

III. SEMICOARSEWOOLED BREEDS

ALAI (Alaiskaya)

The Alai semicoarsewooled breed was formed between 1934 and 1981 in the Alai plain of Osh region of Kirgizia. The peculiar climate of the Alai plain is due to its geography: the plain lies at an average altitude of some 3000 m. The mountains beyond the plain lie at altitudes of 5000 to 7000 m.

Native plants there consist chiefly of various steppe, meadow-steppe and meadow grasses, particularly of xerophytes and frost-resistant species. The pastures cannot provide enough feed for livestock.

The task of breeders was to obtain sheep capable of producing a high yield of white carpet wool and to preserve at the same time the meat, fat and adaptive traits of the local fat-rumped sheep. The Alai breed is based on the local fat-rumped sheep, which were similar to the Hissar in terms of their meat and fat traits. The average annual fleece weight was 1.3-1.8 kg per head; the wool was coarse and contained a lot of kemp. Until 1940 local sheep were mated to Précoce rams; since 1952 some were mated to Sary-

Ja rams. Further selection, rigid culling, and inter se mating of sheep of the desired type have produced a stock of highly productive Alai fat-rumped semicoarsewooled sheep with white carpet wool.

The number of purebred Alai sheep has increased considerably since 1964. In 1980 there were 47 910 including 277 breeding rams, 870 other rams and 34 055 ewes and yearlings.

The Alai breed has high yields of meat, fat and wool, a strong constitution, and a well-developed frame. The head is slightly Roman-nosed. Ewes are polled but some of the rams have small horns. The neck is of medium length, the chest wide and deep, the back long and straight. The legs are strong, of medium length, well set and with rough hoofs. The rump is of medium size, somewhat sloping in most animals. The covering of the belly is good; the fleece is white with occasional coloured spots on the head and legs.

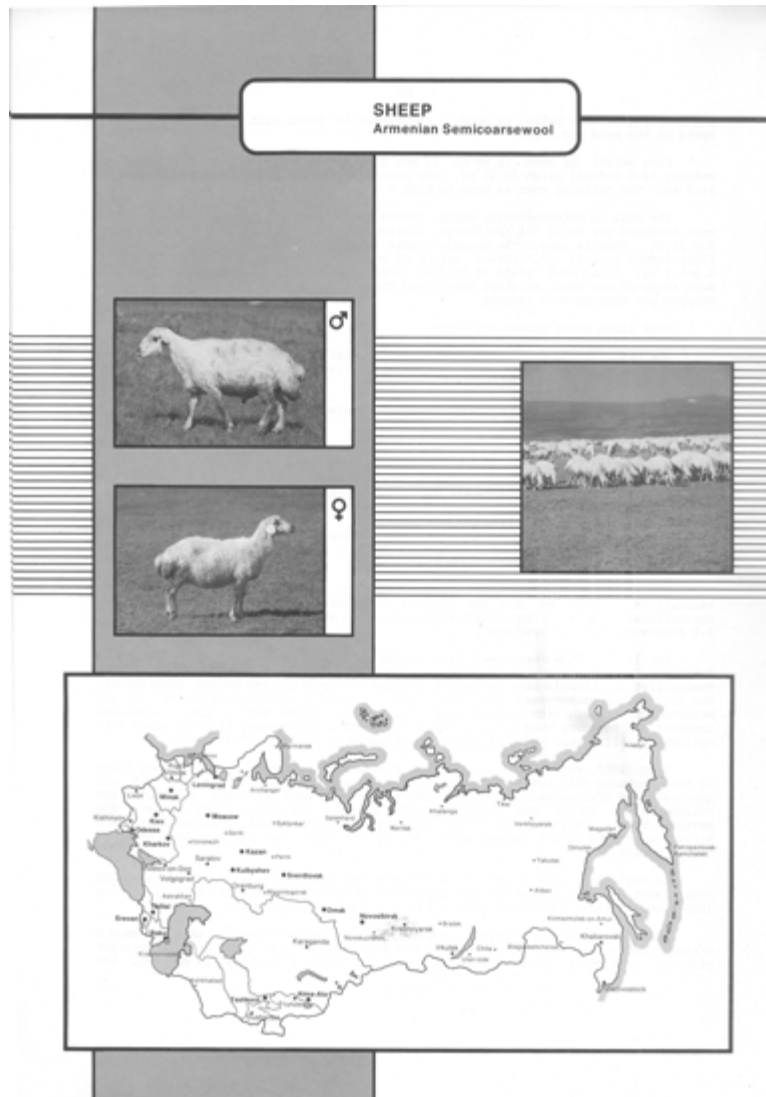
Live weight of ewes is 58-62 kg and that of rams is 95-105 kg. Lambs at weaning (4-5 months) weigh 30-35 kg. The carcass weight of 5 or 6-month-old lambs is 16.2 kg. The ratio of meat to bone is high - 6:1.

