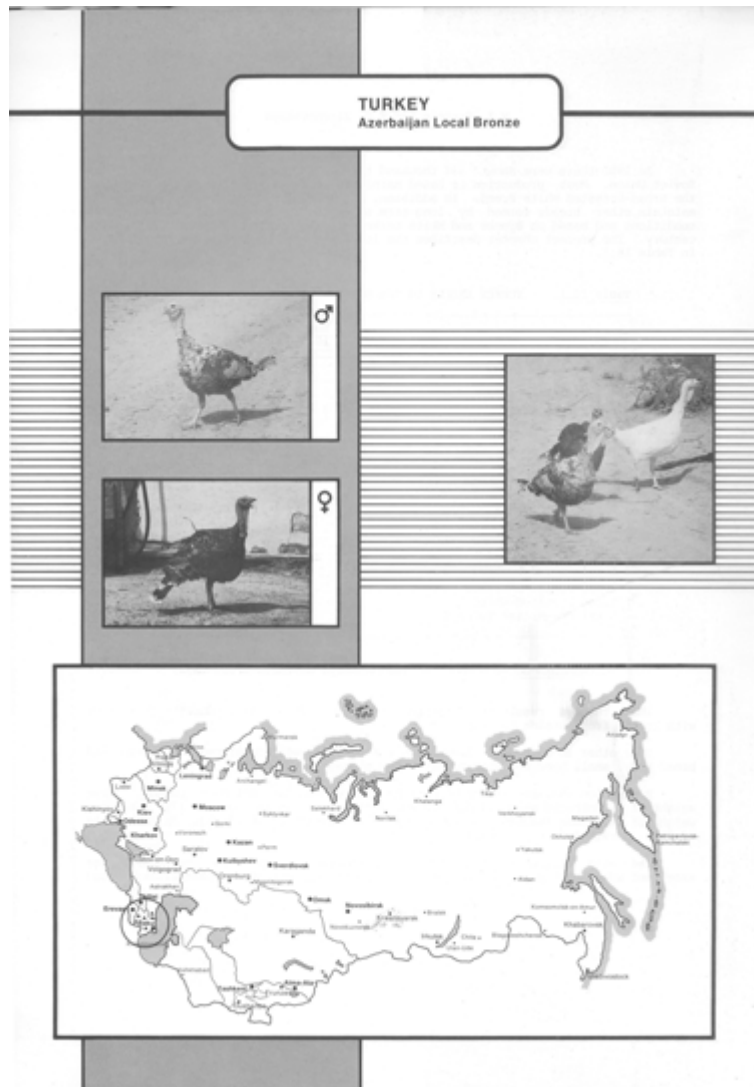

16. TURKEYS

V.I. Fisinin and K.V. Zlochevskaya

In 1980 there were about 334 thousand turkeys in the socialized sector of the Soviet Union. Meat production is based mainly on crosses selected on the basis of the Broad-breasted White breed. In addition, non-specialized farms and private plots maintain other breeds formed by long-term selection under specific environmental conditions and based on Bronze and White turkeys first imported to Russia in the 17th century. The present chapter describes the local, rare or declining breeds tabulated in Table 16.1.

Table 16.1 TURKEY BREEDS IN THE SOVIET UNION

	<u>Number of adults</u>	
	1974	1980
<u>LOCAL BREEDS</u>		
Azerbaijan Local Bronze		few
Black Tikhoretsk	7700	4 000
Georgian Local		few
Moscow Bronze		few
Moscow White	80 000	5300
North Caucasus Bronze	63 000	24300
North Caucasus White	42 000	3300
Silver		few
Stalingrad Bronze		few
Ukrainian Bronze		few
Uzbek Local		few
<u>COMMERCIAL BREEDS</u>		
Broad-breasted Bronze		27 300
Broad-breasted White		144 200
Other Commercial Turkeys		47 600



AZERBAIJAN LOCAL BRONZE (Azerbaijanskaya mestnaya bronzovaya)

These turkeys result from random crossing of local low-productive varieties with breeds from outside the Republic.

