MANUAL TO BREEDING OF FARM POULTRY

MINISTRY OF AGRICULTURE AND ENVIRONMENTAL PROTECTION OF TURKMENISTAN

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MANUAL TO BREEDING OF FARM POULTRY

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The manual is intended for private owners and farmers engaged in poultry farming in our country, and it will provide information on the rules and regulations for raising, feeding, and keeping farm birds, as well as on protecting them from diseases encountered in farm birds.

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INTRODUCTION

During the Prosperous Epoch of powerful State under the wise leadership of the honorable President, great progress is being made in all areas of the country's economy, including the agricultural and livestock sector.

Developing the livestock sector and turning it into a profitable industry has become one of the most important areas of priority today. As a result of the activities carried out in this area, high results will be achieved in increasing the number of cattle and increasing the production of livestock products.

In the "Program of the President of Turkmenistan for the socio-economic development of our country in the years 2019-2025", in order to meet the needs of the population of our country for livestock products, to increase the number of cattle, to carry out their breeding and selection work, to increase their productivity and to strengthen the fodder infrastructure. specific tasks have been set to carry out relevant activities.

Based on these tasks, large-scale work is being carried out to develop the poultry industry in our country. Currently, with the great efforts of the President, large, specialized, equipped with modern technologies, poultry and livestock complexes worthy of world standards will be built and put into operation in our country, and their number will gradually increase. The Honorable President is concerned about the construction and operation of these complexes, increasing their number and working at full capacity to provide our population with food products.

Poultry farming is the fastest growing branch of animal husbandry, which will play an important role in providing the population with eggs and poultry meat, which are considered high-quality food products, and in the production of feathers, vests, and organic fertilizers for agriculture.

At the poultry industry, it is very important to develop breeding technology and veterinary measures to protect against diseases along with breeding. Taking into account these conditions, the guide will provide information on the rules and norms of raising, feeding, and

keeping farm birds, as well as information on diseases encountered in farm birds and the measures taken against them.

This manual was compiled based on the results of the research conducted by the scientists of the Livestock and Veterinary Research and Production Center in the conditions of our country in recent years, as well as the leading practices used in poultry farming.

Breeds and crosses of farm birds

Poultry, being one of the economically profitable branches of agriculture, will provide the population with eggs and dietary meat products.

In the poultry industry, chickens, ducks, turkeys, geese, quails, some households breed ostriches.

Chickens. Poultry product types are broadly divided into 3 groups, namely egg, meat-egg and meat-oriented groups. In Turkmenistan, from egg-oriented chickens, Leghorn, Hayleyn, and Lohman crosses, which are the most widespread in the world, are bred (proliferated). Leghorn will be distinguished by high egg yield and good adaptability.

Egg-oriented chickens. Egg-type chickens are characterized by low live weight (up to 2.5 kg), light bones, dense plumage, leaf-shaped plumage. They start laying eggs at 4.5-5.0 months. One hen can produce 250-280 eggs of some hybrids and 300 eggs per year when the appropriate conditions are created.

Currently, white leghorn is considered to be the most widely distributed egg breed in the world.

White leggorn breeding chickens. This breed created by crossing white, brown and black chickens imported from Spain with local chickens. Nowadays, crosses that distinguished by their high egg productivity created on basis of this breed. A brief description of this breed: strong to delicate constitution, light head structure, beautiful leaf-shaped muzzle, long waist, tail, good feathering, large belly. A brief description of this breed: strong to delicate constitution, light head structure, beautiful leaf-shaped muzzle, long waist, tail, good feathering, large belly. The color of their legs is yellowish, the live weight of their chickens is 1.8-2.0 kilograms, and that of their roosters is 2.5 kilograms. The average egg production is 200-240 eggs per year. Egg productivity of crosses created on the basis of white leghorn seeds is 260-270 eggs, and up to 300 eggs can be obtained from hybrids. The weight of the egg is 56-62 grams, the color is white, the yield of chicks is high, in some cases, the seeds of this breed are crossed with the seeds that give meat and eggs, and

high-yielding hybrids are obtained. All over the world, only crosses, seeds and hybrids of this breed are used in industrial egg production enterprises or complexes.

Nowadays, industrial poultry farming is based on the use of high-yielding crosses. They are distinguished by their productivity, quick maturation and low feed consumption.

Accordingly, in production, crossbreeds are multiplied by combining multiple compatible lines. In many countries of the world, new high-yielding crosses of egg and meat chickens have been created and are widely introduced into production.

As a result of the selection work, two-line crosses of Atak-S, Atak, Atabey hybrid chickens with high productivity, as well as Lomann-LSL-classic, Lomann brown-classic, Loman LSL, Loman brown-light, etc. Several crosses were also created. These crosses occupy the first positions in the world market due to their high egg productivity, low feed consumption, viability, and adaptation to housing conditions. Loman LSL, Lomann classic, Loman brown crosses of egg-oriented chickens, Ross-308, Kob crosses of meat-oriented broiler chickens are brought and bred in our country. These crosses are distinguished by their high productivity and quick preparation.

Lohmann Braun cross. This cross is known for its egg production with white and brown shells. The purpose of breeding in parental flocks of Lohmann brown cross is to obtain high-yielding hybrids and increase egg production. This cross was brought to Turkmenistan in 1996. Today, it is cultivated in more than 60 countries of the world. (*1-st picture*).

1 st picture. *Lohmann Braun cross*

Lomann Brown becomes red. Live weight at 68 weeks of age: 2.0-2.2 kg for chickens, 2.0-2.2 kg for roosters

It weighs 3.0-3.3 kilograms. Ovulation reaches 50% at 21-22 weeks of age, peaks at 26-30 weeks, 265-275 at 68 weeks,

At 72 weeks, she lays 280-290 brown eggs weighing 63.9-64.7 grams. Of these, 240-245 at 68 weeks and 255-260 at 72 weeks are suitable for incubation. Cell yield averages 78-82%. Survival rate averages 90-96%. Feed consumption: 8.0 kg at 1-20 weeks of age; 21-68 weeks. It is equal to 40.0 kilograms.

The Lohmann-LSL cross was created in the memory of the white leghorn breed. The cross is early maturing, reaching 50% of herd yield in 145-148 days.

The Lomann-LSL cross is white in color. Live weight at the age of 68 weeks: chickens reach 1.5-1.7 kg, roosters reach 2.2-2.4 kg. Ovulation reaches 50% at 21-22 weeks of age, peaks at 26-30 weeks, 275-285 at 68 weeks. They lay 285-295 eggs in 72 weeks. The white frame of the eggs is 62-63 grams. Of these, 245-250 at 68 weeks and 260-265 at 72 weeks are suitable for incubation. Cell yield averages 80-83%. Survival rate averages 90-96 percent. Feed consumption: 7.2 kg at 1-20 weeks of age, 28 kg at 21-68 weeks of age.

2 nd picture. Lohmann-LSL cross

Poultry for meat and eggs. This route mainly includes Rhode Island, New Hampshire, White Plymouth, Gray California breeds.

The Rhode Island breed was created by crossing native chickens, Cochinhins, and Red Malayan chickens. Live weight of hens is 2.2-2.5 kilograms, roosters are 3.2-3.5 kilograms, average egg laying is 200, egg weight is 58 grams. Survival rate is 85% for older chickens and 95% for young chickens.