The wool is heterogeneous, white, lustrous and hanging in pointed locks. True wool accounts for 56.7% of the fleece, intermediate wool for 13.7% and guard hairs for 29.6% Kemp is rare. The average staple length is 17-30 cm and the average wool fibre length is 8-12 cm. Fleece weight of ewes is 2.5-3.0 kg and that of rams is 4.5-5.5 kg. Clean wool yield is 65-70%. The Alai breed has one peculiar feature: most sheep do not shed as other fat-rumped sheep do. Lambing rate is 105-106 lambs dropped per hundred ewes lambing.

Five lines exist within the breed.

The best flocks are raised on farms of Alai district in Osh region. The leading farms are the Kashka Suu experimental station, and Kyzyl Suu and Chon Alai state farms.

Further breeding is currently under way, aimed at improving precocity and increasing the wool clip.



ARMENIAN SEMICOARSEWOOL (Armyanskaya polugrubosherstnaya)

The Armenian Semicoursewool breed was developed between 1931 and 1983. At present it is raised in Martunin, Ararat, Azizbekov, Ekhegnadzor and Talin districts of Armenia.

The breed was developed in the mountains at altitudes of 1200-3500 m. The rainfall is 450-750 mm and the climate is continental. More than half the agricultural lands are rough mountain pastures. In winter sheep are kept in pens for 3-5 months and receive roughage.

The local Balbas breed was used as the maternal foundation stock.

Breeding followed two directions. On Aragats state farm, Balbas ewes were mated to Rambouillet and Lincoln rams producing crosses of the first and second generations. The latter were backcrossed to Balbas rams.

Prolonged selection of crosses of the desired type (i.e. with uniform semicoarse white fleece and a large underwool content) and breeding them

inter se has resulted in a homogeneous flock of sheep with uniform constitutional and wool traits, designated by the name Aragats type. Since 1952, ewes of the coarsewooled Balbas breed at large sheep raising farms in the Martunin district were mated to rams from the Aragats farm and half and quarter-blood crosses were produced. The latter were bred inter se; selection and culling helped to fix the valuable traits of this semicoarsewooled sheep - the Martunin type. They have preserved the major constitutional, conformational and biological traits of the Balbas breed and, at the same time, produced more wool of higher quality.

In 1983 there were 12 465 of the Aragats type (including 315 breeding rams, 413 other rams, and 11 737 ewes and yearlings) and 30 924 of the Martunin type (including 1516 breeding rams, 3365 other rams and 26 143 ewes and yearlings).

Sheep of the Armenian semicoarsewool breed are rather large in size and have a strong constitution and a well-developed frame. The head is light with a straight profile. The chest is deep but insufficiently wide. The body is compact, the backline is straight and the rump is somewhat sloping. The legs are strong, of medium length, with hard hoofs. The tail is medium-sized, with two cushions of fat, and reaches the hocks.

Withers height of ewes is 65-69 cm and that of rams is 74-75 cm; height at rump is 67-69 cm and 74-75 cm, chest width 20-21 cm and 23-24 cm, chest depth 31-32 cm and 35-36 cm, oblique body length 65-67 cm and 71-77 cm, chest girth 90-93 cm and 99-101 cm and the cannon bone girth 8.0-8.5 cm and 9.8-10.0 cm respectively.

The average live weight of ewes is 55.0 kg (range 50-68 kg) and that of rams 90 kg (range 68-116 kg). Newborn lambs are strong; males weigh 3-4 kg and females 2.5-3.5 kg. Lambs show rapid weight gains and by the age of 5 months males weigh 28.5-33.5 kg and females 26.0-29.5 kg.

The fleece is heterogeneous, hanging in pointed locks, white in colour, of medium density and adequate lustre. The lock length in case of ewes is 14-20 cm, and wool fibre length is 10-14 cm. The true wool content is 40-60%. The diameter of true wool fibres is 21.0-26.5 μ and that of intermediate and guard hair is 41.2-48.2 μ . Kemps are occasionally found in individual sheep. The covering of the belly is good.