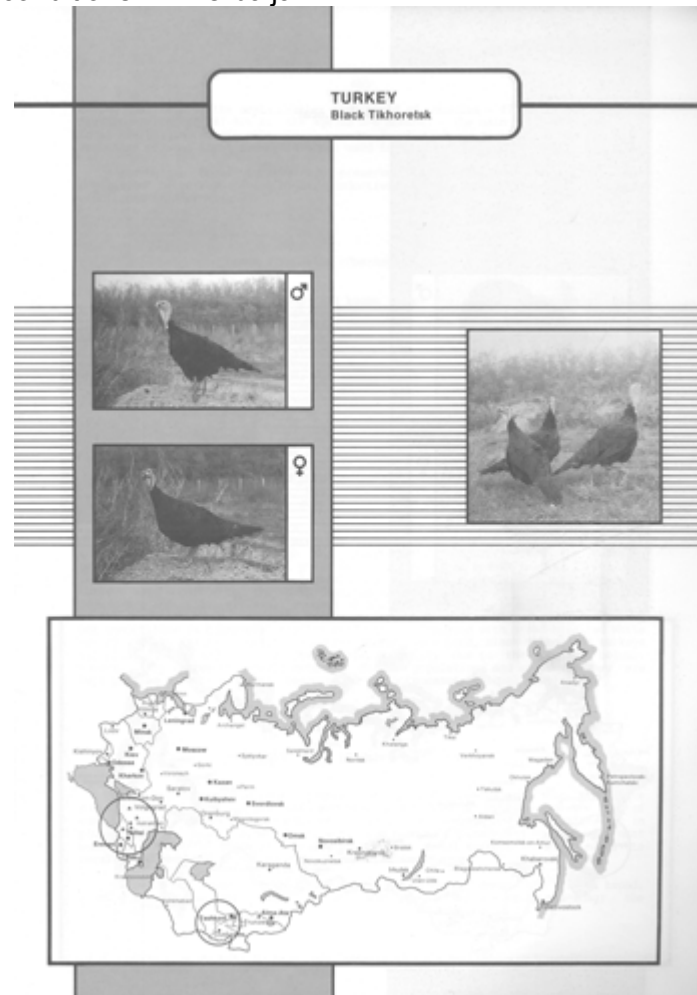
Like other local breeds, Azerbaijan turkeys have well-developed legs, deep and broad body, small head and deep breast. The plumage is bronze.

Production characteristics of Azerbaijan turkeys are not good enough. Live weight of 6-month-old males is 4.6-4.8 kg, females 3.2-3.4 kg. By the 17th week live weight of the young reaches about 2 kg. Egg production is 30-40 eggs, hatching rate 70-72%. Survival rate is 90-92%.

The main biological features of Azerbaijan turkeys are the following: excellent adaptability to Azerbaijan environments and extensive conditions; good eating qualities of the meat; rather high yield of muscles - 47-52% of the carcass; dressing percentage 87-88% at the age of 5-6 months. The main disadvantage of the Local Azerbaijan, as of other local breeds, is low

egg production and growth rate. For these reasons local turkeys are not used for commercial purposes.

Azerbaijan Local turkeys are preserved as germ plasm for creating new populations of turkeys having higher productivity and well adapted to semi-extensive conditions in Azerbaijan.



BLACK TIKHORETSK (Chernaya tikhoretskaya)

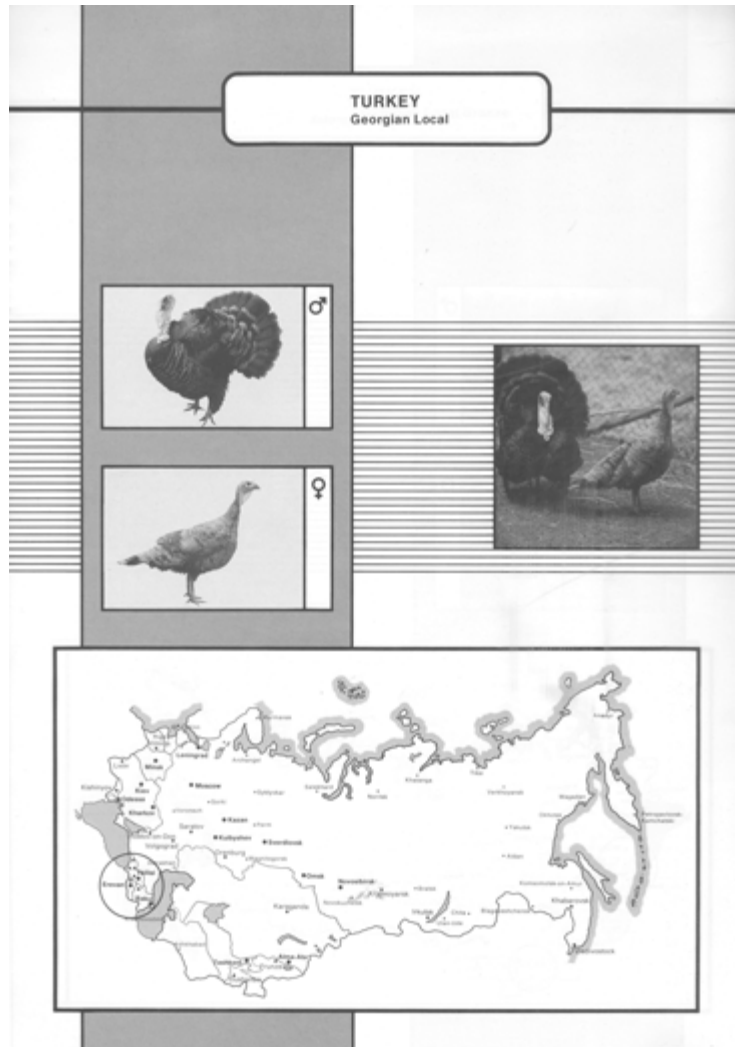
Previously this breed group was known under the name Black Kuban or Black Krasnodar. The Black Tikhoretsk was developed in Tikhoretsk region of Krasnodar territory by prolonged mass selection of local black turkeys. Systematic work started in 1951-52 when Tikhoretsk state breeding station was established and continued from 1960 in Tikhoretsk state breeding centre. Black Tikhoretsk turkeys are found mainly in the North Caucasus and in Transcaucasia. They numbered 7700 in 1974 and more than 4000 in 1980; at present the stock remains approximately the same.

