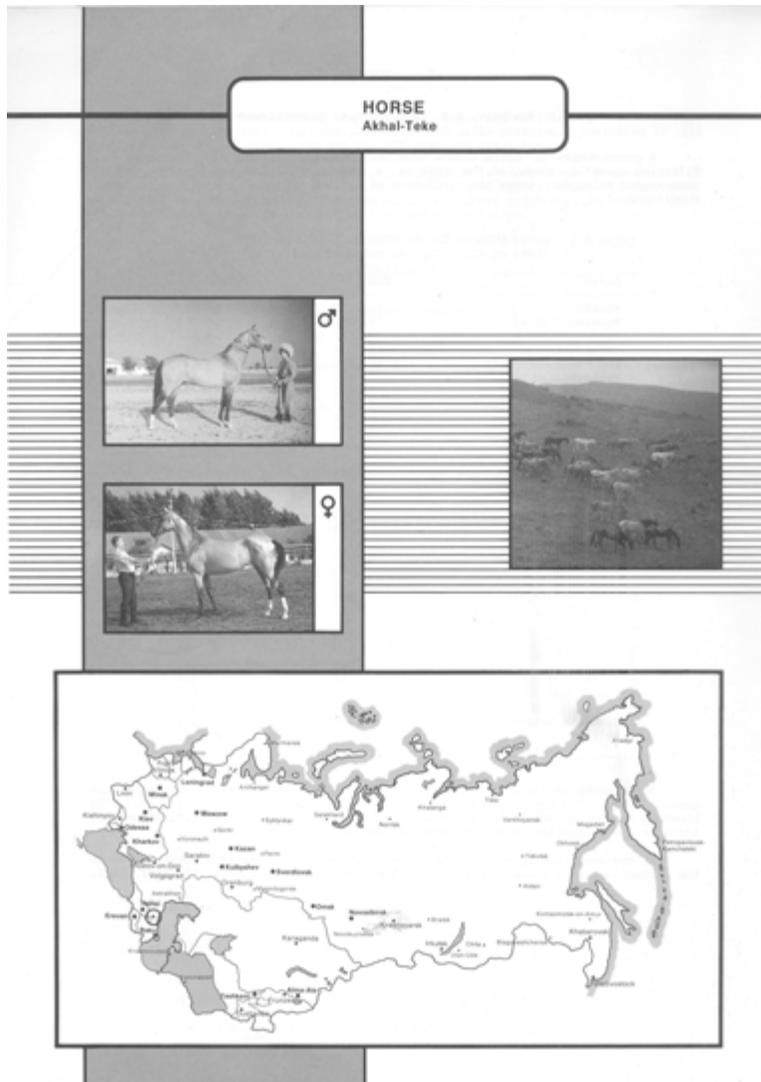
At the same time new breeds have been developed. For instance, during 1945-85 the following breeds received official recognition; Budyonny, Tersk, Vladimir, Tori, New Kirgiz, Kustanai, Latvian and Kushum. The breeding work for developing the Ukrainian Saddle and Byelorussian Harness breeds is nearing completion.

On 1 January, 1980, state farms had 3 053 100 breed horses including 550 400 purebreds. The monograph describes 33 breeds totalling 2 936 900 including 18% of purebreds. The monograph does not cover 11 breeds and breed groups present in small numbers and totalling 116 200 head. They include Voronezh Coach, Hutsul, Kuznetsk, Chumysh and others.

The Breed Regionalization Plan envisages an increase in the number of purebreds. When systematic grading up with stud sires is employed, crosses of the second and third generations are regarded as belonging to the breed while crosses of the fourth and later generations are accepted as purebreds.

The State Studbooks register pedigree sires and dams of elite or 1st class which are used for breeding at stud farms and stables. Registered horses are the best animals and make up the nucleus of the breed. About 60% of Thoroughbreds are registered, 33% of Budyonny and Don, 28-35% of Russian and Orlov Trotters, 28% of Russian and Soviet Draught and over 80% of Arabian, Akhal-Teke and Trakehner.

The elite nucleus of major breeds of horses is concentrated in 104 horse breeding centres where intensive breeding activities are undertaken. The horse genetic resources of the USSR are widely used throughout the world, horses being exported to over 20 countries.