Fleece weight of ewes is about 3 kg (range 2.2-4.7 kg) and that of rams is 4.6 kg (range 3.2-7.0 kg). Yearling ewes produce 2.3-3.0 kg of wool and rams 2.5-3.5 kg. The clean wool yield is 69-74%.

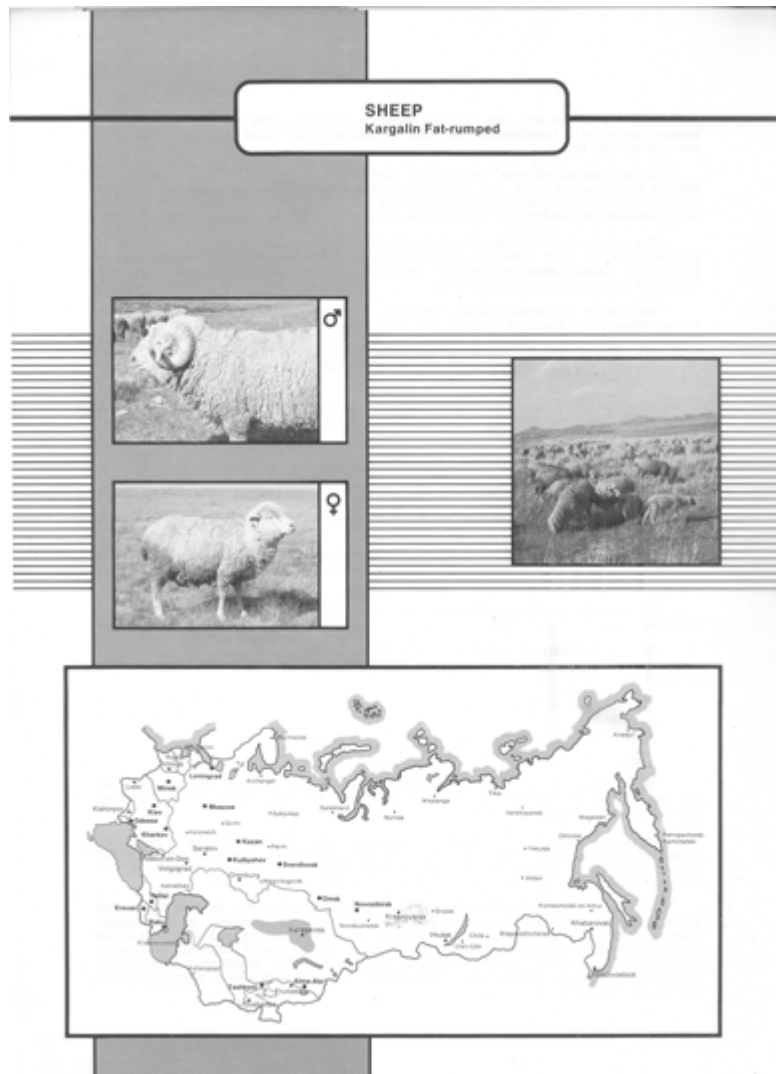
Milk yield is good - 100-120 kg. Ewes are usually milked for the first time when lambs reach the age of 45-60 days; each ewe produces 30-40 kg of marketable milk with 6% fat.

Lambing rate depends on the management and varies from 92 to 115 lambs dropped per hundred ewes lambing.

At breeding centres there are 4 lines within each type. Sheep of these lines have a fleece weight 13-15% higher and a body weight 6-8% higher than the average of the entire breed.

The best flocks of Armenian sheep are at Tsakar breeding centre and on Aragats breeding state farm.

Further breeding and selection are aimed at preserving the Aragats and Martunin types and using them to improve the breeding and productive traits of Armenian sheep in general.



KARGALIN FAT-RUMPED (Kargalinskije kurdyuchnye ovtsi)

These sheep, of the mutton-fat type, have semicoarse wool and a well-developed fat rump; they are zoned for breeding in the desert and semi-desert areas of central and southeastern Kazakhstan.

The breed began to take shape in 1931. The foundation stock were crosses from local fat-rumped ewes and Edilbaev rams. The live weight of crossbred ewes was 66.7 kg and the fleece weight was 2.9 kg. They were mated to Sary-Ja and Degeres semifinewooled rams. Crosses of the desired type were bred inter se.