The New Hampshire breed was created through selection of the Rhode Island breed to increase egg laying. The average egg laying of this breed is 160-180 eggs per year.

The live weight of a male is 3.0 kg, and that of a rooster is 3.5-4.0 kg. Flies start laying eggs when they are 180-200 days old. Eggs weigh 56-60 grams.

The white plymouth breed is mainly for meat and egg production. Colored Plymouths used as the parent or broodstock for hatching common poultry, and white Plymouths are used as the broodstock for early maturing broilers. White plymouths mixed with colored plymouths. Therefore, often (up to 10 percent) broilers have gray and black feathers.

The average live weight of chickens is 2.7-3.0 kg, and that of roosters is 3.8-4.0 kg. In a year, their spawning rate reaches 160-180, and even up to 200 in females. Egg weight is 56-60 grams,color is light brown.

Focus on the gray California breed for egg and meat production. Chickens of this breed are distinguished by their quiet character. Their live weight is 2.0 kilograms, and their roosters weigh 3 kilograms. Egg production averages 200, egg weight is 57-58 grams.

Meat-oriented chickens. Cornish and white plymouth breeds belong to meat-oriented crosses. It has an intermediate state in terms of reproduction and chick hatching.

Cornish. This breed has been bred from chickens that have been mixed with domestic chickens many times because of their young breasts and firmness.

There are several types of cornichons based on the color of their coats. That is, white, red, light-yellow and dark-brown. However, when the meat crosses produced, they use white flagged birds. Live weight of roosters is up to 4.2-4.8 kg, hens are 3.0-3.5 kg, egg production is not high, 130-150 eggs, shell color is light brown and egg weight is 58-60 grams.

3 rd picture. *One day broiler chicken*

Cornish and White Plymouth crosses are used to produce broiler chickens (quick maturing hybrid chickens). Hybrid chickens are obtained from a cornish cockerel and a white plymouth cockerel.

Broiler chickens belonging to the ROSS-308 cross are the most common in our country (pic. 3). This cross belongs to high-quality crosses and is currently one of the leaders in the world market.

Broiler chickens are created based on the crossbreeding of white Plymouth and white Cornish breeds of chickens, which are considered the highest meat productivity in the world.

The word broiler is an English word that means "to broil". Broilers are 6-week-old broiler hybrid chickens. They are fast growing (40-45 days), live weight gain (2.0-2.3 kg and more), quality

of meat, low feed consumption, i.e. 2.2-2.5 kg per 1 kg live weight and they are distinguished by their good digestibility It is significantly different from the meat of other animals due to the fact that its meat contains a large amount of protein and a sufficient amount of fat. The meat contains 19-23% protein, 5% fat and is tender and juicy. The meat is highly nutritious. in 100 grams of meat. It stores 180-230 Kcal of energy. Broiler chickens account for 80% of the world's total poultry production.

Indian chickens. There are several breeds of Indian chickens. Among them, white-breasted turkeys, bronze-breasted turkeys, white turkeys, silver-breasted turkeys, black tihor and several other species are bred in Turkmenistan.

The live weight of turkey hens reaches 18-20 kg, and the weight of chickens reaches 9-16 kg. The development of their cocks and cocks is different. The live weight gain of chickens increases up to 150 days after hatching, while that of skiers increases up to 120 days. When turkeys are raised for meat, their roosters and roosters are kept separately. A good marketable carcass of up to 5 kg can be obtained from turkey chickens at the age of 90-120 days. Indian chicken meat is distinguished by its taste, nutrition, nutritional value and high protein content. Compared to the meat of other types of poultry, turkey meat is rich in vitamins and contains less cholesterol, so turkey meat is good for people of all ages.

White broad-breasted turkey. The United States of America is considered the homeland of white broad-breasted chickens. Their coats are white and their chests are deep and wide. These meat-oriented types of turkeys mature quickly and have high survival rates (*4. picture*). They divide this breed into three types: light, moderate and heavy. Light-type turkeys are raised up to 7-8 weeks of age, their live weight is 2.3-2.5 kilograms. 2.0-2.2 kilograms of feed is used to increase one kilogram of live weight. They grow up to the age of 15-16 weeks, their live weight reaches 8-9 kg, and 2.5-2.7 kg of feed is used to increase one kilogram of live weight.

4 th picture. *White-breasted turkey*

Heavy weight turkeys are raised up to 18-20 weeks of age, their live weight is 12-15 kg at the slaughterhouse, and 2.7-2.9 kg of feed is spent per kg of live weight gain. This breed is very demanding on the conditions of storage and nutrition, it is resistant to diseases. Light weight type of this breed of turkey - 100-110 eggs, medium weight type 85-90 eggs, the heavy type lays 70-80 eggs. The hatching of chicks is of the light weight variety reaches 80-85%, 60-70% of the medium-weight type, and 50-55% of the heavy-weight type.

Bronze broad-breasted turkey. They are distinguished by their large live weight and high growth rate. The average live weight of adult roosters is 16-18 kilograms. 120-day-old turkey chicks weigh 5.5-6.5 kilograms, and 2.3-2.5 kilograms of feed are used to increase one kilogram of live weight. Egg production of adult turkey hens reaches 70-90, with a hatchability of 65-70%. (*5. picture*).

5 th picture. A turkey with a bronze breast

White turkey. White turkeys were created by scientists of the Timiryazev Agricultural Academy. Live weight of turkey chicks aged 140-150 days It is equal to 5-7 kilograms, 2.8-3.2 kilograms of feed is spent to gain one kilogram of live weight. This breed is distinguished by high viability and good adaptation to local conditions. Egg production of adult turkeys - 60-70 eggs, hatchability - 65-70%. (*6. picture*).

6 th picture. White turkey

Silver turkey. These turkeys are named after the color of their feathers. The weight of their adult rooster reaches 10 kilograms, and that of a male reaches 5 kilograms. Flies lay 50 eggs per year, the weight of the eggs 80 grams. Their cell viability is 85%. Their body is

deep and wide, their head is small, their wings are well developed, their legs are large and long, with a reddish color. These turkeys are well adapted to cool climates with long winters (7 pic.).

7 th picture. *Silver turkey*

Black Tihor Turkey Chicken. Black Tihor turkeys are created from a selection of local turkeys. The weight of adult roosters is 9-10 kg, and that of skiers is 4.0-4.5 kg. The meat of this breed of Indian chickens is distinguished by its high taste. These Indian chickens are well adapted to local conditions, the survival rate of their chicks up to 120 days of age is 90-98%. They are not fragile and are well fed even in field conditions. It lays 70-80 eggs per year, the hatching rate is 80%. (*8. picture*).

8 th picture. *Black Tihor Turkey Chicken*

The methods of raising turkeys in cages and on the ground are common. These methods often depend on their type. It is recommended to raise chickens of heavy weight type on the ground. Light and medium-weight varieties can also be grown in cages.

When raised in the ground, thick bedding is recorded, and the

procedure for its preparation and recording is the same as for other species of birds.

