

#### IV. COARSEWOOLED BREEDS

##### 1. Pelt Breeds

##### ROMANOV (Romanovskaya)

This breed of the sheepskin and mutton type emerged under the conditions of subsistence economy in the Tutaev district of the Yaroslavl region. The breed appeared at the end of the 17th century and written sources first mention it in 1802.

Northern Short-tailed sheep have been raised from time immemorial in northern, northwestern, and some central regions of Russia. They were also raised throughout the extreme north of Europe. Most successful in improving their sheep, however, were peasants of Yaroslavl region.

The research of Lobashev (1954) has confirmed the opinion of Kuleshov (1925) and Ivanov (1935) concerning the origin of the Romanov breed from the Northern Short-tailed sheep. Selection has resulted in a unique breed of sheep with excellent pelt characteristics and unsurpassed prolificacy. As a

rule Romanov sheep drop 2 to 3 lambs (up to 9) per lambing. Ewes may lamb twice a year if the feeding and management are good. Cases have been recorded in which a ewe produced up to 14 lambs in two lambings. Romanov sheep are raised in more than 30 regions of the Russian Federation. The largest numbers are kept in Yaroslavl, Ivanovo, Kostroma, Vologda, Archangel, Kalinin, Vladimir, Perm, Sverdlovsk, Novgorod, Smolensk and Kirov regions and in the Udmurt and Komi ASSRs. Good breeding flocks of Romanov sheep are also raised in Byelorussia. The number of Romanov sheep has remained fairly steady over the last fifteen years. In 1980 the total was 523 008 (89% purebreds) including 9951 breeding rams, 5054 other rams and 290 657 ewes and yearlings. Romanov sheep are relatively small in size. There are three types within the breed: coarse, fine and normal or standard. Sheep of the first type are characterized by coarse conformation, well-developed horns in rams and small horns in ewes. The wool is dark in colour due to a large guard-hair content (the ratio of guard hair to true wool fibres is more than 1:4); guard hair is much longer than wool. Locks are almost straight and form a mane in rams. The skin is thick and coarse. Sheep of the fine type have fine bone and the body is narrow. Both rams and ewes are polled. The fleece contains a high proportion of true wool fibres - 10-12 times as much as guard hair. The wool is always longer than the guard hair. The skin is thin. Pelts are attractive in appearance, light blue in colour; however they do not wear well since the wool soon gets felted. Sheep of the standard type have a strong constitution and a barrel-shaped body on long legs. The head is not large, clean-cut, and Roman nosed. The head is black, with a wide white stripe. Sheep are horned or polled. The (true) wool content by weight is twice as great as that of guard hair. In sheep of this type the wool is always longer than the guard hair. Due to a good wool-hair ratio (4-10:1 in fibre numbers), the wool does not get felted and has a nice grey colour with a shade of blue. The best skins are obtained from lambs of 4-6 months of age. Lambs are usually slaughtered at the age of 8-9 months when, after shearing of lamb's wool, guard hair has grown 2.4-3.0 cm and wool 4.6 cm. The live weight of ewes is 45-50 kg and that of rams is 55-80 kg. The annual fleece weight in 3 or 4 shearings is 2.0-2.5 kg for rams and 1.5-1.8 kg for ewes. Sheep of the standard type have better productive traits (see Table 4.2). Romanov sheep have some weak points in conformation, e.g. sharp shoulders, narrow chest, sway back, narrow and sloping rump and legs too close together.

**Table 4.2 PRODUCTION OF ROMANOV EWES OF THE VARIOUS TYPES**

Trait	Type		
	Standard	Coarse	Fine
Live weight (kg)	42.8	42.4	37.7
Fleece weight (kg)	1.36	1.49	0.99
Litter size	2.24	2.04	1.92
Birth weight of twins (kg)	3.08	3.15	2.70
Milk yield of ewes with twins in 20 days (kg)	33.7	22.0	25.0

Unlike sheep of other breeds, the wool of typical Romanov sheep consists only of guard hairs and true wool. The hair is short and black, and the wool is long and white. In all coarsewooled breeds follicles form in 3 or 4 stages. The formation of hair follicles in Romanov sheep has its own peculiarities (Panin, 1963). First the follicles producing guard hair are formed. Then, after a pause, wool-producing follicles emerge. In other words, follicles form in only two stages.

Romanov sheep are known for their exceptional prolificacy: in a total of 110 000 lambings, 20.2% of ewes gave singles, 51.3% twins, 24.2% triplets and 4.3% four lambs or more. The average number of lambs dropped per lambing was 2.15 (Korenev, 1964). The best shepherds obtain 250-300 lambs per hundred ewes lambing.