In order to obtain a large stock of Kargalin sheep the breeding work was transferred from Mynbaev experiment station to farms in Karaganda and J eskazgan regions. The soil and climatic conditions of this area are typical of deserts and semi-deserts with scarce stand of grass. Major forage plants are white wormwood (Artemisia), prostrate cypress (Kochia prostrata), and wheatgrass (Agropyron fragile), as well as legumes (e.g. Astragalus) and ephemerals (e.g. Carex physodes and Secale segetale).

In these conditions a breed group of fat-rumped sheep was obtained, Sheep of this breed group can cover long distances and are good grazers.

In 1974 the stock declined considerably but timely measures increased their numbers 7.3 times. In 1980 there were 110 475 including 2467 breeding rams, 1381 other rams and 80 694 ewes and yearlings.

Kargalin sheep have a strong constitution, a solid and well-developed frame and a good conformation. The head is long, of medium size; the neck is short and thick; the body is long and barrel-shaped with correctly-set legs; the back and loin are level; the rump is slightly sloping; the chest is wide, with a prominent brisket; the rump is medium-sized.

Most sheep have semicoarse wool, satisfactory fleece weight and high meat and fat production. Live weight of adult rams is 105-110 kg and fleece weight is 4.86 kg (max. 6.0 kg). Live weight of ewes is 60-64 kg and fleece weight is 2.8-3.1 kg (max. 5.0-5.4 kg). The clean wool yield is 67-69% for rams and 62-64% for adult ewes.

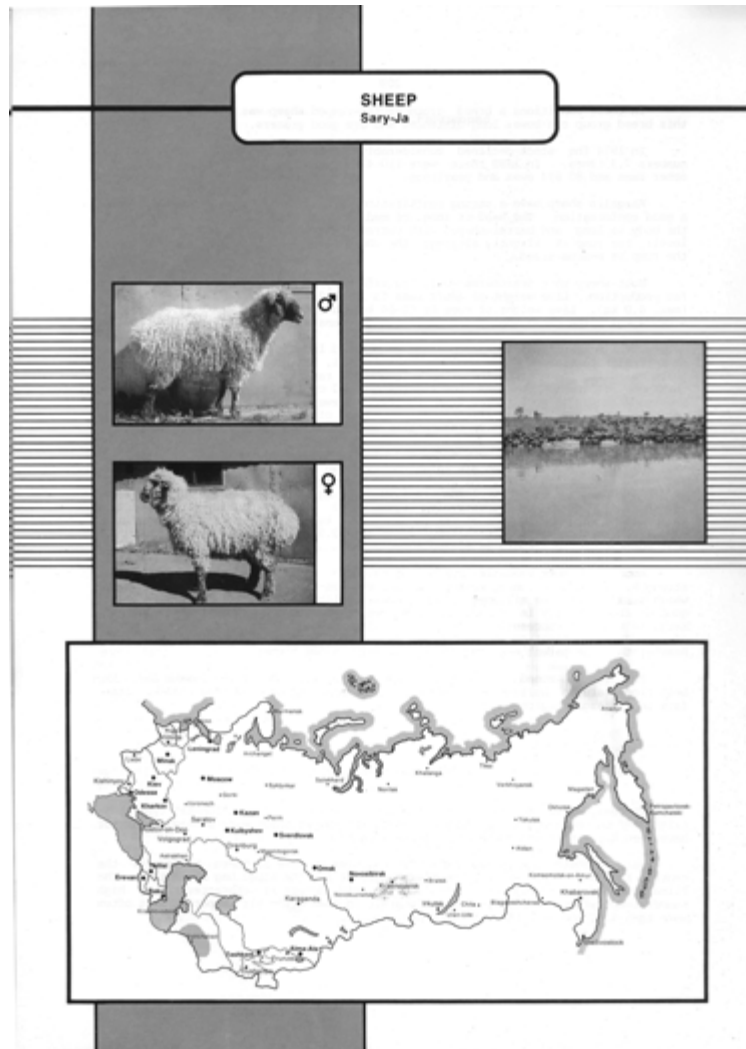
The fleece of Kargalin sheep hangs in pointed locks. The locks consist mainly of intermediate fibres. True wool accounts for 40%, intermediate hair for 50-55% and guard hairs for the rest. The staple length of rams is 23 cm and the wool layer thickness is 14 cm; for ewes the figures are 20 cm and 11 cm respectively. The average diameter of wool fibres from the typical ewe's side is 27.3 μ m. The wool is relatively uniform. The coefficient of unevenness of fibres in case of ewes is 34.3% with a range from 27.8 to 45.2% (acceptable variations are 60-66%).