Black Tikhoretsk turkeys have a long and broad body, deep breast and medium-sized head. The plumage is black, with an iridescent tinge.

Live weight of adult males is 9.5-10 kg, females 4.5-5 kg; the 17-week-old young average 3.5 kg. At testing in the Rostov region, live weight of 17-week-old Black Tikhoretsk poults was 4.26 in males and 3.18 in females; at

22 weeks of age it was 5.8 and 3.9 kg respectively. Egg production during the 5-months laying period is 60 eggs or more. The hatching rate is over 70%, hatchability 80-86% and survival rate 87-88%.

Black Tikhoretsk turkeys are very active and adaptable to range conditions, while possessing relatively high meat qualities. In adult turkeys the dressing percentage reaches 92%, net meat yield 46-47% and yield of breast muscles 17-20%. In terms of fat deposition and biological value of meat 26-week-old Black Tikhoretsk turkeys were superior to the North Caucasus and Broad-breasted White. The limited occurrence and relatively small numbers of Black Tikhoretsk turkeys can be explained by the fact that they are adapted to the environments of their native region and are not competitive in commercial broiler production. Compared with Broad-breasted White turkeys, on the basis of which commercial crosses were bred, Black Tikhoretsk turkeys are slow-growing and have a lower carcass quality due to the plumage colour. However, they represent genetic material for new populations and crosses. They are kept pure as a reserve genetic resource in North Caucasus Regional Station.



GEORGIAN LOCAL (Gruzinskaya mestnaya)

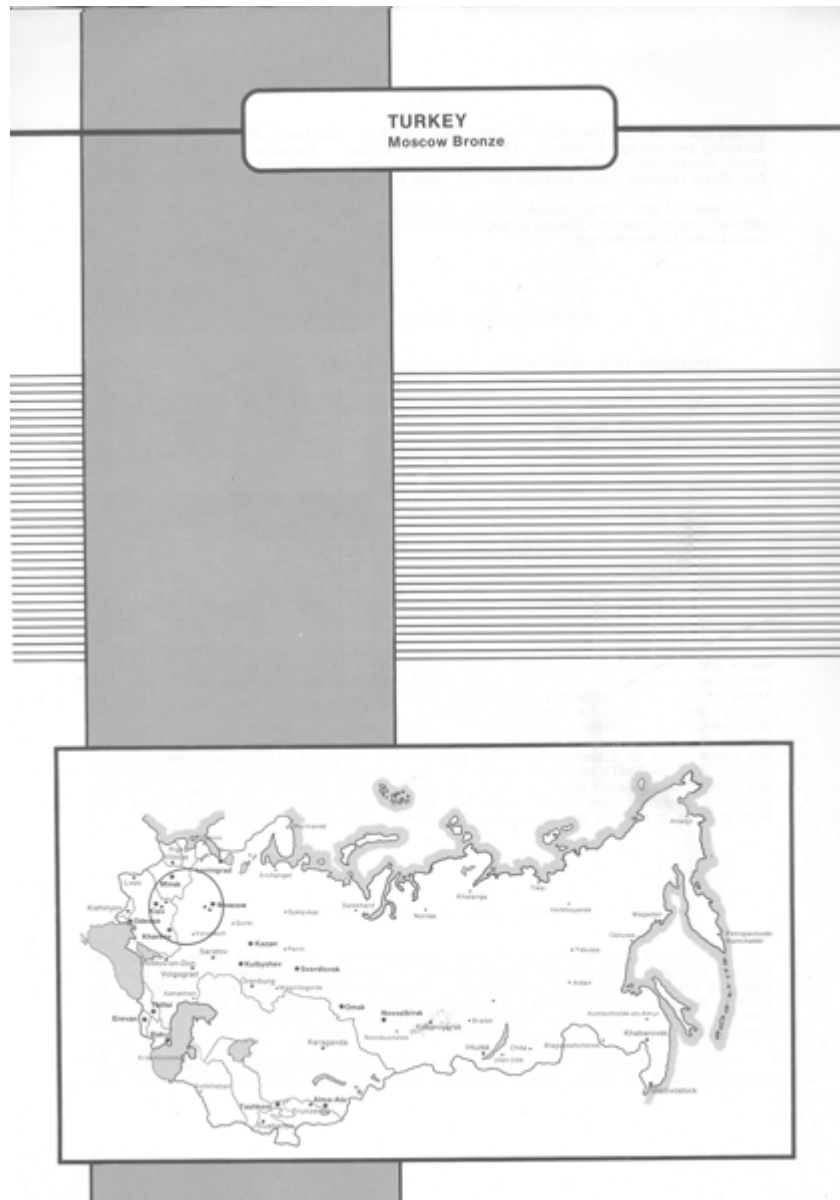
This breed resulted from crosses between local breeds and more productive turkeys brought from outside the Republic. Breeding of hybrids had the aim of adapting them to extensive conditions. There are several varieties differing in plumage colour: black, brown, buff, white and bronze; bronze and buff are the most numerous. The total stock is not large. Georgian Local turkeys are kept in private rural households and do not have any commercial importance.