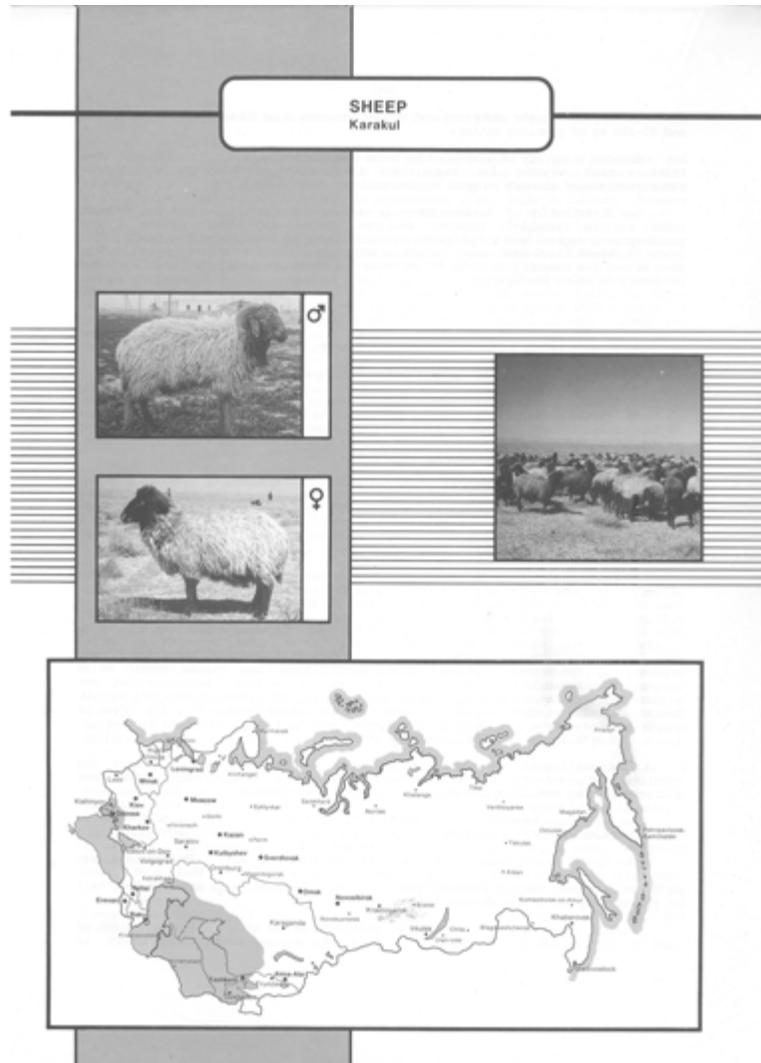
Selection for fecundity in Romanov sheep has eliminated the seasonal character of oestrus. Therefore, sheep can come into heat at any time of the year. Pregnancy lasts 140-150 days, i.e. it is shorter than in other breeds. Milk yield of Romanov ewes is usually high. Well-fed ewes produce 140-150 kg in 100 days of lactation; the best ewes produce 200-230 kg. The live weight of lambs at weaning (100-120 days) is 16 kg and at 8-9 months it is 35-40 kg. Ewes are mated at the age of 14-18 months when their live weight is 38-40 kg.

On many farms, the offspring of one ewe produce 2 or 3 high-quality lambskins and 80-100 kg of yearling mutton.

Romanov sheep are well adapted to local feeding and climatic conditions; they tolerate cold weather and temperature fluctuations. Dampness and strong concentrations of ammonia in pens are ruinous for them.

The distribution of Romanov sheep is wide. The best flocks and the largest number are in Yaroslavl, Ivanovo, Kostroma, -Kalinin and other regions of the northwestern, central and Volga-Vyatka economic areas of the Russian Federation. The State Flockbook lists 2481 sheep including 127 sires.

Sheep of this breed are widely used abroad for crossing in order to increase out-of-season breeding, prolificacy and precocity in other breeds.



## 2. Fur Breeds KARAKUL (Karakulskaya)

The Karakul breed is the leading fur-producing breed. Karakul sheep are raised in the Uzbek, Turkmen, Tajik and Kazakh SSRs, in parts of Moldavia and in the south of the Ukraine. In the latter two regions Karakul sheep are not of decisive importance.

There are various views concerning the origin of the Karakul. Two of them are of particular interest. Proponents of the first theory evoke the studies of Young (USA) and their own experiments to substantiate the view that the Karakul breed developed recently from crossing a long-tailed black coarsewooled sheep from Bukhara (the so-called Danadara), with Afghani and local fat-rumped sheep. The former cross gave grey, and the latter black, Danadara sheep.

Kuleshov (1947) believed that the Karakul breed emerged through centuries-long selection of lambs on the basis of the curl in the birth coat.' Ivanov (1964) thought that the most realistic is Adage's' theory that Karakul

sheep appeared many centuries B.C. by mutations for fat tail and curly lamb coat. Professor Durst's excavations at Anau in the vicinity of Ashkhabad unearthed the remnants of an ancient sheep, which is similar to the Karakul. It is believed that Karakul sheep appeared in Central Asia in the 8th century when the territory of Turkestan (Bukhara, Khiva, etc.) was conquered by the Arabs. In Uzbekistan, Karakul sheep are called "Arabi" which suggests that Karakuls are related to Arab sheep. At the same time Ivanov does not reject the view that present-day Karakul sheep are not the pure fur sheep brought by Arabs. He believes that they were crossed with fat-rumped sheep. This hypothesis is supported by Ivanov's data showing that the Karakul tail shape recurs in crosses of fat-rumped with long-tailed or fat-tailed sheep. The constitution and productive traits of Karakul sheep were shaped in the conditions of year-long extensive husbandry and a dry, hot climate. They are characterized by endurance and adaptability to life in deserts. Karakul sheep have long broad tails with a lot of fat. The tip of the tail, of the same colour as the newborn lamb.