Young turkey chicks that will be kept in a large flock should be carefully examined after hatching, and then selected based on their appearance - the appearance of their feathers, their mobility. Their first 10 days are the most responsible and labor-intensive period. Therefore, when raising turkey chickens, it is necessary to strictly control the technological norms of their placement, temperature, humidity, ventilation, and feeding. When Indian chickens are reared, changes in temperature during their first days affect the growth and viability of the chicks When the temperature rises, turkey chickens develop asthma, they drink a lot of water, lower their wings, and lie down on the ground. At low temperatures, they clump together.

When the chickens are raised, the temperature of the bed is regulated according to their age and behavior. Bed temperature at one day old 27 degrees, then lowered by 1 degree every day. At the age of 36 days, it is brought to 18 degrees. The relative humidity of the bed is considered normal to be around 70-75% for the first three days and 60-70% for the last days.

The duration of light for chickens will be adjusted depending on their age, ie 24 hours from day 1 to day 4, 17 hours from day 5 to day 20, and 14 hours from day 21 to the end of breeding.

Turkey chickens have high nutritional requirements. The daily nutrient requirements of birds differ according to age, sex, live weight, productivity and other characteristics. Turkeys are grouped according to their characteristics and fed a specially formulated feed mixture that meets their daily nutrient requirements. The feed mixture is prepared in specialized factories, but it can also be prepared in the conditions of the home and poultry farm

Hatchlings should be fed every two hours for the first 10 days, then gradually reduce to 5 times a day at 30 days of age.

Starting at two weeks of age, chicks are fed dry food along with wet food.

The amount of feed mixture given to turkey chickens daily is regulated by two methods, that is, in the form of dry feeding, based on the concentration of nutrients contained in 100 grams of grass-

feed mixture, and in the form of wet feeding, based on the average daily requirement of nutrients per head.

Geese are one of the largest birds, the live weight of their roosters reaches 8-10 kilograms, and the weight of their feathers reaches 6-7 kilograms. The weight of a new chick is 90-110 grams, 1.4-1.8 kilograms at 1 month, 3.4-4.0 kilograms at 2 months, 5.5-6.5 kilograms at 6 months. Geese begin to lay eggs at 8-9 months, but they produce very few eggs.

There are several genera of geese, the most common of which are gray, gray, and so on.

Holmogor kind geese is created by mixing local white gases with gases from Chinese soil. Thin-breeded geese are distinguished by their high live weight and meat quality. The live weight of chickens is 6-8 kg, and that of roosters is 8-9 kg. They are capable of laying 30-50 eggs in a year, and in some cases 80 eggs. Egg weight is 160-180 grams. When chickens are raised for meat, they gain weight quickly and at 9 weeks of age, their live weight reaches 4 kg. Smoke plumes are gray, and white in color (*9. Picture*).

9 th picture. *Holmogor kind geese*

Kuban goose kind . Local groups of Chinese, wild gray and Gorky geese were used in the creation of this breed. This breed is well adapted to pastures and has high egg production

(up to 95-100 eggs) and the weight of eggs (150 grams) is high. At the age of 9 weeks, the live weight of chicks reaches 3.7-4.0 kg. The live weight of roosters is 5.5-6.0 kilograms, and that of chickens is 5-5.5 kilograms. This breed is characterized by high productivity and is well adapted to local conditions (*10. picture*).

10 th picture. *Kuban kind geese*

Large gray goose created by colliding Roman goose with tulse goose. The live white frame of large roosters is 6.7-7.0 kilograms, and the weight of male roosters is 5.8-6.5 kilograms. The live weight of 9-week-old chicks is 4.5 and 3.7 kilograms, respectively. Egg production is 35-45 eggs, egg weight is 175 grams (*picture11*).

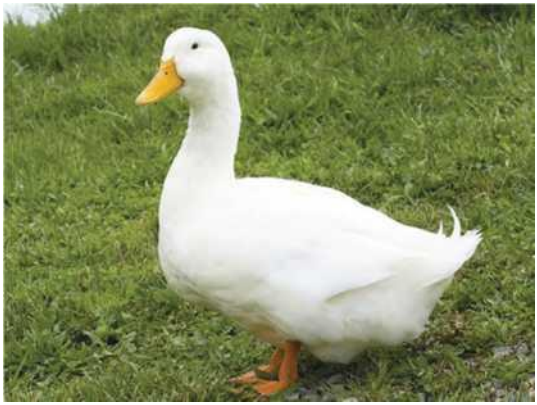
11 th picture. *Large gray*

Ducks. Ducks are the most common poultry along with chickens. They are mainly raised for meat production. Ducks lay fewer eggs than chickens, and their eggs are large, weighing 85-90 grams. The live weight of ducklings when they leave the incubator is 70-75 grams and they mature quickly. They weigh 2.5-3.0 kilograms

in 56 days, during which time they eat a lot of food. When they are fed according to the special rules, their live weight reaches 120 grams at the age of one week, and 2.55 kilograms at the age of 8 weeks.

In Turkmenistan, mainly the white Pekin breed of ducks and their crosses are widespread. In addition, duck breeds such as white Muscovy, Ukrainian, Indian duck, and musk duck are also grown.

White Pekin kind. They mature in 50-60 days and lay more eggs (80-120) than other breeds. The egg weighs 85 grams. This breed created in China at the end of the 19th century. The live weight of their roosters reaches 3.5 kg, and that of their riders reaches 3.0 kg. It reaches sexual maturity at the age of 180-240 days (*12. picturet*).

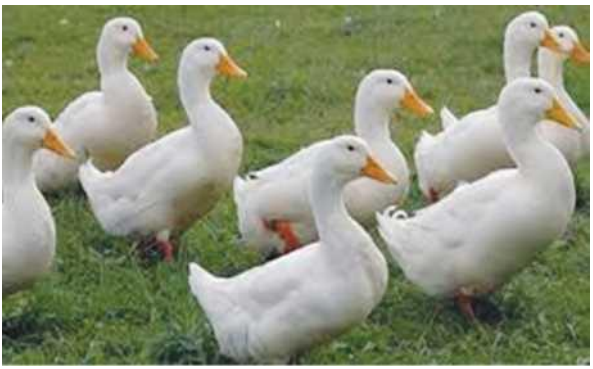


12 th.picture. *White Pekin kind*

Ukrainian kind. These ducks considered meat and egg oriented. Ducks belonging to this breed are large, with a broad and deep body, and a black and gray color with white feathers on the breast. These ducks distinguished by their rapid maturation and good digestibility. Their live weight reaches 3.0 kg of climbers and 3.5 kg of roosters. Their chicks grow rapidly. At 2 months, the live weight of chicks reaches 2.0-2.1 kg. When they are reared in open ponds from 30 days to 140 days of age they consume 4.0-5.0 kg of feed and grow well. They lay 110-120 eggs per year. Egg weight is 70-90 grams (*13. picture*).

13 th picture. *Ukrainian kind*

White Moscow breed. These ducks belong to the meat and egg industry. This breed was created by crossbreeding white Pekin ducks with khaki Campbell ducks. The progeny obtained as a result of the cross-breeding were similar to meat-oriented ducks in terms of their productive quality and external characteristics. The live weight of white Moscow ducks reaches 3.0-3.5 kg, and roosters reach 4.0-4.5 kg. (14. picture).



14 th picture. *White Moscow kind*

Quickly Indian breed. These ducks are egg oriented. Indian ducks have a slender and upright body, a round breast, a small head, and a white color. Indian ducks lay 180-200 eggs. Egg weight is between 68-72 grams. The live weight of roosters is 1.8-2.0 kg, and that of chickens is 1.5-1.8 kg. (15. picture).