Size is not large. The body and breast are broad and deep; the back is broad, sloping towards the tail. Wings are well developed; legs are strong and long; the tail also long. Colour of shanks and skin differs, depending on the plumage colour; in buff turkeys the shanks and toes are reddish pink.

Live weight is not high: 6.5-7 kg in adult males and 3.5-4 kg in females.

Egg production is low - not more than 30 eggs. Egg weight is 80 g. There is an improved variety of buff turkeys with higher live weight - 9-10 kg in males and 5 kg in females. They lay 40-60 eggs weighing 80 g. Hatchability of eggs is satisfactory and hatching rate reaches 65-70%.

Biological features include good viability and adaptability to local conditions. With improvements in rearing and management, production characteristics improve significantly. Live weight of males reaches 8 kg, females 4.5 kg, and egg production rises to 50. Shortcomings of Georgian Local turkeys are their late maturity and poor meat qualities. Age at maturity is 42-45 weeks. Live weight of the 17-week-old young is only 2-2.5 kg. Georgian Local turkeys are genetic material for breeding with highly productive commercial crosses in order to obtain new crosses adaptable to semi-extensive Transcaucasian conditions.



MOSCOW BRONZE (Moskovskaya bronzovaya)

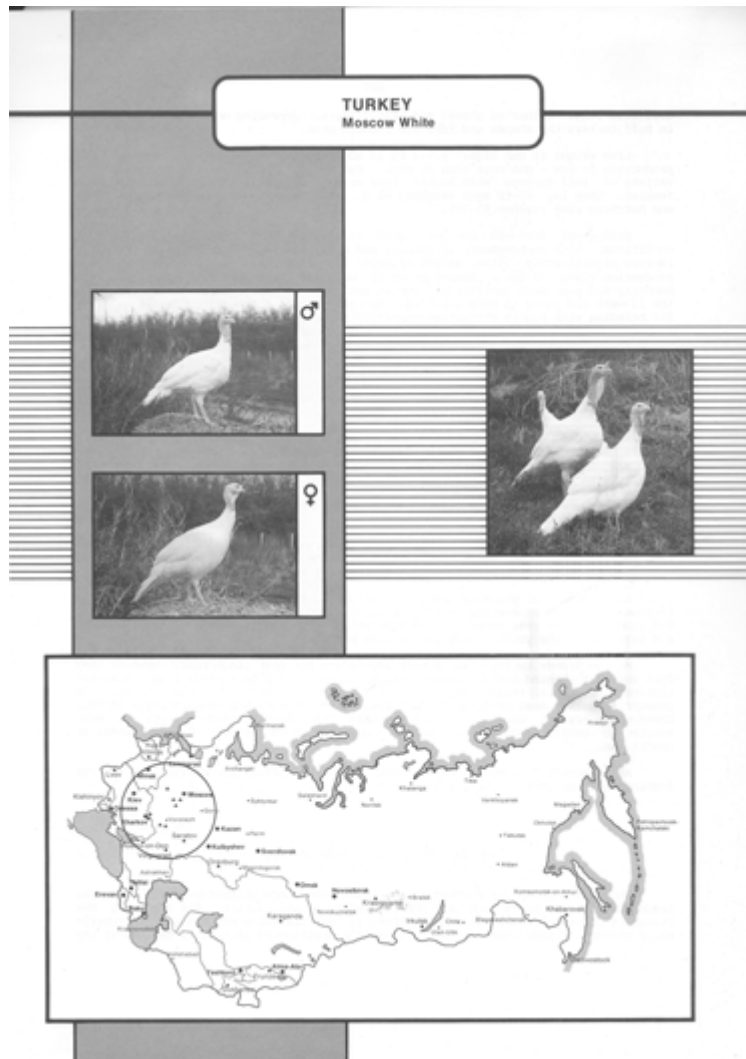
This breed group was produced in Beriozki state farm in Moscow region from crosses between local Bronze, North Caucasus Bronze and Broad-breasted Bronze. The breed was never widely distributed. Formerly these turkeys were raised on some poultry farms in Moscow and Voronezh regions, and in several Ukrainian farms. Today there still remain small populations in Kiev, Moscow and some other regions, mainly in private ownership and in farming enterprises having small turkey flocks under semi-extensive conditions.

The body is long and deep; the breast is broad and round. The head is broad, with sharply hooked beak which is light-pink at the tip and dark at the base. The eyes are nut-brown. The neck is long. The plumage is typical of bronze varieties.

Live weight of yearling males is about 12 kg and of females 6.5 kg; the 17-week young have an average weight of nearly 4 kg. Breeding age is 40-42 weeks. Egg production per year reaches 70-80 eggs weighing 85-87 g; hatching rate is 65-70% and survival of the young during the rearing period is 90%.