Karakul sheep vary in constitution, conformation and wool. The live weight of rams is 60-70 kg and that of ewes is 45-50 kg. The average annual fleece weight is 2.5-2.6 kg; when fed properly, sheep can produce 3.0-3.5 kg of wool per head. Three constitutional types are distinguished within the breed, regardless, of the lamb's coat colour: strong, coarse, and fine.

Sheep of the strong type have a spare frame. The skin is thin and firm. The fleece consists of guard hair of medium thickness and of curly wool. Locks are silky and covered with yolk. The fleece weight is higher than in sheep of the fine type and lower than in sheep of the coarse type. Sheep of the strong type produce the lambskins of the most valuable Persian lamb type. The lambskin is lustrous, silky and beautifully patterned. Sheep of this type are hardy and agile, they can effectively utilize desert plants and are the most desirable for breeding.

In sheep of the coarse type (*Ak-gol*), the head, legs and belly are poorly covered with wool. The skin is thick, often porous. The fleece is coarse and contains a lot of guard hair; the true wool is short and thin. The locks are long and curly.

Sheep of the fine type are divided into *nazykh* and *kyryk*. In general they have a fine, refined or even overdeveloped frame, and a narrow body. The head is fine, with elongated facial bones. The skin is thin. The wool in general consists of true wool and intermediate fibres, with in length it is slightly longer than the true wool. The fleece is often felted. Sheep of the fine type are not suited to range keeping in winter; they are less sought after. This is particularly true in the case of the *kyryk* sub-type.

Karakul sheep are not prolific; the average number of lambs dropped per hundred ewes is 110. This stimulated the scientists in Askania Nova to develop a new type of Karakul sheep with a lambing rate of 170-180 lambs per hundred ewes. It was obtained by mating Karakul ewes to Romanov rams and followed by rigid selection of sheep of the desired type on the basis of their prolificacy and the quality of fur. Sheep of the desired type were then bred inter se.

Milk yield of Karakul sheep is not high. However, since more than half the ewes are relieved of their lambs when they are slaughtered for their skins at the age of three days sheep milk is an important source of earnings for

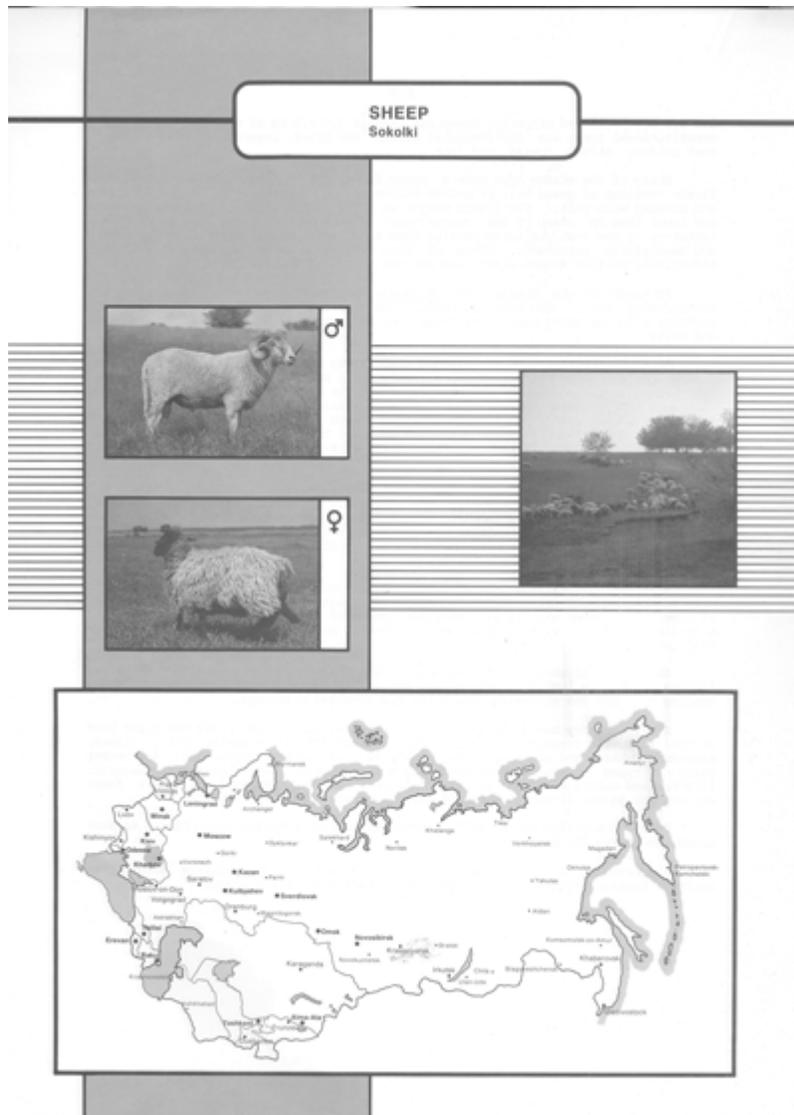
Karakul breeders. According to Averyanov, milking of ewes in Central Asia produces 25-30 kg of milk per head, with 7-8% fat.