15 th picture. Quickly Indian breed

Muskus kind. Muskus ducks are brought to Central Asian countries from South America.

The feathers of musk ducks come in a variety of colors, including white, black, and brown. Their character is quiet, trusting, they are not afraid like other ducks, they can fly short distances. The bellies of roosters are twice as heavy as those of climbers. The live weight of roosters reaches 3.2-4.1 kg and 1.9-2.1 kg of chickens in 70-77 days when grown for meat in an industrial way. The meat is soft, juicy, unique and delicious. Its meat is less fat than that of Peking ducks. Muscovy ducks start laying eggs at 6-7 months of age and can lay 90-100 eggs in a year. Egg weight is between 72-78 grams. **(*16. picture*)**

16 th picture. Muskus kind

In modern poultry practice, the technique of raising young ducks on the floor is widely used when raising them for meat. This method is more efficient and has the advantage of allowing ducks to grow at a high live weight and without injury to their breasts and legs.

When ducks are reared in bedding, the raw material for bedding is in high demand. The humidity of the mattress should not exceed 25%, the microflora of harmful bacteria and fungi should not be allowed. It is recommended to lay the mattress on the floor with a thickness of 7.5 centimeters. It is recommended to use wood shavings and small straw for bedding. One of the main conditions for placing ducks in prepared beds is dryness. The rule of thumb for placing Peking ducks on the floor is no more than 16 heads per square meter under three weeks of age, and 8 heads per square meter when older. When rearing chickens, the group should not be more than 300 under three weeks of age, and 150 over three weeks of age.

When breeding ducklings, special attention should be paid to the microclimate conditions (warmth, light, humidity, ventilation) inside the bed.

ike chicks of other species of birds, ducklings require a lot of warmth during the first 2-3 weeks of development. Then the temperature of the bed is changed depending on the age of the chicks, that is, 33-35° at one week old, at two weeks

30-32°, three weeks should be at 28-30°. Large ducks do not need additional heat, for them, the temperature in the beds is 15-18°, and the humidity is 65-75%.

The effect of light on the meat production of ducks is also great. Day and night light is recommended until one week of age. At that time, the light level should be around 15-10 lk at the level of the food and water bowls. Then the duration of light is reduced by 45 minutes to 15 hours each day and depending on the age it is reduced to 3-5 lk. This provides ample opportunity for the ducks to grow at a normal and high live weight.

Proper feeding is one of the main conditions for raising ducks. Ducklings eat a lot of grass and gain weight quickly. Both dry and wet forms of feeding ducks are widely used. Grains and legumes, root vegetables, and green grasses are considered the most nutritious foods for ducks. Ducks eat grass well. 15-20 percent of blue grass at the age of 2-5 days.

In 20 days, it can be increased up to 20 percent. At the age of 10 days, 20-30% of boiled potatoes can be added to the diet of ducklings. Green grasses provide the ducks with their vitamin requirements. In general, when feeding ducks, feeding rules are developed depending on their age and productivity due to the food available in the household.

Quail birds. The live weight of the quails will be 120-130 grams. It will lay 250 eggs a year. Eggs weigh 12-16 grams. Eggs placed in an incubator will hatch in 17 days. Hens will start laying eggs at 35-40 days.

17 th picture. Pharaoh's quail.

Currently, several kinds of quail breeds. The most common of them are the meat-oriented Pharaoh and the egg-oriented Japanese quail.

Pharaoh's quail. It is fleshy and matures very quickly. The live weight of the roosters is 150-200 grams, and the hens reach 200-300 grams, the egg production is 150-200 per year, the weight of the eggs is 12-16 grams, and they start laying in 45 days. Live weight of chickens reaches 170-190 grams.

To incubate the quail's egg, it is not more than 5 days, fresh eggs weighing not less than 10-12 grams are used. Eggs are stored in a cool room with a temperature of 8-12°C and humidity of 70% before being placed in the incubator. Eggs to be placed in the incubator must be obtained from 2-6 month old bodies. Eggs should be turned every 2 hours for 15 days, then the containers with eggs are transferred to the hatching cabinet, the temperature of which should be 16.5-17.5°.

The Japanese quail distinguished by high egg production. It is capable of laying 250-300 eggs in a year. Flies mature quickly and start laying eggs at 30-40 days of age. Egg weight is 9-11 grams. The live weight of the roosters of this breed is 110-130 grams, and the roosters are 130-150 grams in 4 weeks. (*18.picture*).

Quail's can kept on the ground and in cages while being raised. When staying on the ground, the house is thoroughly cleaned and

18 th picture. Japanese quail

disinfected. Wood shavings or crushed straw are placed on the floor of the house where the body will be kept. 2-3 days before the chickens are brought, the house is heated to 37°. House temperature was maintained at 37°C for newly hatched chicks and 35°C after one week. After 2 weeks it is kept at 31° and then at 19-21°.

The relative humidity of the house where the quail is stored should be 55-60%. The duration of light should be equal to 24 hours for the first 3 weeks. The light is then reduced by 2 hours each week.

Proper nutrition plays an important role in raising chickens. Chickens are very sensitive to food quality and nutrition. Therefore, in the first 4 weeks of age, it is necessary to ensure that the amount of crude protein is 27.5%, 1256 kJ of replaceable energy, and 17%, 1150 kJ in 5-6 months. When fed according to this pattern, they grow well and produce effectiveness.

Chickens are fed 5-6 times a day. During the feeding period, 4 grams of whole food is consumed per day in the 1st week, 8 in the 2nd week, 15 in the 3rd week, and 18 in the 4th week.

Large quails are fed 2-3 times a day. Forage can be used for wheat, corn, soybean meal, millet, crushed sorghum, milk powder, cooked potatoes, shredded cabbage, beets, carrots, fish scraps and other animal products.

The composition of quail food (per 100 grams of mixture) should include 60 grams of grain foods, 4 grams of mineral foods, and 36 grams of protein foods. In addition, if 10-12 grams of green vegetables (carrots, cabbage) are added to the meal, they eat more actively. Food can be given dry or wet. A vitamin-enriched diet includes the use of kelp, fish oil, and dietary fiber. Animal waste can be used as protein feed.

Rules for incubating chicken eggs

In order to get a healthy chick, the egg should be thoroughly analyzed before placing it in the incubator. They are egg oriented 8 months and meat oriented Eggs taken from 9-month-old chickens should weigh 52 grams from chickens up to 12 months old, and 54 grams from chickens over 12 months old. Eggs should contain enough vitamins. The amount of vitamin A should not be less than 6 micrograms in 1 gram of chicken egg yolk, and the amount of

carotene should not be less than 15 micrograms. They promote the normal development of the fetus.

Eggs that are uneven, wrinkled, cracked, dirty, washed, very small, thin-shelled, round or very long eggs cannot be placed in the incubator. Clean, medium-sized (52-65 grams) eggs of correct shape and no defects are selected for incubation. Before placing the eggs in the incubator, the temperature is +8+12°, humidity

75-80% is stored indoors. The selected eggs are placed on trays 6-8 hours before being placed in the incubator, then formalin solution.