Moscow Bronze turkeys have a high reputation for meat production; however they fall somewhat behind Moscow White turkeys in this and other production characteristics. For this reason they are not so widely spread as Moscow Whites. In commercial turkey meat production, when specialized crosses are used, turkeys of this breed group are not competitive. At the same time, Moscow Bronze turkeys are well adapted to central regions of the USSR and have good records in semi-extensive conditions.

As a genetic resource, this breed group is useful for making new hybrid combinations suitable for semi-extensive conditions.



MOSCCW WHITE (Moskovskaya belaya)

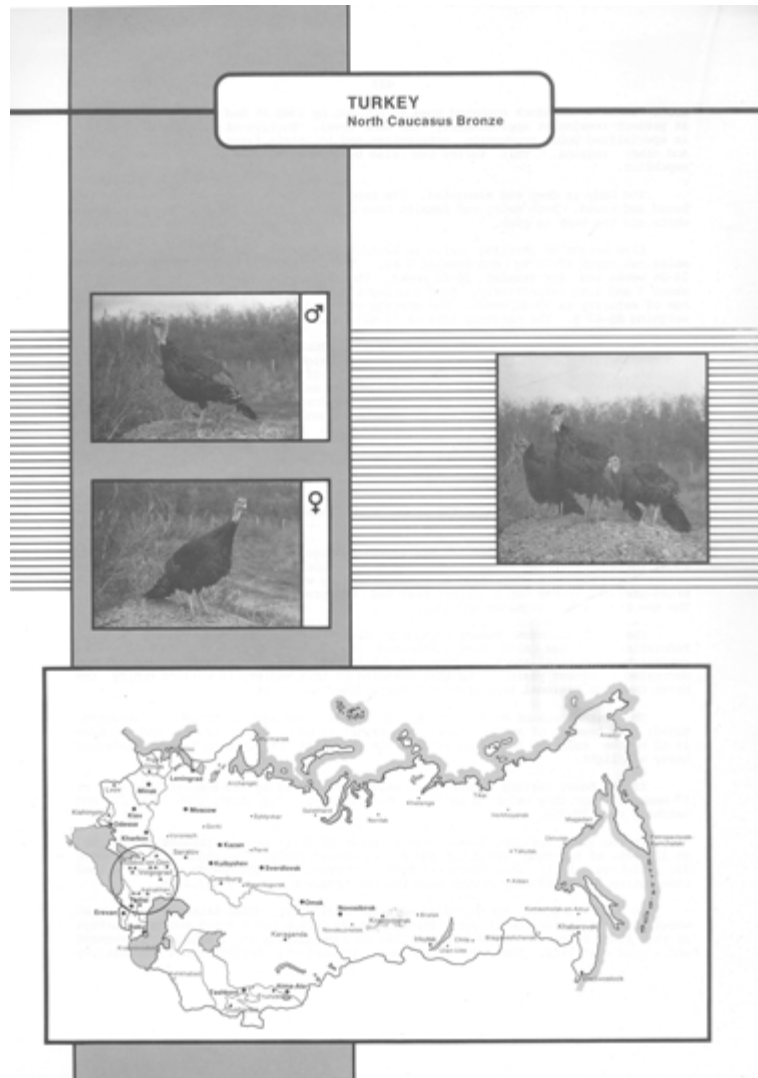
This breed group was produced at Beriozki state farm in Moscow region under the leadership of scientists from the Moscow Academy of Agriculture. The group was the result of crosses between local white turkeys and the White Holland and Beltsville White breeds. Moscow White turkeys were widely distributed in central regions of the USSR. In 1974 the stock numbered some 80 000 but by 1980 it had fallen to 53 000 and at present remains at approximately the same level. Turkeys of this breed are used in specialized poult production enterprises and in state farms of Moscow, Voronezh and other regions. This turkey can also be found in some of the constituent republics.

The body is deep and elongated. The head is elongated and wide. The breast is broad and round. Both males and females have a compact conformation. The plumage is white and the beak is pink.

Live weight of yearling males is 12-12.5 kg and of females 6.5-7 kg. Later, males can reach 17-19 kg and females 9 kg. The optimal slaughter age for males is 24-26 weeks and for females 20-22 weeks. The average live

weight at this age is about 7 and 4 kg respectively. Feed consumption per kg of weight gain is 3.3-3.4 kg. Age of maturity is 39-40 weeks. The average egg production per year reaches 90 eggs, weighing 86-87 g. The hatching rate is 75-80%.

Fertility and hatchability are nearly 90%. Turkeys of this breed group have a good meat yield - more than 65% of the carcass weight. The decrease in numbers of this breed group was caused by the introduction of lines of Broad-breasted White turkeys with higher live weight in young. Today, selection work with these turkeys is carried out in the Ukrainian Poultry Breeding Institute, in Golovurovski poultry breeding centre in the Ukraine and in Yegoryevsk poultry farm in Moscow region. In Golovurovski centre there are several lines which are used for a homebred cross. They are being improved by family selection.