The number of sheep of the Karakul breed has remained constant over the last fifteen years. In 1980 the total was 12 431 977 (96% purebreds) including 375 047 breeding rams 257 765 other rams and 8 582 464 ewes and yearlings.

There are many breeding strains. For example, strains of black sheep are bred at the following breeding centres: Ravnina and Uch Aji (Turkmen SSR), Nizhan, Kara-Kum, Mubarek and Kenimekh (Uzbek SSR), and Zadarinski (Kazakh SSR). In recent years new types of coloured and grey Karakul sheep have been obtained at Gagarin, Kara-Kum and Nurata breeding centres, on Uzbekistan and Communism collective farms and at Ayak Agitma livestock breeding experiment station in the Uzbek SSR.

On 1 January 1980 the State Flockbook listed 6739 superior sheep of the Karakul breed, including 888 sires.

All breeding farms use pure breeding, with positive and negative assortative mating. Karakul sheep are widely used for improving other fur breeds.



### SOKOLKI (Sokolskaya)

The breed belongs to the fur-milk type. It was produced by selection for fur qualities of local breeds of the fur-milk type. The Karakul was used in improvement.

According to the breed regionalization plan this breed is raised mainly in Poltava region and some districts of Dnepropetrovsk, Cherkassy, and Kharkov regions of the Ukraine. One should mention particularly Kremenchug district of Poltava region where there is the village of Sokolki after which the breed is named.

Grey lambskins are the main product of the breed. Although Sokolki lambskins are somewhat inferior to the Karakul, they are still valued for their beautiful colour which varies from light to bluish grey or steel. A few animals are black.

Sokolki sheep are small in size, have a harmonious conformation and a long tail free of fat. The live weight of rams is 60-70 kg and that of ewes is

42-46 kg. Meat production is adequate provided sheep are properly fed. The average daily weight gain in adult sheep (ewes and wethers) fed both in confinement and on pasture for six weeks in October and November was 110 g. At the end of fattening the live weight of wethers was 56.8 kg and that of ewes 47.8 kg. The average carcass weight of ewes was 22 kg and that of wethers 26 kg with a slaughter yield of 46.0 and 47.1% respectively. The wool clip from rams is 3-3.5 kg (max. 4.8 kg) and that from ewes is 2-2.5 kg. The wool is coarse and of various shades of grey.

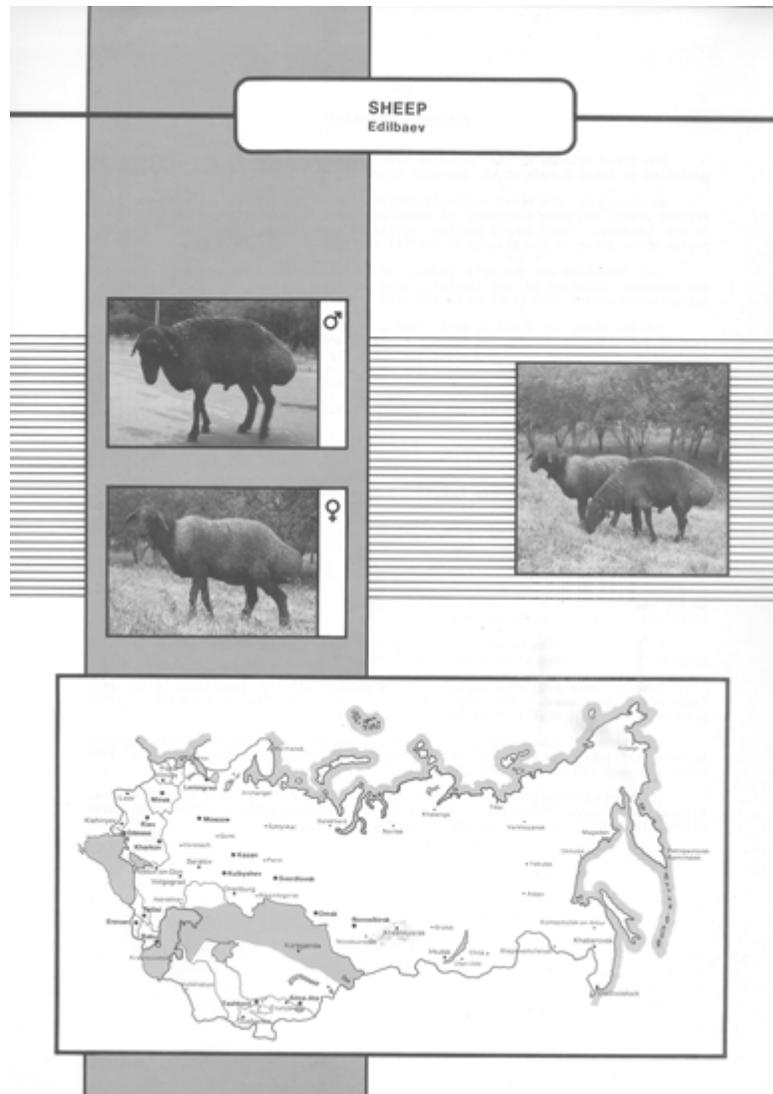
Sokolki sheep are bred pure using positive and negative assortative mating on the basis of colour. Since grey lambskins are valued more highly than other colours, both grey and black ewes are mated to grey rams in order to ensure the maximum numbers of grey lambs. The quality of grey lambskin obtained by mating grey to grey is much higher. However, some of the lambs are born so weak that at the age of three to four months some 25% of lambs (the homozygotes) die of chronic tympanitis. Therefore some experts recommend that heterozygous grey lambs be produced since they do not suffer from tympanitis. In order to obtain such lambs black ewes are mated to grey rams (in this case 51.3% of the offspring are grey) or grey ewes to black rams. Mating black to black or grey to grey is supposed to be used on breeding farms for elite and the best first-grade ewes.