It is disinfected and transferred to the incubation room. Before placing the eggs in the incubator, the trays are marked with where the eggs came from, what breed they belong to, the breed and the time they were placed in the incubator. Chickens that will be laid in an incubator are fed according to the rules for 1 month in advance.

One of the main conditions for the normal development of the fetus is heat and humidity. The temperature in the incubator should be 37-38°, and the humidity should be 57-61 percent. Eggs should be turned 12-24 times throughout the day. The embryo formed at normal temperature makes good use of the nutrients contained in the egg, and the amount of unused yolk is small.

The heat requirement of the developing fetus depends on the stage of development. Adequate warmth during the early stages of incubation accelerates embryo development and results in rapid utilization of nutrients in the egg and yolk protein. Low temperatures during the early stages of incubation slow down embryo development. As a result, the transfer of nutrients from the protein to the yolk is reduced. It is less cold in the area below the ovary. The circulatory system does not develop well in the egg yolk. Thus, the growth of the fetus slows down and breathing becomes difficult.

During the second stage of incubation, the temperature requirement of the embryo changes. If the embryo is well developed during the first half of incubation, the increased heat reduces the utilization of the nutrients in the egg protein and yolk and impairs the development of the embryo. Accelerates premature ejaculation.

Extreme temperature fluctuations increase fetal loss. High temperatures during the first two days lead to changes in the chick's

developing tissues, especially the nervous system. During the period of co-incubation, the temperature does not produce its adverse effect, provided it is not too low. Blood clots appear under the skin when the temperature is too high. Excessive heat in the final days of incubation prevents the embryo from making full use of protein and delays the utilization of nutrients in the yolk. There is a lot of yolk left in the egg and it is not fully used.

If the temperature is below normal, chicks die before hatching, and hatched chicks are very weak. Eggs are periodically cooled during incubation. Its duration should not be more than 10-15 minutes, and within 20-30 minutes the heat should be reached. Doing so removes excess heat, improves fetal growth and metabolism.

At the end of incubation, the eggs are kept in the incubation cabinet for 18 days and then transferred to the hatching cabinet. There, the temperature should be 36.8-37.2°, and the humidity should be 32-33° according to the humidity thermometer. If the above rules are fully followed, the yield of chickens will increase, they will grow healthy, and the mortality of chickens during the last period of laying will be low.

Breeding and nutrition (feeding) of chickens

Chicken breeding is one of the most important aspects of poultry farming. Chickens that are raised in good health are able to produce more. Chicken mortality is high in the first week and then decreases. Chicks are able to live on their own for thirty hours after hatching

After drying, the whole pile is evaluated for its general condition, weight, and walking speed, and it is transferred to the houses in specially prepared containers. Specially prepared containers consist of 4 parts, and for air exchange, a hole with a diameter of 2 cm is inserted from its top and walls. 25 chicks are placed in each section.

Cells suitable for development are distinguished by good sensitivity to movement, light and sound. Their bellies should be soft, their belly closed and dry, their backs clean, their manes shiny, their colors well colored, their tails flexible, their heads broad and large, their eyes set, and their feet firm.

Regardless of the storage method (on the ground or in porous

cages), the house in which the chickens are housed should be dry, clean, bright, warm and well ventilated.

The house to be kept must be prepared in advance, broken windows, broken walls, mattresses, roofs and other equipment to be used should be repaired, repaired and disinfected. If chickens have been kept in the house before, it is necessary to carry out preventive (prophylactic) measures for two weeks. The previous lessons should be put out of bed and the food and water bowls should be cleaned thoroughly. Dust and dirt should be removed from the floor, windows, and walls. Disinfect walls with a 20 percent lime solution and clean other equipment with a 3-5 percent slaked lime solution.

Houses to be kept should be cleaned and disinfected, then properly heated and dried. If the chickens are going to be kept on the ground, then new bedding should be added there. Wood shavings, shredded straw, and dry grass can be used for bedding. The beds are made 5 cm thick, and as the chicks grow, it is increased to 10-12 cm. The humidity of the litter should be 20-25%, if it is more than that, it can cause chickens to get sick.

Chickens are very demanding on heat during the first 30 days. Therefore, the rules of heat in chicken coops should be strictly observed. The temperature of the house is measured using a thermometer suspended at a height of 25 cm, and the humidity is measured using a psychrometer.

The behavior of the chickens can tell if the house is warm enough. When the temperature is higher than normal, the chicks open their mouths and lower their wings, when the temperature is lower than normal, they gather in a corner and climb on top of each other. In order to prevent such situations from occurring, it is necessary to control the temperature of the houses where chickens are kept. Information about the thermal conditions of the cage is presented in table 1.

Table 1.

The temperature of the house where the cell is kept

Age of chickens, days	House heat, <C	Age of chickens, days	House heat, <C
1-5	35-34	21-30	26-24
6-10	33-30	31-40	24-22
11-20	29-27	41-60	20-18

As shown in Table 1, the temperature of the house varies depending on the age of the chickens. As the chickens get older, the temperature of the bed is gradually reduced to 20-18°. When chickens are kept on the ground, 20-25 chickens from 1-30 days old, 16 chickens from 31-60 days old, 9 chickens from 61-90 days old, 4-5 chickens from large chickens are placed in 1 m2 of the house.

Nowadays, chickens are kept in multi-layer (3-4) cages in poultry houses. When the chickens are kept in cages, they are housed according to their age and production direction, as well as the type of cage. Lighting the house is also one of the main conditions when raising chickens. Therefore, it is necessary to strictly follow the rules of lighting. When the rules of lighting the house are properly followed, it allows them to maintain their perfect condition. Chicks require full light on their first day. Then the light starts to dim. They usually need 3-4 W of light per 1m2. The presence of excess light causes them to stop growing and quickly become sexually mature. This in turn affects the premature hatching of skimmers. As a result, climbers tend to lay small, thin-shelled eggs. Reduced light increases chick growth and delays puberty. This contributes to the normal growth of chickens in the future, and normal laying of eggs at the beginning of the first laying.

Air humidity is 60-70% for 3 weeks, then 55-65%. Humidity imeasured using a psychrometer. Air conditioning in the house is also one of the necessary conditions. Him

The amount of fresh air required per 1 kilogram of live weight in 1 hour and calculated by (m3). Clean air supplied from outside the

building with the help of suction fans, and dirty air is exhausted. Air movement inside the house also has an effect on chickens. The chicks have cold because their yolks not fully developed until day 5. At that time, if the air movement is greater than 0.1 m/sec, the chickens will grow cold. After the chicks are well developed and their bodies are mature, they cannot survive even in air movement of 0.5 m/sec. It should ensured that toxic gases do not exceed the norm in the house. These indicators are measured using special equipment.

The live weight and general condition of the chickens are monitored to ensure that the conditions of keeping and feeding meet the requirements. Sick chickens that grow slowly and do not eat enough feed are checked daily and removed from the flock. The condition of the chickens was monitored daily after feeding. Weak chicks sit in one place clucking, head down, not eating, bathing, dirty yolk, drooping wings, small and blue beak, dirty back, back, always sleeping.