Kargalin sheep mature very early and usually drop 105 to 112 lambs per hundred ewes lambing. Newborn lambs are large (males weigh 4.5-5.5 kg and females 4-5 kg) and have rapid weight gains. At weaning (4-4.5 months) the live weight of ram lambs is 37-39 kg and that of ewe lambs is 35.0-36.5 kg with an average daily gain of 260-287 g and 250-263 g respectively. Lambs graze well and rapidly put on weight. At weaning the carcass weight of ram lambs is 17.9 kg representing a carcass yield of 49.3%; at the age of 7-8 months the figures are 23.0 kg and 53.1% respectively. The meat content of the carcass is 80% or more.

Among the most valuable traits of Kargalin sheep are their constitutional strength, high production of mutton and fat, carcass traits, early maturity of lambs which result from the milkiness of the ewes, ability to cover long distances, and good grazing ability in desert and semi-desert conditions.

Due to these traits Kargalin rams are successfully used for grading up local fat-rumped ewes. Some 40% of one-year-old first-cross ewes have semicoarse wool; crossbred ewes are 14.3% heavier than the parent ewes and their wool clip is 50% higher.

The breed is zoned for breeding in the central regions of the Kazakh SSR. The best flocks are on Nurinski state farm in Karaganda region, and on Ulutanski state farm in Jezkazgan region.



SARY-JA (Saradzhinskaya)

The Sary-Ja is one of the best fat-rumped breeds of the mutton-fat type. It originated in southeast Turkmenia where local fat-rumped sheep with a heavy undercoat have been bred inter se and selected for a long time. Sary-Ja sheep are raised in sandy pastures on the southern borders of the central Kara-Kum desert and on the plain adjacent to the Kopet Dag mountains. The climate there is sharply continental. The arid desert is characterized by high summer temperatures and severe winter frosts. In summer the air temperature is often more than 40°C and in winter it drops below -20°C.

The relief of the southern borders of the Kara-Kum desert is hilly, with low mountain ridges. Pastures are covered with Haloxylon and Carex. They are poor and overgrazed. Therefore carrying capacity is only 7-13 hectares per head. There are occasional plots of land which are covered predominantly with sedge and various annual herbs. These areas provide good year-long pasturage.

The plain, which is adjacent to the Kara-Kum desert and 5-20 km wide, is covered mainly with sedge (*Carex*), bluegrass (*Poa*) and, occasionally, with mugwort (*Artemisia*). When the season is favourable haymaking is possible and bluegrass hay, which sheep like, is made.

The Sary-Ja is a range breed; sheep are kept on pasture throughout the year. Supplemental feeding is given only to weak sheep and rams during the pre-mating and mating periods. Emergency supply of roughages and concentrates are kept as an insurance against heavy snowfalls and ice-covered grazing.

Since 1950, the Sary-Ja breed has been constantly improved by mating ewes to Degeres rams with the aim of increasing the wool clip and improving the quality of wool while preserving the characteristic features of the Sary-Ja.

At present Sary-Ja sheep are raised in the Turkmen (360 000), Uzbek (218 000) and Kazakh SSRs (200 000). Smaller numbers (27 500) are raised in various regions of the Russian Federation adjacent to the Central Asian republics.

The number of Sary-Ja sheep has more than doubled over the last fifteen years. In 1980 there were 807 952 (68% purebreds) including 24 389 breeding rams, 25 319 other rams and 478 991 ewes and yearlings.

The present-day Sary-Ja sheep have a strong constitution, solid bone and a fat tail. Ewes are usually hornless; some 3-4% of rams have horns, usually scurs. The withers are broad, the back long and broad, and the chest deep. The legs are of medium length, correctly set; the rump is often sloping. A considerable portion of Sary-Ja sheep have defects in conformation: neck not smoothly joined to shoulders, narrow and sharp shoulders, sloping rump, narrow chest, cow-hocked hindlegs.

The live weight of adult rams is 80-90 kg and that of adult ewes is 55-60 kg. The rams exhibited at the Ashkhabad autumn show exceeded 100 kg.