Within the Sokolki breed there are 5 sire lines. Of interest are the crosses obtained by mating ewes of different colour to rams of individual strains.

Sokolki sheep are very fertile: they produce 125-135 (sometimes up to 160) lambs per hundred ewes. Milk yield of ewes is good: ewes not feeding their lambs produce 60-75 kg of milk in a lactation of 4.5 months.

The number of Sokolki sheep has increased slightly over the last fifteen years. In 1980 the total was 190 428 (88% purebreds) including 5861 breeding rams, 4973 other rams and 140 795 ewes and yearlings.

The best flocks of Sokolki sheep are on Iskra, Pobeda, 21st CPSU Congress, 'Kotovskii and Znamya Kommunizma collective farms in Poltava region. Commercial farms which raise Sokolki sheep occasionally use Karakul rams.



### 3. Mutton-Fat Breeds EDILBAEV (Edilbaevskaya)

This is a coarse-wooled breed of the mutton-fat type. It was obtained in the 19th century by mating Kazakh fat-rumped ewes to coarsewooled rams from Astrakhan. During this process animals most suited to the natural and climatic conditions of nomadic sheep husbandry were selected. Sheep of this breed can stand severe winter frosts and summer droughts. They can easily cover long distances and, due to their morphological and physiological features, graze well on scarce coarse pastures. According to the breed regionalization plan Edilbaev sheep are raised in Karaganda, Guryev, Aktyubinsk, Semipalatinsk, Kustanai, Uralsk, Jezgazgan and Pavlodar regions of Kazakhstan. Edilbaev sheep have a strong constitution, a good conformation and a well-developed fat rump. In terms of their meat and fat traits they are inferior only to the Hissar. Both rams and ewes are polled. Withers height is 75-84 cm

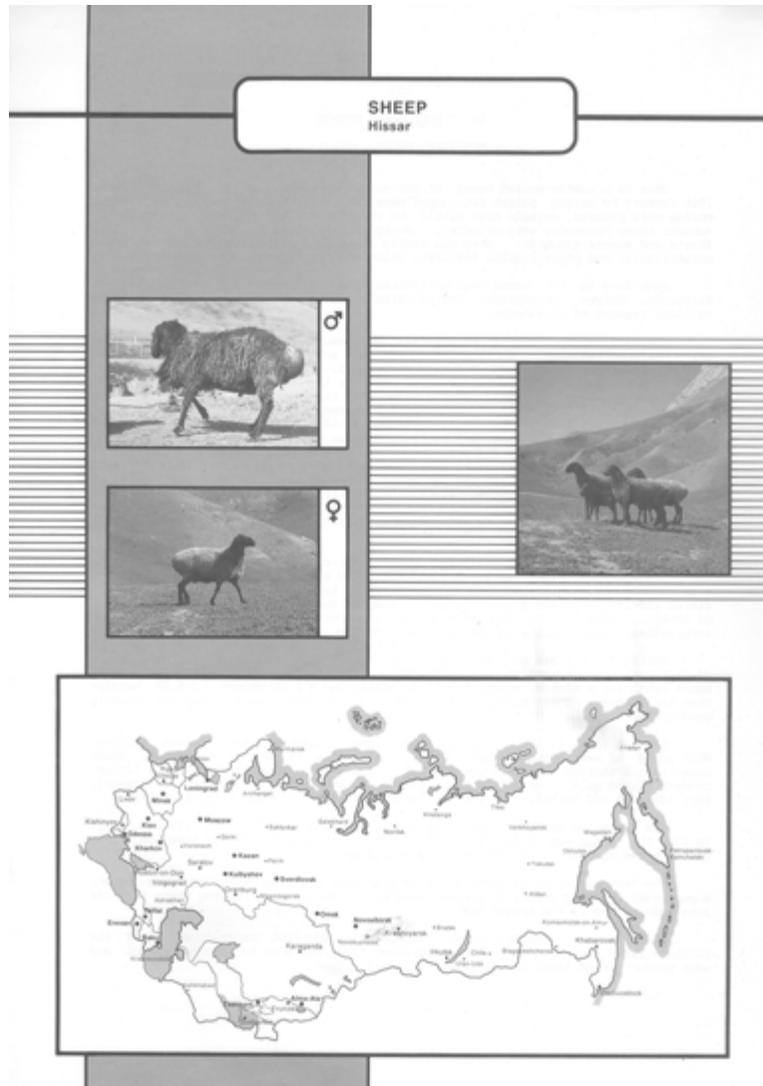
and chest girth is 97-106 cm. Live weight of rams is 110-120 kg (max. 150-160 kg) and that of ewes is 65-70 kg (max. 90-100 kg). They have a rapid growth rate and are early maturing. Birth weight of males is 6.0 kg and that of females is 5.2-5.3 kg. Weaning weight (at 4.0-4.5 months) is 40-45 and 35-40 kg respectively. At the age of 18 months rams weigh 80 kg and ewes 65 kg. Carcass weight at the age of 4 months is 20-24 kg and rump weight is 3-4 kg. According to the data compiled by the former Temir experimental station (Kazakh SSR), the live weight of Edilbaev lambs on good pasture was 17.7 kg at the age of one month, 28.7 at two, 35.8 at three, 42.4 at four, and 43.5 kg at six months. The average daily gain was 195 g and the maximum 253 g. This shows the extreme precocity of the breed. The carcass weight of fat adult wethers may reach 40-45 kg and the rump fat may weigh as much as 12-14 kg. The meat and fat yield is 50-55%. Edilbaev sheep surpass other coarsewooled fat-rumped breeds in wool production. The average fleece weight is 3.0-3.5 kg (max. 5.0 kg) for rams and 2.3-2.6 kg for ewes. The wool is not uniform and consists of true wool (52-56%), intermediate fibres (16-19%), and guard hair (24-28%). Kemp is found only in a very small number of sheep. According to laboratory data, the wool fineness is 18.0  $\mu$ , that of intermediate fibres 33.1  $\mu$  and of guard hair 59.5  $\mu$ .