One of the main conditions for raising chickens is proper feeding. Its most important period is from one day to 15-20 days. After the hatchlings are separated into groups, they are fed in special feeders. Feeds should be finely ground (cereal) and given according to the age of the chicks according to a specially formulated formula. Meals are given 4 times the first week, 3 times the second week, then 2 times. There should always be food in the trays, and after emptying the tray, fresh food is added up to half of it. The value of food during the first 8 weeks should be very high, that is, in the composition of the diet

Feed with 20% crude protein and 1.24 MJ (290 Kcal) of replaceable energy per 100g feed, 4.0% crude fiber, 1.1% calcium, 0.8% phosphorus, 0.2% sodium. This is because this period coincides with the rapid growth of chickens.

Chicken feed should be of high quality. Replaceable energy, crude protein and other nutrients in food are determined under laboratory conditions. At the age of 1-8 weeks, 60-70% grain, 10-20% soap, 4-7% animal feed, 3% hay, 2% mineral substances, 1% premix are added to the diet of chickens.

Table 2

Nutrient composition in formulated feed for chickens

Age of chicks, weeks	Energy exchange in 100 g of food, kcal	Crude protein, %	Crude Cell, %	Calcium, %	Fosfor, %	sodium, %
1-4	280	20	4,0	1,2	0,8	0,2
5-13	260	17	6,0	1,2	0,8	0,2
14-22	250	15	5,0	1,4	0,8	0,2

When young chickens are given grain feed, it is given in the form of small grains, the barley grain is washed and sieved to remove the chaff. Pumpkin seeds should also be peeled and seeded, and the crude protein content is high. It can be added up to 3-5 percent to the diet of non-breeding chicks (from 2 months). 7-8 kilograms of bentonite flour is added to every 100 kilograms of sorghum to mitigate the effects of the poisonous gossypol in its composition. It is then added to other foods and mixed well.

When young chickens are kept in house conditions, food is given little by little, 7-8 times a day. After 15-20 days, it is gradually reduced to 3-4 months. Feed mixtures should be calculated on a day-to-day basis depending on the age of the chicks. Information about the amount of food that should be given to chickens during one day is presented in table 3.

Table 3

24/7 for chickens
amount of feed to be given

Age of chickens, weeks	Food	Age of chickens, weeks	Food	Age of chickens, weeks	Food	Age of chickens, weeks	Food
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1	9	7	45	13	66	19	83
2	16	8	49	14	68	20	86
3	22	9	53	15	70	21	93
4	28	10	57	16	72	22	97
5	34	11	60	17	76	at the	110
6	40	12	63	18	79	Hen	115

As can be seen from Table 3, as the age of the chickens increases, the amount of feed mixture given to them daily also increases. In order to raise healthy well-developed chickens, they are given a dry feed supplement (primix) containing a complete set of vitamins and microelements, and in home conditions, poor, green grass, pumpkin, vegetable waste. The energy and protein value of the diet is regularly checked in the laboratory, and milled grains (maize, oats, barley, etc.) are added to bring it up to the norm. To monitor the normal growth of chickens, a designated group of them (100-150 heads) should be drawn once a month. Data on live weight growth of laying hens are presented in table 4.

Table 4.

Development of egg-laying chicks

Age of chicks, weeks	Live weight, g	Age of chicks, weeks	Live weight, g
1	70-75	9	310-680
2	105-115	13	950-1050
3	160-182	20	1250-1300
4	230-270	22	1450-1500

As can be seen from table 4, when chicks are fed according to the standard, their growth rate is good. Weak, underdeveloped chicks are regularly moved to individual flocks and fed good feed, sweated blue clover and alfalfa meal. Under industrial conditions, all chickens are fed a high-quality feed mixture and their marginal growth is achieved.

As a rule, 140 day-old chicks are raised for every 100 hens. When chickens are reared according to the rules, 96.5-97% reach the broiler age without mortality and are transferred to the large broiler line. In industrial farms, healthy chicks that have reached the age of hens are transferred to the hen house. The chicks are hatched at 122 days of age. In industrial farms, laying hens are decommissioned and sold at 24 months of age, when their egg production drops to 50-60 percent. To update them, day-old chicks are taken 5-6 months before the chickens are weaned and reared in the chicken house. If he has roosters, he gets twice as much as he should. Roosters are kept for up to 3 months and sold for slaughter when they weigh 0.8-1.0 kg. In households with grass-fed facilities, for full use of the chicken house (it is separated from the chicken bed), it is possible to organize the rearing of chickens for up to 3 months. By doing this, it is possible to make 3-4 turns a year and get enough profit, that is, in each turn, 5-10 thousand chickens are reared for up to 3 months. During that time, only 4.1 kilograms (or 45 grams per day) of feed is consumed per chicken.

The main thing to pay attention to when raising chickens at home: the temperature of the house should not be too low, the composition of the feed should not be only bran or grain and grain waste. Their food is mixed and given in the form of small flakes. As a rule, filter, eggs, vegetable oil (2.2 grams of fat per 100 grams of food), up to 3% of filtered soap are mixed. Prepared foods don't keep long, and they go rancid. For 7-10 days, the chickens are fed with crushed green alfalfa, grass, cultivated green barley and germinated wheat and barley grain.

Keeping and feeding laying hens

4-5 chickens are placed on 1m2 after the chickens are matured and transferred to the laying hen's bed. The temperature of the house should be 18-21°, the air humidity should be 60-70%. The speed of air movement in the house is 0.2-0.6 m/sec in winter and 1.2 m/sec in summer. Hydrogen sulfide 5 mg/m3, ammonia 15 mg/m3, carbon dioxide should be 0.25%. For air exchange, 0.7 m3/h of air is given in winter and 4-5 m3/h in summer for every 1 kg of birds. Table 5 provides information on house lighting conditions for laying hens.

Table 5

It is customary to light the house for laying hens

Age of chickens, weeks	Duration of light, hours	Age of chickens, weeks	Duration of light, hours
1	*2*	*3*	*4*
17	9	25	13
18	9	26	13,5
19	10	27	14
20	10,5	28	14,5
21	11	29	15
22	11,5	30	15,5
23	12	31	16
24	12,5	32	16

After the young hens are placed in the brooder, the hen is not added to it, which causes a lot of stress in the birds, which reduces egg production abnormally low. Veterinary medicines are mixed with food and water. Air purification (aerosol method) is carried out. Vaccinations are conducted in darkened rooms.

Laying hens are fed a mixture of dry feed. Depending on their egg production, they are fed 120-125 grams of feed per day. Its value

is 1,055 mg per 100 grams

(260 Kkal) should be The diet should contain 17% crude protein, 5.5-6.0% crude fiber, 3.1% calcium, 0.7% phosphorus and 0.3% sodium. High-quality corn, oats, barley grains, vegetable oil, fish meal, etc. are added to the diet to provide adequate energy and protein. The ration consists mainly of food available in the household. Each food has its own amount to add. Maize 60%, barley 30%, grain residue 60%, oats 30%, chickpeas

It is added to 12%, bran to 7%, soap to 3%, fish meal to 7%, grass meal to 5%, fish meal to 6%, salt to 0.2%. In order to get more product from chickens, all foods should be included in the diet. If the household does not have them, it should be purchased from the available place and ensure that the chickens are fed according to the rules. If the consistency of feeding is not maintained, if its quantity is limited or its quality is reduced due to a lack of feed, the egg production of hens decreases, and then it is very difficult to restore it to its previous state. There should always be enough dry feed in the household. Feed for chickens is prepared in advance, that is, grain feed (corn, oats, barley, beans, peas, chickpeas, etc.) is ground in a mill (in the form of fine grain), sieved, fish is ground. After the food added to the ration is ready, they are mixed in a mixer according to their composition (according to the percentage of each food) and stored in bags in a dry, cool place. A food mixer must have a large and small scale. Foods to be mixed must be calculated very precisely.