SADDLE HORSES AKHAL-TEKE (Akhaltenskaya)

The breed is a direct descendant of ancient riding horses. It had emerged by the turn of the 8th century at the time when Turkmenian horses were regarded as the best in Central Asia. It was developed in the oases in the southeast of the Kara-Kum desert and the foothills of the Kopet-Dag. The Akhal-Teke was bred on the basis of a particular rearing system involving horse raising on a man-grown fodder consisting of limited but highly nutritive feed such as corn, alfalfa, bread and animal protein where available. This is typical only of the desert and semi-desert, as horse keeping on the steppes involves feeding substantial amounts of grass and hay.

From the Akhal and the Tejen oases in Turkmenia the breed was introduced into many other places. During the 8-10th centuries the guards of the khalif of Baghdad consisted of Turkmen horsemen mounted on Turkmenian horses. Persian, Bukhara and Turkmenian stallions were extensively

employed in the stables of Russian tsars in the 14-17th centuries. In the 15-19th centuries the Turkmenian penetrated to western Europe. In the USSR the Akhal-Teke is now found in Turkmenia, southern Kazakhstan and in North Caucasus.

Its conformation is as follows: head - light and clean-cut, straight and long in the muzzle; neck - long, thin, muscular, sometimes with a protruding throat-latch; long and high withers; long and often slightly dipped back; long loin; straight croup. The Akhal-Teke has a typical linear exterior. The chest is narrow and not very deep. Sloping shoulders, clean long legs, hard but moderately developed joints, long and often steeply sloping pasterns. Large and hard low-heeled hoofs. Tight thin skin; thin hair coat, mane and tail. Delicate but hardy build.

The average measurements (in cm) of stallions at studs are as follows: height at withers 158.3, oblique body length 159.8, chest girth 176.3, cannon bone girth 19.1, mares: 157.1, 158.9, 176.0 and 18.8 respectively. Live weight of stallions is 430-500 kg.

Age at maturity is 5-6 years, which is relatively late. Akhal-Teke horses show excellent speed, although they lack range and strength. Their action is distinguished by a strength, smoothness and elegant carriage which are well appreciated in modern classic events and particularly in the dressage. The jump is very soft and elastic. However, insufficient height and strength prevent it from fully matching the requirements of modern competitions. Nevertheless, Absent, Muar and Penteli of the Akhal-Teke breed are well-known names in world equestrian sports as winners in international competitions and the Olympic Games. The unique sporting assets of the breed are employed in crossbreeding the Akhal-Teke with the Trakehnen, Hanover and the Latvian riding breeds.

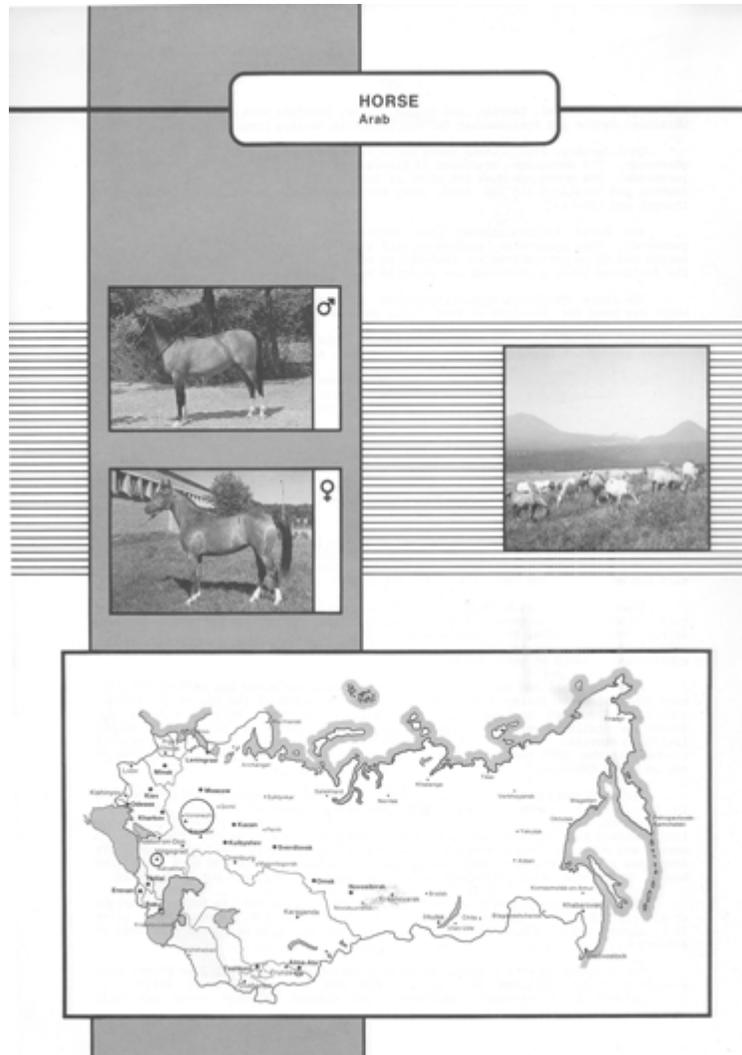
The Akhal-Teke combines average fertility with extended longevity. It is not uncommon that stallions are widely employed after the age of 20. The record longevity of 30 years was attained by the mare Elan which produced 17 foals. At the same time the breed is not easily acclimatized in other regions of the country.