Edilbaev sheep are predominantly black or tan; they may also be brown. Sheep of different colours differ in productivity. For example, it has been shown that black ewes have a fleece weight 7.5-11.8% higher and a live weight 2.2-6.9% heavier than tan sheep. Their carcass traits are also better. Brown sheep are equally productive.

Lambing rate is low - only 110-120 lambs dropped per hundred ewes lambing. Milk yield of ewes is sufficiently high. According to data of the former Temir experimental station, ewes average 150-155 litres with a range of 124.8-184.3 litres. Commercialized milk is used for production of airan (sour milk), primchik (cheese), kurt (cheese) and butter. The average fat content is 5.8% with a range of 3-9%.

The number of Edilbaev sheep has nearly doubled over the last fifteen years. In 1980 the total was 5 256 059 (46% purebreds) including 137 798 breeding rams, 22 269 other rams and 3 707 411 ewes and yearlings. The best flocks of this breed are on Brklinski breeding centre in Urals region, Suyundukski breeding centre in Guryev region, and Sarysuiski breeding state farm in Jezgazgan region of the Kazakh SSR.

On 1 January 1980 the State Flockbook listed 5182 superior sheep of the Edilbaev breed including 4582 rams. Edilbaev rams are used for improving wool and meat production of local breeds of the mutton-fat type.



### HISSAR (Gissarskaya)

This is a coarsewooled fat-rumped breed of the mutton-fat type. It was obtained by selection in the conditions of year-long range husbandry in Tajikistan and was bred by Uzbek tribes which migrated there with their sheep flocks in the 13th-14th centuries. Sheep of this breed are raised in the centre of the Tajik SSR (Karagach, Dushanbe, Faizabad, Kulyab, Kurgan-Tyube) and in the foothills and mountains of Surkhandarya and Kashkadarya regions of the Uzbek SSR (Baisun, Denau, Sariasia, Shurchi, Sherabad). As Ivanov points out, Hissar sheep are an isolated race of fat-rumped sheep. They were extensively studied for the first time by an expedition of the Moscow Zootechnical Institute during 1921-28, headed by S.G. Azarov. Azarov believed that the isolation took place due to the remoteness and the natural, historic, and economic peculiarities of the areas (the Lokai plain, for example), where Hissar sheep are raised. Hissar sheep are not only the largest of the fat-rumped breeds, but they are larger than the Lincoln, the biggest European sheep. Withers height of ewes

is 75-80 cm and that of rams is 80-85 cm. Oblique body length is 75 and 85 cm and depth of chest is 34 and 35.5 respectively.

Sheep of this breed have a strong and sound frame, a long, broad and deep body and a well-developed elevated rump where the reserve fat is deposited. The fat serves as an insurance against seasonal fluctuations in forage supplies. In ewes the rump is some 40 cm long and 29 cm wide; in rams, the respective figures are 48 cm and 40 cm. The head is massive and Roman-nosed; the ears are long and pendent. The neck is short and thick. Ewes are polled but some rams have small horns. Hissar sheep are well adapted to local environmental conditions and are easily able to cover the long distances (400-500 km) from winter quarters to high-altitude summer ranges. When pastured on alpine and sub-alpine ranges, Hissar sheep graze well and deposit large quantities of fat in the rump.