When the chicks begin to lay, they are gradually transferred to the ration of large chickens, that is, 10-15% of them in the first week, 25% of the ration of the chicks, in the second week, 50%, in the 3rd week, 75%, and in the 4th week, full. is given to large chickens.

In the first 5 months (up to 10-11 months), the diet of chickens is completely free (270 Kkal and 17% protein) is given, then its energy is reduced to 260 Kcal and protein to 14-15 percent. Hens shed their feathers after 12 months of laying, reducing their egg production. It lasts for 2-3 months. In many farms, at that age (at 72 weeks) they are removed from the account and replaced by young chickens. If the hen has not been replaced, her feathers are removed artificially. That is, they turn off the light for 1-2 days and the chickens are not given food or water, on the 3rd day they are given

water, on the 4th-6th day they are given water, oats, clean barley or it is poor with corn, on the 10th day they are transferred to a full ration.

When the weather is hot, if there is a lack of calcium, phosphorus, vitamin D (ergocalciferol), chickens lay eggs with a thin shell. In this case, the ration includes vitamin D3 (cholecalciferol) (1.5 million IU per 1 ton of food), magnesium (70 grams per 1 ton of food), vitamin C- ascorbic acid. (50-100 grams per 1 ton of food) is added. 2 kg of fish meal per 100 chickens is given once a week in hot weather.

Veterinary-sanitary rules for keeping poultry

The health of birds largely depends on their proper feeding, watering, and housing. If these rules are violated even slightly, their productivity may decrease. The head of the poultry farm should be in close contact with the State Veterinary Service and conclude agreements on veterinary-sanitary and preventive measures based on the plan of actions to be taken against epizootic diseases in the birds belonging to him. When a bird is purchased, its owner is obliged to request a bird health certificate. He must notify the veterinarian about this and keep the birds in quarantine for 30 days.

Poultry keepers should regularly monitor the health of the birds during their rearing period and ensure that the nutritional content of the feed ration is normal, as well as the mineral and vitamin content. Poultry products for sale are subject to veterinary-sanitary inspection and must be issued with type 1 and type 2 veterinary certificates. Birds are checked every day.

The carcass of the dead bird is removed from the bed, and the veterinarian dissects it to determine the cause of death. Poultry slaughtering takes place in a designated area. The remains are collected and burned. The meat is allowed to be used after it has been examined by a veterinarian and a veterinary certificate has been obtained.

In the group, a special house should be allocated to store the necessary medicines, equipment and disinfectants for providing first aid to sick birds. In order to carry out emergency disinfection, the farm needs a hand-operated hydropistol (spraying device), special

clothing (rope, rubber clothing, gloves, protective glasses, etc.). In the veterinary medicine cabinet, ichthyol, iodoform, 5 percent solution of iodine, alcohol, potassium permanganate solution, drugs such as furacillin, penicillin, streptomycin, surgical scalpel, scissors, bag, thermometer, needle, syringe, test tubes, bags, cotton, rod, bandage, etc. things should be.

When designing, building, and renovating old birdhouses, it is necessary to act on the basis of veterinary-sanitary requirements. For example, a distinction must be made between poultry farms and other industrial complexes and individual households.

The place for the farm is selected with the participation of a veterinary specialist. Groundwater levels should be low when selecting a site for building birdhouses. The place should not be far from the road, it is considered suitable if it is provided with electricity, heating facilities, potable water. It is forbidden to build a farm near the cemetery, near the water purification facilities, the territory of each farm is separated from the settlement by a sanitary-protective strip and a fence is built outside (the distance between the shepherd's dwelling and the farm should be normal).

The farm area is divided into work zones for living, production, forage storage, preparation and distribution, and recycling of production waste. In the farm, the birds are kept individually according to the age and gender requirements of the technology. The classroom is built on the side of the farm where the land is stored. Table 6 summarizes the specific veterinary requirements between poultry farms and other production complexes and individual farms.

Table 6

Zooveterinary requirements for separation between the poultry enterprise and other production complexes and living facilities

Production complexes and residential facilities and houses	Distance to poultry farm, meters
Black Livestock, Cattle Breeding, Horse and Pig Farm	1000
Poultry farms	1000
Poultry complex, breeding facilities and incubator-poultry enterprise	1000
Precious wildlife farms and rabbit farms	15000
Livestock complexes	1000
Dairy enterprises with production above 12 tons per day	200
Processing plants: livestock and poultry	1000 1000
With a raw material processing company	2000
Stations at major railway junctions	1500
Other railway stations	500
Food processing plants	2000

Infectious diseases of chickens and broilers

Newcastle disease (Pseudopestis avium) is a highly contagious viral disease of infected birds. It is characterized by pneumonia, swelling of the brain (encephalitis) and paralysis of the internal organs. When unvaccinated birds are infected, they are all killed. Accordingly, the place where the disease originated is strictly

quarantined and its spread is not allowed. Newcastle disease affects chickens of all ages, and is transmitted weakly in turkeys, chickens, chickens, and chickens.

The disease is transmitted through chicken, unburnt (untreated) meat, meat, blood, and eggs. Dogs, foxes, wild birds, rodents, birds of prey, flies, etc. are carriers of infection. Within a household, the virus can spread up to 1 km through dust. It gets into the bird's body and spreads through the blood, it hardens the walls of the bird's blood vessels, and blood circulation changes. As the heart weakens, its muscles begin to die. Such changes occur in the spleen, liver, kidney, gastrointestinal tract, and central nervous system.

Symptoms. The incubation period is 2-7 days, rarely 9-12 days. The course of the disease is very rapid, acute, weak and insidious. When the disease progresses very quickly, the birds die without any outward symptoms. When it becomes acute, the birds lose their appetite, and the temperature reaches 44°.

Without movement, they sit, the respiratory and nervous systems suffer, the eyes swell. A lot of fluid runs from the mouth and nose. Birds make a lot of coughing, sneezing, crowing noises, and breathe with their knees open. The main symptom is diarrhea, sometimes with bloody stools. His movements are unsteady, he moves in circles, his neck, wings, and leg muscles freeze. When the disease progresses, there is confusion, tremors, head tremors, and neck stiffness.

Pathoanatomical changes. Pathoanatomical changes are characteristic of hematoma. A streak of blood is seen in the moist area between the muscle belly and the stomach (muscle belly).

Preventive measures. The vaccine is given as a mist, instillation into the eye or nose, orally, and injected into the flesh. In disease-free households, birds are vaccinated with "Lasota" at the age of 15-20, 45-60, 140-150 days, then at 6 months of age. The "H" strain is also used in pseudo-dangerous herds from 60 days of age. The vaccine is injected (injected) into the right birds. Immunity lasts for one year. It is also used as a non-live vaccine against Newcastle disease (NOBILIS G+ND). The veterinary regulations for the use of vaccines (the above-mentioned and other vaccines) in this disease are fully observed in control measures. This disease is incurable.