NORTH CAUCASUS BRONZE (Severokavkazskaya
bronzovaya)

This breed was developed in the former Pyatigorsk breeding centre by crossing local turkeys with the Broad-breasted Bronze. Local turkeys had a moderate live weight (3.5 kg) but displayed a high viability when kept out of doors. The Broad-breasted Bronze had a higher meat and egg production than the local turkeys. The new breed was recognized in 1956.

The North Caucasus Bronze is widely distributed in the south of the Russian Federation. It has also been introduced into Uzbekistan and the Transcaucasian republics. The total stock was about 63 000 in 1974 and 24 300 in 1980, i.e. it has decreased in recent years. Pedigree breeding of this variety is carried out by the North Caucasus Regional Experimental Poultry Breeding Station.

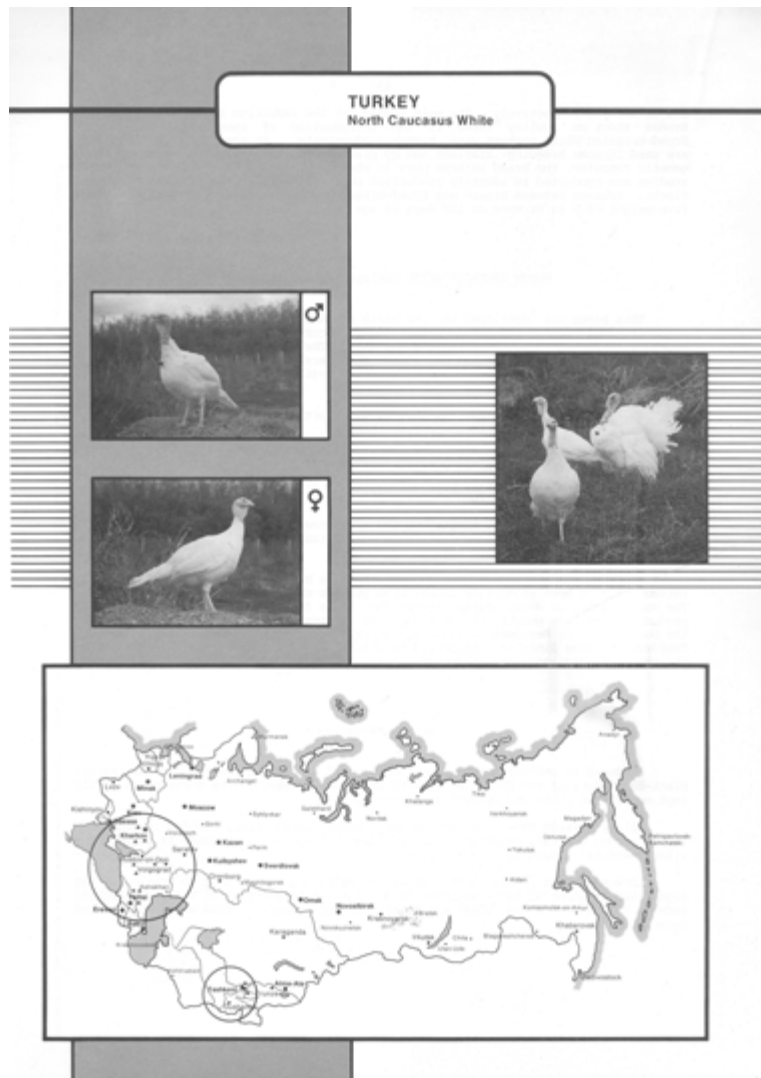
The North Caucasus Bronze is heavily built; the body is compact, elongated, broad; the head is of medium size; the breast is deep, broad,

round; the plumage is of bronze colour. Selection within the breed has resulted in two populations: heavy and light.

In the heavy variety 34-week-old males weigh 13-14 kg and females 7-8 kg; at 17 weeks of age they weigh 5 and 4 kg respectively. Egg production is 65-70 and hatching rate 70-75%.

In the light variety, 34-week-old males weigh 10-11 kg and females 5.5-6.8 kg; at 17 weeks of age they weigh 4.5 and 3.5 kg respectively. Egg production is above 70; hatching rate is 75%. They are faster growing than the heavy variety. Feed consumption per kg of body-weight gain for the Bronze breed is 3.2-3.4 kg.

In both varieties the breeding age is 32-34 weeks under intensive and 38-40 weeks under extensive conditions. The egg-laying period lasts 5-5.5 months. Turkeys of this breed have such valuable properties as adaptability to the local environment and a good viability. They have a high meat production. Fertility and hatchability are 82 and 90% respectively. The main reason for the reduction in the North Caucasus Bronze stock on poultry farms is the introduction of specialized crosses of Broad-breasted White turkeys with higher productivity. At present, Bronze turkeys are used in some breeding stations and by private owners in southern regions. As a genetic resource, the breed is kept pure in the North Caucasus Regional Station where studies are conducted to identify production characteristics of poultry bred in small flocks. Crosses between Bronze and Broad-breasted White turkeys give hybrids with a live weight of 5 kg or more at 120 days of age.