The live weight of rams is 130-140 kg (max. 180-190 kg) and that of ewes is 70-80 kg (max. 100-120 kg). The carcass weight of adult sheep is 58-60% of their live weight. The young mature very early: during the first 2-3 months they gain at the rate of 500-600 g a day. At weaning ram lambs weigh 47-50 kg and ewe lambs 46-48 kg. On pasture, wethers on the Hissar breeding farm in the Tajik SSR had a live weight of 128 kg and a carcass weight of 87 kg. The rump weighed 23 kg. Individual wethers produced up to 64 kg of fat.

At the same time Hissar sheep produce very little wool and it is the coarsest among all varieties of fat-rumped sheep. The average fleece weight is 1.3-1.6 kg for rams and 1.0-1.4 kg for ewes. The wool contains a lot of guard hair and kemp -18-34% in ewes and 11-24% in rams. The wool is used mainly for felt production. Hissar sheep are dark tan or black in colour. Lambing rate is low - 110-115 lambs dropped per hundred ewes lambing. Milk yield is sufficiently high - 1.8-2.3 kg per day. According to Farsykhonov, the milk yield per ewe is 100-120 litres in a 2-month lactation.

The number of Hissar sheep has declined somewhat over the last fifteen years. In 1980 the total was 478 290 (97% purebreds) including 14 163 breeding rams, 11 617 rams and 275 668 ewes and yearlings.

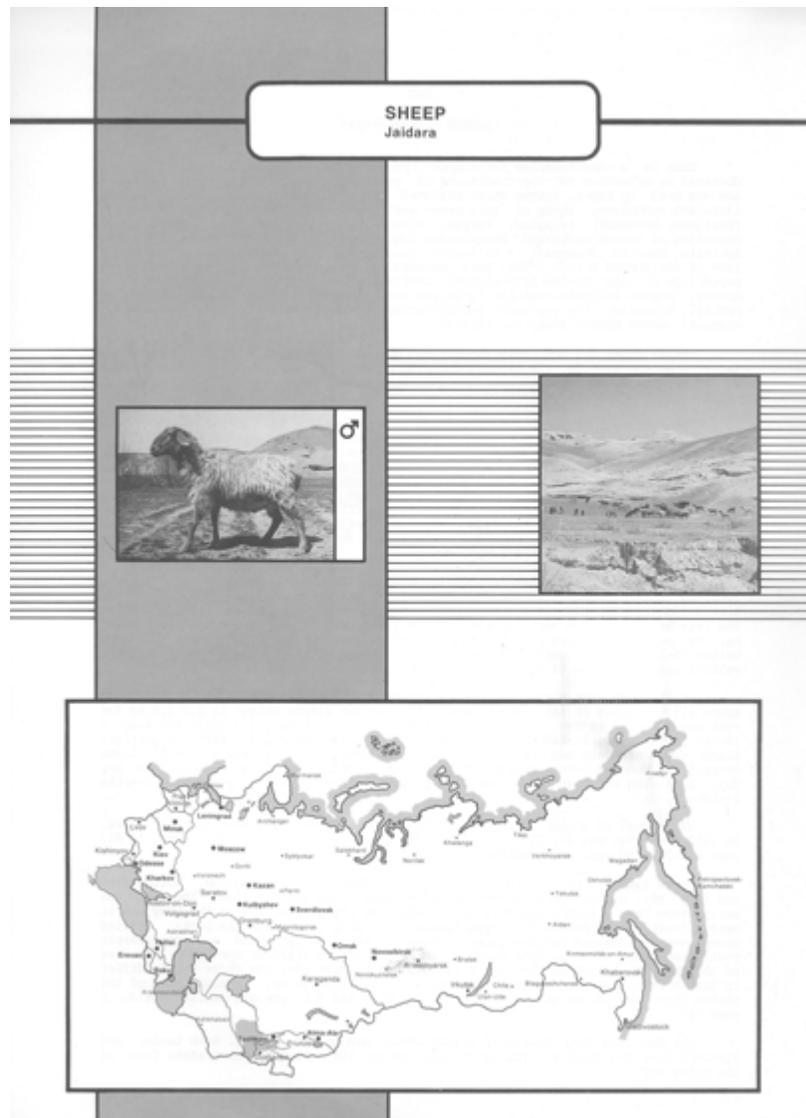
Three types of Hissar sheep are currently distinguished: mutton, mutton-fat, and fat; they differ in conformation and in rump size and position. Sheep of the mutton type have a tight, scarcely noticeable rump which is hidden in the body, as it were. Sheep of the mutton-fat type have a large rump level with the back; grazing sheep have a somewhat bulging rump. Sheep of the fat type have a large sharply protruding rump, which in some animals is as big as one third of the body. Studies of the Uzbek Institute of Livestock Breeding have shown that the three types differ in growth rate, carcass traits and composition of weight gains. Grazing sheep of the mutton type have larger weight gains than sheep of the fat type and smaller yields of rump fat.

The best breeding flocks of Hissar sheep are on the Hissar, Rokh Lenin, and Komsomol breeding farms of the Tajik SSR, and on the Baisun breeding state farm of the Uzbek SSR.

The leading flock of the Hissar breeding centre has four lines. The first line combines all the best traits of the breed. One of the branches of this line is bred on Rokhi Lenin breeding centre in Hissar district. The second strain is characterized by earlier maturity and a higher lamb crop at weaning. Lambs of this strain are also heavier. The third strain is

characterized by prolificacy. The fourth strain was established in 1979 on the basis of well-pronounced meat conformation.