Intensive agriculture and poor competitiveness have resulted in a sharp decline in the purebred population. Volumes III-V (1941-75) of the Studbook recorded 849 stallions and 1406 mares. However, volume VI of 1981 had only 87 stallions and 300 mares. This suggests that the breed's gene pool is strictly limited. The majority of the modern Akhal-Teke are direct male-line descendants of the sire Boinou (1885).

The Akhal-Teke has a low frequency of transferrin types. In 732 specimens the frequencies of different alleles were as follows: D 0.17; F 0.52; H 0.08; O 0.09; R 0.17. Transferrin M is absent; H and O are rare.

The breed consists of 7 sire lines and 5 mare families; two new lines are being formed.

It is planned to raise the breeding nucleus up to 700 mares. The breed has been spreading internationally. The United States and the Federal Republic of Germany plan to form Akhal-Teke breed societies.



ARAB (Chistokrovnaya arabskaya)

Like the Thoroughbred the pure Arabian breed is employed to improve the type and action of other breeds. Many investigators believe it to be the most ancient pure breed. Others think it developed as a result of crossing between ancient breeds of Africa, Central Asia and Asia Minor. The Arabian is believed to have originated during the 4-8th centuries in the hot dry climate of the steppes, deserts and oases in the Arabian peninsula. The first Arabian horses were imported into Russia during the rule of Ivan the Terrible. The first use of Arab stallions in England is recorded a little later. Extensive import of the Arab into Russia began in the mid-18th century i.e. in the era of the Turkish wars. A.G. Orlov imported 30 stallions and 12 of them were used at his stud. Smetanka proved to be the best and his descendants became the progenitors of the Orlov Trotter and Orlov Riding horse. Orlov was the first Russian to export Arab horses. From his stud he sold the stallions Alibei and Orlov Arabian to Britain. Prior to the 1917 Revolution the Arab was raised at private studs: Sangushko, Brabitsky, Pototsky, Sherbatova and Stroganov. After the Revolution the

Soviet Government took steps to revive horse breeding and instituted the Tersk stud on the basis of the former Stroganov and Sultan Ghirey farms. Breeding of Arabian horses with a selection programme started in 1925. The Tersk stud imported several stallions from Hungary and France in 1930, from Britain in 1936, and from Poland in 1939. As a result of continuous breeding a distinctive group of Arab horses was produced perfectly adapted to conditions in the USSR. The Arab is currently concentrated at five studs and two horse breeding farms. The mare population stands at 250.

Separation into intra-breed types is a specific feature of modern Arab horses. The Siglavi type has pronounced Oriental features, proportional build, fine-boned and robust constitution, low stature and adequate body size. The Koheilan type is distinguished by prominent body mass, large height, solid build and the ability to thrive irrespective of management conditions. The Koheilans show good action and satisfactory endurance. The Hadban type has less pronounced Oriental lineage, greater height, excellent limbs constitution, well-developed musculature; it shows high action and better endurance. The Koheilan-Siglavi type has been bred at the Tersk stud as a very promising one which successfully combines many assets of its progenitors. Outside the USSR it is named the "Tersk" type. The Arabian stallion measurements (in cm) are as follows: height at withers 154, oblique body length 152, chest girth 178, cannon bone girth 19.3; mares: 151, 151, 178 and 18.7 respectively.