NORTH CAUCASUS WHITE (Belaya severokavkazskaya)

This breed was developed in the North Caucasus Regional Station by crossing North Caucasus Bronze and Broad-breasted White turkeys. Formerly this breed was widely distributed in southern regions of USSR. The stock was about 42 000 in 1974 and 33 300 in 1980, i.e. it has decreased considerably. The principal areas where turkeys of this breed are found include southern regions of the RSFSR and some farms in Ukraine and Uzbekistan.

The appearance is similar to that of the North Caucasus Bronze. Plumage and skin are white. Shanks and toes are light buff.

Egg production is high - 70-75; egg weight is 80.5-81 g; hatching and survival rates are 60-65% and 84-88% respectively. Live weight of 17-week-old poults is 4.8-5 kg; feed consumption per kg of gain is 3.3 kg. Live weight of adults is 11-12 kg for males and 7 kg for females.

These turkeys are well adapted to the environment of southern USSR. Fertility and hatchability of eggs are 84-87 and 70-75% respectively. The turkeys reach breeding age at 32-34 weeks of age.

The main reason for stock reduction of this breed in poultry farming is the introduction of more productive lines from crosses of Broad-breasted White turkeys. The North Caucasus White breed formed the basis for six lines differing in egg production and live weight of the young. At present these lines are maintained in the North Caucasus Regional Station as a reserve for commercial crosses. The genetic features of these lines are preserved by selection and choice of individuals having the required appearance and production characteristics.

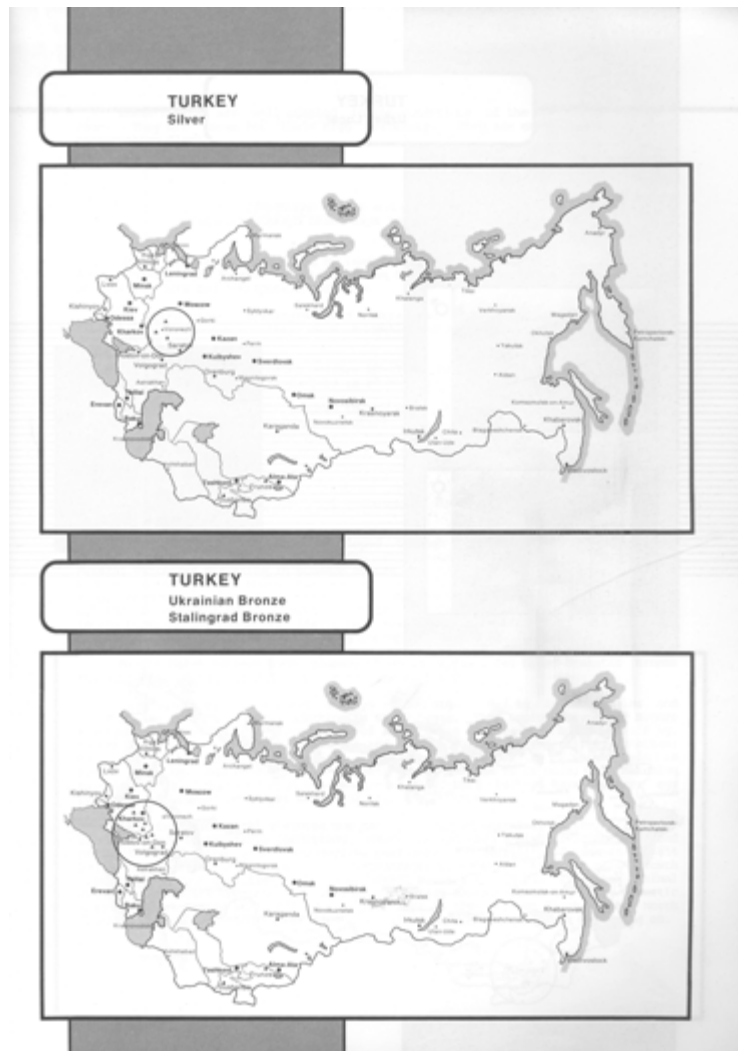
SILVER (Serebristaya)

Produced by amateur breeders on the basis of indigenous turkeys in the Central Black-Earth Zone of the USSR. At present the stock is small; the turkeys are mostly kept on private plots and by amateur breeders.

Silver turkeys have a broad and deep body; broad back, sloping towards the tail; strong and well-developed legs and wings; long tail. Plumage is silvery and silvery-white; shanks are reddish pink.

Live weight is rather high - 10 kg in males and up to 5 kg in females. Egg production is about 40 eggs weighing 80 g. Age at maturity is 40 weeks. Hatching rate is 70-75%. The egg shell may be of various colours - from white to spotted brown.

These turkeys are well adapted to the conditions of the Central Black-Earth Zone. They are known for their high fertility. They are maintained in a gene conservation flock.