Sheep mature early. When fed on desert pastures lambs have an average daily pre-weaning weight gain up to 200 g. The carcass weight of Sary-Ja wethers, including internal fat and fat rump, is 59% of the live weight.

The Sary-Ja produces more wool of relatively better quality than other fat-rumped breeds. Two shearings per year produce 4-5 kg of wool from rams and 3.0-4.0 kg from ewes, with a clean wool yield of 55-60%. The wool is generally white but intermediate fibres in some sheep (0.2-2.7%) are pigmented (Artykov, 1979). The fleece consists of two layers: long fine true-wool fibres (75-80%) and intermediate fibres (13-15%) with some guard hairs (up to 6%). The average staple length is 17 cm and that of wool is 19 cm. The diameter of the true wool fibres is 19μ , that of intermediate fibres 37μ and of guard hair 53μ .

Newborn lambs can be of different colours. By the age of 2-3 months they acquire a greyish colour and the wool of yearlings is almost white but the head and legs remain dark.

Lambing rate is 100-108 lambs dropped per hundred ewes lambing.

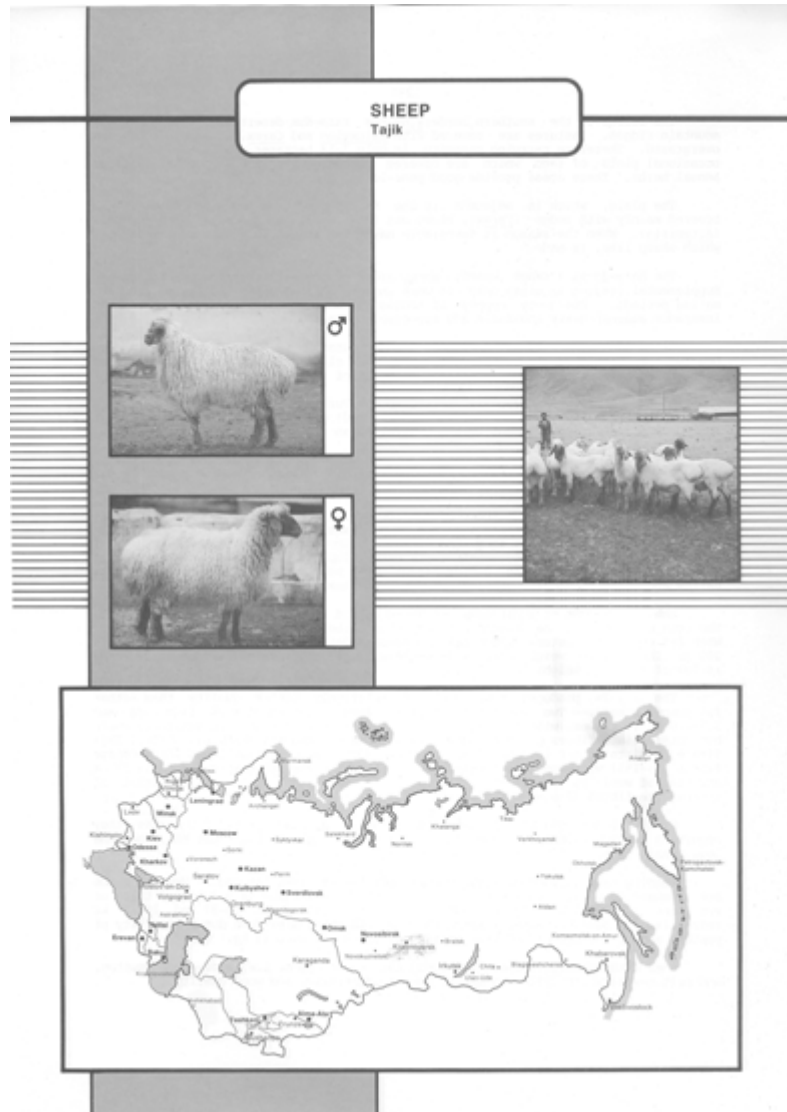
Newborn lambs are adequate in size: the average birth weight of ram lambs is 5.3 kg and that of ewe lambs is 5.0 kg. By the age of 5 months they reach 33-37 and 26-32 kg respectively. However, after weaning their growth rates slow down due to scarcity of pasture and by the age of one year rams weigh 52 kg and ewes 43 kg.

Some authors believe that the breed has three types, i.e. wool, wool-mutton, and mutton-wool which differ in appearance, productivity, and wool quality.