Arabian horses bred in the USSR are larger and have a better conformation than those in many other countries. They have light, straight or dished heads with wide jaws, broad forehead, large eyes and short muzzle. A long high-set neck is arched to the poll. Long, well-muscled withers. Sloping shoulders prevail in the Hadban and the Koheilan-Siglavi types. Medium-long straight back, medium-long and flat loin; long, correctly-sloping wide croup, the sacrum often short; wide and deep chest. All types have well-developed costal cartilage. Correctly-set forelegs; well-developed forearms, knee-joints and cannons, medium-long and properly sloping pasterns. Correctly-set hindlegs, well-developed hock-joints, cannons and fetlock-joints. Sometimes there is a tendency to sickle-hocked hindlegs and formation of oxostoses. Solid tendons and ligaments, exceptionally hard hoofs. Predominant colour is chestnut; bay and grey are rare. There are no other colours in the breed.

The Arabian is an energetic, active and well-disposed horse.

Arab horses raised in the USSR show remarkable endurance. Their speed records in the Soviet Union exceed those in other countries by 3 sec. The USSR record for 2000 m is 2 min 14 sec, Polish 2 min 22 sec, Egyptian 2 min 18.4 sec, the United States 2 min 17.1 sec. The Arabian has also shown excellent endurance in long-distance races: 5 hr 6 min for 100 km under a 80 kg rider; 1 hr 38 min 8 sec for 50 km. An admirable example of their hardiness was the 1941 ride of the Tersk stud trainees from Lvov to Mineralnye Vody during the war. All Arabian horses, the two-year-olds included, successfully reached their destination. They work quite well in harness and may be used for different jobs.

Arabian horses bred in the USSR have remarkable fertility and longevity. The average foaling rate is 86 births per 100 mares; gestation period is 340 days. The outstanding mares Gazella and Tarashcha (dam and daughter)

produced 22 foals each. The stallion Nasim lived to the age of 31 years. There have been no recorded cases of melanosarcoma in the breed.

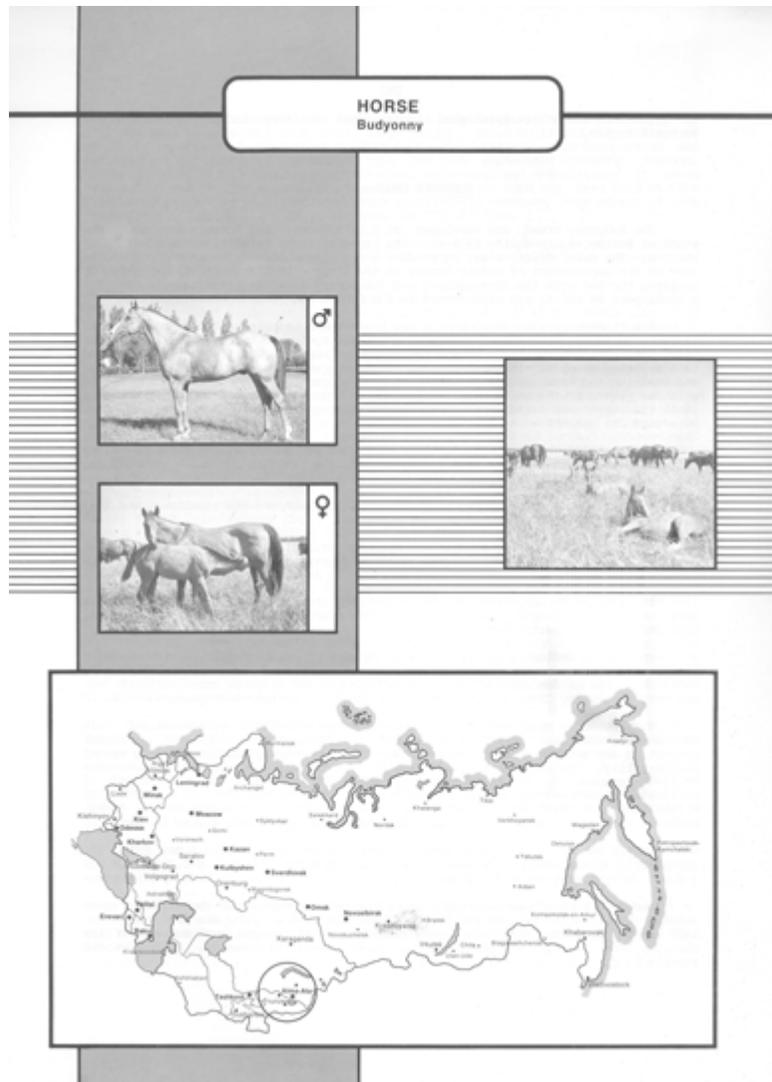
The breed's structure consists of intra-breed types, sire lines and mare families. The Nasim, Korei and Koheilan lines are the best represented. In the course of the breed's improvement in the USSR 5 mare families were formed.