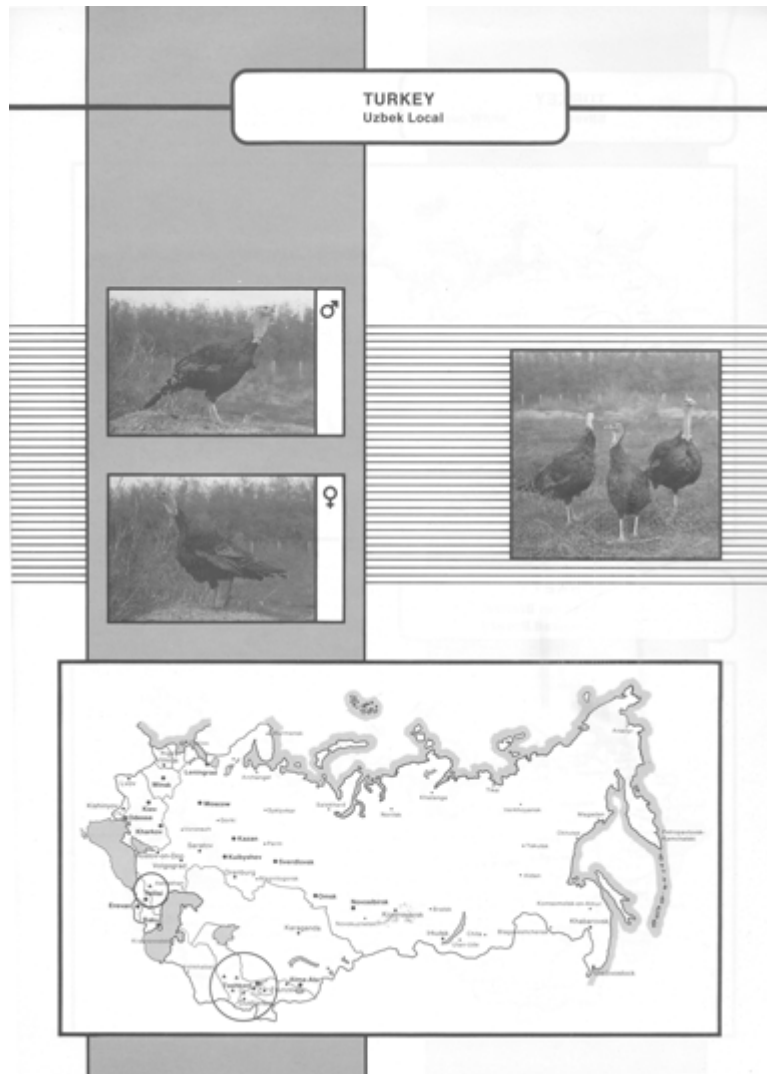


STALINGRAD BRONZE and UKRAINIAN BRONZE
(Stalingradskaya bronzovaya and Ukrainskaya bronzovaya)

These turkeys were developed by random crosses between local and Broad-breasted Bronze turkeys with further selection of the best individuals. Today they are raised on private plots and non-specialized farms. In appearance, Stalingrad and Ukrainian Bronze turkeys resemble the Broad-breasted Bronze. They have a well-developed breast, strong legs and medium-sized head.

Live weight of adult males reaches 10-11 kg, females 5.5-7 kg; at 17 weeks the young weigh 4-4.5 kg. Egg production is 80-85 eggs.

These turkeys are well adapted to the areas of their origin. They have good meat qualities and developed breast muscles. There are gene conservation flocks of Stalingrad and Ukrainian Bronze turkeys.



UZBEK LOCAL (Uzbekskaya mestnaya)

Uzbek Local turkeys were developed through prolonged selection of local varieties which were well adapted to the environments of Central Asia. There are several varieties differing in plumage colour - bronze, buff, etc. The majority are bronze. Breeding work which has been in progress in recent years is directed to their improvement through crossing with higher-productive turkeys; the resulting hybrids are used for further multiplication. The leading role in this work belongs to the Uzbek Animal Husbandry Institute. Pure breeding is also used. The stock is not large and is scattered mainly among non-specialized farms and rural households. Bronze Uzbek turkeys have plumage which is typical for Broad-breasted Bronze turkeys; the plumage of Buff turkeys is shot with red. Live weight of Uzbek local turkeys is not high: 6-7 kg in adult males and 3.5-4 kg in females. Egg production is 45-50 eggs. The improved type of Bronze turkeys has higher values: live weight of adult males is about 10 kg, females 6 kg. By the 17th week live weight in Bronze and Buff populations respectively reaches: males 4.4-4.3 kg, females 3.1-3.15 kg. Feed

consumption per kg of weight gain is high - 3.6-4 kg. Egg production in the best groups reaches 70 or more; the hatching rate is 70-77%. Compared with the Bronze variety, Buff turkeys have a higher egg production (by 4-5%) but lower weight gain of the young.

Regarding biological features one can cite good adaptability to the climate of Uzbekistan and to extensive conditions. Uzbek turkeys have a high efficiency of feed utilization and rather high reproductive performance; fertility of eggs is 80-85% and hatching rate 92-97%. The main disadvantages of Uzbek turkeys are slow growth rate and poor meat qualities. Yield of breast muscles is 13-15%. The Uzbek Animal Husbandry Institute continues to improve production characteristics. As a genetic resource Uzbek Bronze and Buff turkeys are kept in the nuclear flock of the North Caucasus Regional Station, where studies of their production qualities are going on.