There is a variety called the Ashkhabad known for higher wool and meat production: the fleece weight is 0.32-1.32 kg higher and the live weight is 5-7 kg heavier than in other sheep.

The best flocks of Sary-Ja sheep are on Turkmenistan Soviet and Forty Years of the USSR collective farms in the Turkmen SSR. These farms produce highly productive sheep which are used as the breeding stock. The State Flockbook lists only six sires.

Sary-Ja breeding rams are exported to other republics of Central Asia, where they are successfully used for improving the wool quality of local coarsewooled breeds. Sary-Ja rams were used in developing the Tajik and Alai breeds and the Kargalin breed group. In addition sheep of this breed are used in Mongolia to improve the wool quality of the local coarsewooled sheep.



TAJIK (Tadzhikskaya)

The Tajik semicoarsewooled breed was produced during 1947-63 on an experimental farm of the Tajik Agricultural Research Institute. The initial task was to improve the quality and quantity of wool from local sheep of the Hissar breed and preserve at the same time such valuable traits as the strong constitution, size, early maturity and ability to deposit large quantities of fat in the rump.

To obtain a new breed Hissar and crossbred Hissar-Lincoln ewes were used. The former were mated to Sary-Ja rams, and the latter to halfbred Sary-Ja x Hissar rams. Since sheep of the initial breeds differed greatly in productivity, the first generation was rather heterogeneous. Later, rigid culling and breeding inter se of a small group of animals, which were very close to the desired type, produced a flock of sheep which combine the valuable traits of the initial breeds. Tajik sheep have inherited from the Hissar high meat and fat productivity, and from the Sary-Ja, a heavy fleece

weight and good quality semicoarse wool. The Lincoln was also instrumental in positively affecting the quantity and quality of wool. In the process of selection and culling the feeding and management conditions were considerably improved. In addition to range fodder, sheep received annually some 100 kg of roughage, 200-250 kg of silage, and 40-50 kg of concentrates per head. Moreover, since mating and lambing began 2-2.5 months ahead of the usual periods, sheep stayed longer on good summer ranges. The latter factor contributed to a better fattening by grazing and more effective utilization of both summer and winter ranges.

The number of sheep of the Tajik breed has increased by 50% since 1964. In 1980 the total was 126 470 (78% purebred) including 4552 breeding rams 25 319 other rams and 75 435 ewes and yearlings.

Tajik sheep are sufficiently large in size; they have a well-developed frame, strong constitution, and well-pronounced mutton and fat conformation. The head is light, long and Roman-nosed. Rams are horned and ewes polled. The neck is relatively long and muscular. The chest is broad and deep; the back and sacrum are broad. The legs are long and correctly set; the hoofs are strong. Sheep have a well-developed, tight or somewhat loose, broad rump, which is typical of Hissar sheep. The rump's girth is 97 cm in ewes and 111 cm in rams; it is 26 and 33 cm long respectively.

The live weight of adult ewes is 70 kg (range 56-124 kg) and that of rams is 120 kg (range 110-139 kg).

Sheep are characterized by a high growth rate. Lambs at the age of 4-5 months weigh 42-45 kg or 56% of the live weight of adult ewes. The average daily weight gain of young lambs kept in sheds is 200-210 g.

The wool is not uniform, thread-like in texture, white or light-coloured, sufficiently dense, elastic, and slightly curved. It consists mainly of wool fibres (some 75%) and intermediate hairs (21-22%). The rest (3-4%) is accounted for by guard hair. Kemp is absent. The average fineness of true wool is 20-22 μ , and the length 6-15 cm; the corresponding figures for the intermediate hair are 39-40 μ and 12-20 cm, and for the guard hair 60-62 μ and 14-20 cm. The covering hair on the head, ears and legs is tan or reddish brown. The fleece weight (in two shearings) is 2.5-2.6 kg for ewes and 3.5-4.0 kg for rams; the clean wool yield is 69-72%. The shearing of lambs produces 1.4-1.5 kg of wool felt.

The fertility rate of ewes is relatively low, 105-106 lambs dropped per hundred ewes lambing.

The best flocks of Tajik sheep are kept at Dagan-Kiiskoe breeding farm and Kalinin state farm in the Tajik SSR.

Further selection of the breed is aimed at improving growth rate, fleece weight and wool quality while at the same time preserving the sheep's good adaptability to local conditions.