On 1 January 1980 the State Flockbook listed 25 ewes of the Hissar breed. In recent years, along with pure breeding, in some flocks, particularly in commercial ones, Hissar ewes are mated to rams of other breeds, in order to improve the wool. Hissar sheep are widely used for improving early maturity and meat and fat traits of other breeds of the same type.



### JAIDARA (Dzhaidara)

This is a local fat-rumped breed of the mutton-fat type. According to the breed regionalization plan, the breed is raised in all districts of Uzbekistan except the western desert and semi-desert or mountain areas where the Karakul and Hissar breeds are raised. This breed has also gained wide popularity in northern Tajikistan (Aini, Penjikent, Ura-Tyube, Ganchi and Nau regions).

In these areas sheep are kept on pastures in the foothills and at high altitudes except for a short period of confinement in winter. Winter and spring ranges lie at a height of 2000-2500 m and summer and autumn pastures at 2500-4000 m above sea level. Native plants on meadow lands include foxtail (*Alopecurus*), bromegrass (*Bromopsis*), fescue (*Festuca*), hairgrass (*Koeleria*), cocksfoot (*Dactylis glomerata*), bluegrass (*Poa*), vetch (*Vicia*), mugwort (*Artemisia*) and small shrubs. The climate is continental, with temperature fluctuations from -15 C to +30 C. The environmental

conditions and centuries-old experience of the local people have determined the boundaries of the area where sheep of this breed are currently raised.

The number of Jaidara sheep has declined slightly over the last fifteen years. In 1980 the total was 876 458 (96% purebreds) including 34 111 breeding rams, 40 779 other rams and 496 506 ewes and yearlings.

The distinctive features of the breed are the short legs and the elongated body which somehow predetermine their good ability to graze. Jaidara sheep are large in size and have a sound frame and proportional conformation. Most sheep are slightly Roman-nosed, with a long head and long ears. Both sexes are polled. The neck is short and straight, sufficiently thick. The shoulders are broad; the back is usually straight, broad and strong; the hindquarters are also wide and slightly sloping. The chest is wide and deep; the fat rump is broad and prominent; in some sheep it is somewhat pendent. The legs are strong and correctly set with tough hoofs. The wool cover is complete. Sheep are black (65-68%), tan (24-26%), grey or brown of various shades.

According to the data of the Uzbek Livestock Research Institute, Jaidara sheep measure 76.3 cm high at withers (range 68-84 cm) and 80.8 cm long from shoulder to base of tail (range 73-88 cm). Chest girth is 96.2 cm (range 87-107 cm) and width of thighs is 21.1 cm (range 18-24 cm). Jaidara sheep mature at a rather early age. They almost stop growing by the age of 2.5 years. Individual sheep reach the live weight and size of adults by the age of 18 months. Changes in the live weight of Jaidara sheep are given in Table 4.3

**Table 4.3 CHANGES IN LIVE WEIGHT OF JAIDARA SHEEP (KG)**

Age group	Rams		Ewes	
	Average	Range	Average	Range
Newborn lambs	5.6	3.5-9.0	5.2	3.5-7.5
4 months	44.0	36-64	41.3	30-56
18 months	88.0	64-90	66.3	42-80
Adults	105.0	95-128	73.6	60-84

Jaidara sheep have a high production of mutton and fat. The average live weight of wethers at the age of 18 months is 80 kg; the carcass weight is 45 kg or 55% of the live weight (range 52-56%). The fat yield is 22% of the carcass weight of adult sheep and 10-15% in lambs.

The wool of Jaidara sheep lacks uniformity; it is sufficiently dense and soft. It consists of true wool (46-61%), intermediate fibres (7-18%), guard hair (21-26%) and kemp (9-16%). The wool of adult sheep is straight and hangs in pointed locks which are 8-11 cm long. The clean wool yield is 56-60%. The annual fleece weight of ewes is 2.0-2.5 kg (range 1.2-5.0 kg) and that of rams is 2.8-3.5 kg (range 2.2-6.0 kg). The wool is used mainly for coarse cloth, felt and felt boots, and other home-made items.

The combined thickness of the skin and papillary layer in Jaidara sheep is higher and the number of hair follicles per unit area is less than in the Lincoln and Merino. Collagen fibres form a dense, predominantly horizontal pattern.

Investigation of polymorphic systems in Jaidara sheep revealed 8 transferrin alleles and 2 alleles each of pre-albumin and post-albumin. Ewes and lambs

with transferrin of the AB type and FS carbonic anhydrase had higher live weight, body length and fleece weight.

The Jaidara breed is well known for hardiness and has great commercial value. Sheep of this breed can subsist on natural pastures almost throughout the year. They are able to graze well and deposit extra fat in the rump. These traits are particularly important for improving other breeds of the same type.

The most productive flocks are raised in Kara-Kalpak, Gallyaaral, and Zaamin districts of Samarkand region and Khovast district of Tashkent region of the Uzbek SSR, and also in some districts of Leninabad region of the Tajik SSR. The best breeding flocks are on Yangi-Dekhkan and Chkalov collective farms in Samarkand region.