The breed has the following blood group antigen frequencies: Aa 0.98; Ac 0.14; Ca 0.99; Da 0.00; Db 0.31; Dd 0.90; De 0.56; Dh absent; Pa 0.51; Qa 0.40. The polymorphism of the serum protein system is represented by 5 transferrin alleles, 2 albumin and 5 esterase and cocarboxylase alleles.

The Arabian is a most useful breed for improving small and light horses like the Karabakh, Deliboz, Iomud, Lokai and Tersk. It offers a rich source of genes for commercial production of various competition horses by crossbreeding.

The Arabian is an effective export item. Koheilan-Siglavi animals raised at Tersk stud and sold for export have repeatedly won prizes at national competitions, stallion exhibitions and races in the Netherlands, the FRG, France and the United States.

The best studs are Tersk stud in Stavropol territory and Khrenovski stud in Voronezh region.



BUDYONNY (Budennovskaya)

The Budyonny breed was developed at S.M. Budennyi and Pervaya Konnaya Armia studs of Rostov region during 1921-49. Its breeding went parallel to restoration of the Don. The main objective was to produce a high-grade cavalry horse which could be used in the improvement of saddle horses in the steppe regions. It was developed by crossing the Don with the Thoroughbred and subsequent inter se breeding of F_1 and F_2 . A small part of the F_3 was backcrossed to the Don and the Thoroughbred. Simultaneously with developing a new breed there was elaborated a novel method of improved taboo management. According to this system high-grade stock were kept under unfavourable conditions in special barns. Complete diet feeding was provided to a selected group of the best horses. The young stock received adequate exercise and training and were regularly tested at the hippodrome. The taboos were formed with due regard to the uniformity in type and to mass selection standards. Within a

short time type was fixed in the crossbreeds forming the breeding nucleus and they were used for crossbreeding the local horses.

Although 100 Thoroughbred stallions were used in the formation of the new breed only the descendants of four were admitted into the breeding nucleus - Sympatiaga, Svetets, Inferno and Kokas.

Volumes I-V of the Budyonny studbook (1951-79) recorded 724 stallions and 4643 mares.

The modern Budyonny is a horse of ample height, solid clean build, with regular exterior and heavily-muscled body. It is easy tempered and energetic. The Budyonny is an easily broken and reasonably fast jumper. It is one of the best racehorses.

The average measurements (in cm) of Budyonny stallions are: height at withers 165; oblique body length 165; chest girth 190; cannon bone girth 22; mares: 161, 162, 188 and 20 respectively.

The strong influence of the Don breed resulted in preservation of corresponding intra-breed types in the Budyonny - eastern, heavy and basic. The Don also contributed the golden chestnut colour prevailing in the Budyonny breed although bay, and very rarely bay brown or black, may be seen at the Pervaya Konnaya Armia stud.

The breed's performance is improved by corrective crossbreeding with Thoroughbred stallions up to a level of 5/8 Thoroughbred blood but a higher proportion may lead to certain weaknesses such as poor bones, decline in body weight and fertility. The percentage of live births from the mares of the above inheritance is 67-70 compared to the breed's average of 78-80.

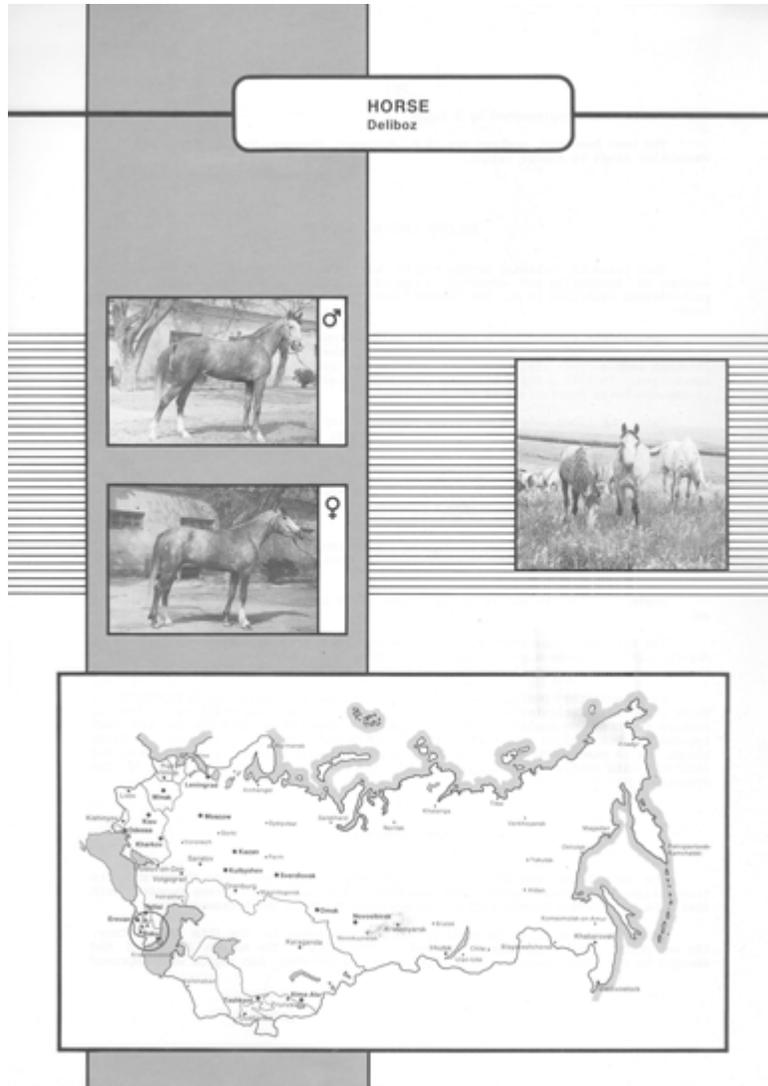
However, on a background of corrective crossbreeding, inbreeding with a high coefficient (6-12.5% according to Wright) does not cause any depression in the main economic characters of the breed. Budyonny horses have a long life span. The average economic life may be 15 years.

In 400 horses at the S.M. Budennyi and the Pervaya Konnaya Armai studs the transferrin allele frequencies were as follows: D 0.18; F 0.51; H 0.05; O 0.22; R 0.04; H is absent and H and R are rare.

Budyonny horses show remarkable endurance both in racing and the classic sport events. The breed's records are 1 min 43 sec for 1600 m and 2 min 35.9 sec for 2400 m. The stallion Reis held a USSR record and had international success in the obstacle race, Pintset in the three-day event, Gasan in dressage, Priboi in the steeplechase.

The breed is represented by 6 lines.

The best breeding centres are S.M. Budennyi, Pervaya Konnaya Armia and K.E. Voroshilov studs in Rostov region.



DELIBOZ (Delibozskaya)

This breed of oriental saddle horses was formed in Kazakh, Akstafa and Tazuz regions of Azerbaijan and adjacent areas of Georgia and Armenia. Some earlier publications described it as the "Kazakh" horse of Azerbaijan or as the Azerbaijan horse.

Specialists singled out a specific Deliboz type among large horse populations studied in the 1930s and late 1940s. Those horses were improved by Arabian and Karabakh saddle-type stallions. Deliboz horses spread widely throughout western Azerbaijan. In 1943 a State Breeding Cooperative (gosplemrassadnik) was established to improve horse populations of the Republic.

Since the 1950s Azerbaijan horses have been improved by Arabian and Tersk sires while Karabakh was bred separately. Crossbreeding involved horses of the Deliboz type.

Deliboz horses differ from others by a clean, short head with a broad forehead and narrow nose, a compact heavy neck, a ribbed massive body

with a good top line and an even, long back and loin. Legs are clean and well proportioned and the cannon bone girth is larger than that of other horses.

Deliboz is characterized by unstable temperament and predominantly rack (or pace) gait. A typical feature is a peculiar lengthwise fold on the tongue giving the impression of a forked tongue.

Average withers height is 152 cm, chest girth 172 cm and cannon bone girth 19.4 cm.

The Deliboz horses show good working capacity. They easily cover 45-55 km a day in highlands under a pack weighing 115-130 kg, and 70 km under a rider. The best racing results are 1 min 56 sec for 1600 m and 2 min 55 sec for 2400 m.

At present the pedigree nucleus of Deliboz is represented by descendants of Tersk stallions Tselostat and Pygmalion; therefore the problem arises of how to restore the breeding nucleus of local horses. Dashyuz stud farm has the 140 most typical Deliboz horses including breeding mares with a high proportion of Tersk blood. It is planned to breed them pure but with single back crossing to one or two stallions with little Tersk blood in order to preserve the valuable traits of the crosses.