Marek's disease or avian neurolymphomatosis. In the acute stage of the disease in birds, it is highly contagious and with regeneration of lymphoreticular tissue in the internal organs, skin and muscles

Reasons. The causative agent is a group B virus of the Herpes virus family. Agents accumulate in the epithelial cells of the gills, then break off and enter the environment, where they persist (in feces, litter) for up to a year.

Epizootological data. Chickens, turkeys, ducks, geese, leeches, turkeys, and turkeys get sick mostly 1-5 month old birds are affected. The source of the disease is disease and infected birds. Persistent retention of viruses in the bird's body is characteristic of this disease. The disease is airborne and spreads. Viruses are transmitted through the meat and equipment of infected chickens. Illness increases when birds are housed and fed in unsatisfactory conditions. Immunity is understudied. Antibodies, interferon and cell-mediated immunity are produced after vaccination.

Disease progression and symptoms. The incubation period of the disease is up to 4 weeks in acute cases and 5 weeks to 7 months in slow cases. When the disease is acute, weakness, fatigue, and emaciation are characteristic. In the form of hallucinations, there is first walking unsteadily, then limping, numbness of the legs and wings, and muscle twitching. In the ocular form, the color of the eyeball is affected, the vision is very narrow, and it becomes blind.

Pathoanatomical changes. In the acute form of the disease, swelling-like formations appear in most of the internal organs, skin and muscles. Nerve changes in the affected legs are characteristic in the form of hallucinations. The nerve fibers are surrounded by dense, striated, lymphoid cells. Damage to the retina, vision, and optic nerve can be seen**.**

Diagnosis of the disease is determined on the basis of epizootological, clinical and especially pathomorphological data, as well as laboratory tests. This disease is distinguished from lymphoid leukemia, infectious encephalomyelitis, listeriosis, vitaminosis. Treatment not studied.

Gambora (Diagese Gambora), infectious bursitis, bursitis. A highly contagious viral disease of birds. 2-15-week-old chicks are

mainly affected. It is characterized by cystitis, diarrhea, reduced immunity (immunodepression) and causes great economic damage.

Reasons. The pathogen belongs to the filter-passing reovirus group. This virus is considered stable compared to other viruses. It is 122 of its strength in bird beds 52 days in water, food, feces. The virus remains viable for 18 months at freezing temperatures (-58°). - 90 min at 60°

Stored at 25° for 21 days. Formaldehyde is intolerant to caustic soda solutions.

Epizootological data. Diseased birds are highly contagious. After chickens become sick, the virus is shed in feces and spread throughout the house, on equipment, and on food. The disease is transmitted through food, air, and wild birds.

Disease progression and symptoms. The disease spreads very quickly. The incubation period is very short (3-4 days). Symptoms appear quickly. Over time, 10-20% of birds become ill. First, they have white-yellow liquid diarrhea. Sick chickens walk slowly, clumsily and unsteadily at first. They run away from work, suffer from deterioration and death. Some have diarrhoea-like wetness, and their head and neck muscles tremble. If the disease is acute, they begin to die after 1-2 days. This peaked at 3-4 days, then rapidly declined, and by day 8 they stopped dying, and at this stage the disease

It takes 7-8 days. Typically, 5-6% of infected chickens die, but this can be as high as 30% or more. Diseased chickens show signs of lethargy, emaciation, crying, stunted growth, and indigestion. Although they heal quickly, they gain weight very slowly.

Pathoanatomical changes. Blood is visible in the thigh and pectoral muscles. The kidney, liver, and spleen are enlarged. A blood clot is seen in the internal fluid reservoir of the gastrointestinal tract (stomach). As the disease progresses, the size of the fibrous sac decreases, and when cut, a curdled mass appears.

The diagnosis is made on the basis of clinical, patho-anatomical changes, as well as laboratory tests (virus detection and differentiation). This disease is distinguished from bronchiectasis, marek, lymphoid leukemia, Newcastle disease, avian influenza, coccidiosis, prostogonimosis, gout, and vitamin A deficiency.

Prevention and control measures. Prevention and control of this disease is mainly vaccination with non-live vaccine (NOBILIS G+ND) and compliance with veterinary-sanitary rules. In advance, measures are taken to prevent this infection from spreading. It should be observed that hatching eggs for hatching young chickens should only be obtained from households free of the disease.

Infectious bronchitis of birds (Bronchitis infectiosa avium). The highly contagious viral disease of chickens affects the respiratory system of chickens and reduces egg production in older chickens.

The disease-causing virus belongs to the Caronoviridae family. At a temperature of 56°, the virus loses its potency in 10-15 minutes. Incubate the virus in a hot 3 percent sodium hydroxide solution for 3 hours

It dies in 6 hours in chlorinated lime containing 6 percent active chlorine, and in 3 hours in 0.5 percent solution of formaldehyde.

Epizootological data. With this disease, mainly 30-day-old chicks become infected. The source of the disease is the secretions and secretions from the respiratory tract of sick and diseased chickens and chicks. The disease transmitted and spread by the main aerogenic route. Chickens are able to pass on disease resistance (antibodies) to their offspring, which protects chicks from disease until they are 10-15 days old.

Disease progression and symptoms. The incubation period is 2-6 days. Sick chicks have difficulty breathing, sneeze, have swollen eyes, and are suffocating. The duration of the disease is from 6 to 18 days. In chickens, this disease is mostly latent, their egg-laying ability reduced, and they lay defective, injured eggs.

Pathoanatomical changes. Swelling in the throat and large bronchi is characteristic. 5-50% of infected chickens have a thick coating of lime, 25% have soft eggshells, and 12% have soft eggshells

become smaller. Affected hens have changes in the egg white (due to ovarian inflammation) with the formation of thin crusts.

Diagnosing the disease. It is determined the basis of epizootological, clinical symptoms, pathologoanatomical data. The final diagnosis of the disease determined by laboratory tests (finding the virus). This disease differentiated from laryngotracheitis, mumps,

Newcastle disease, respiratory mycoplasmosis, and sinus infections.

Prevention and control measures. In some countries, a live vaccine (the newly released live vaccine NOBILIS IB 4/91) is used as a preventive measure. Live vaccine should be used with care, as it can cause some other diseases (respiratory, colisepticemia, mycoplasmosis). The age at which birds should be vaccinated depends on the epizootological situation of the farm. In case of disease in chickens, 10-15-day-old chickens in other beds and nearby households, and in case of disease in chickens, 60-day-old chickens should be vaccinated every 20 days until the disease is detected. To prevent disease, the birds should be of the same age when housed, and the temperature and humidity of the beds should be normal. Chickens suspected of being infected in infected beds are removed. Eggs from diseased flocks are used only for food. After the egg-laying age is over, they are slaughtered. Chicken houses are disinfected with a hot 3% solution of caustic soda, and cages and equipment are disinfected with a 2% solution of formaldehyde. The air is disinfected by fumigating the chickens with a solution of iodine, lactic acid, and chlorine while they are laying.

Ovulation syndrome (Syndrome). YuGAT, or syndrome-76, is a viral disease of chickens. It is characterized by decreased egg production, changes in egg shape, quality and shell color, and decreased protein quality. The pathogenic virus is considered to be similar to duck adenovirus in its morphological and physicochemical characteristics.

This virus does not belong to any of the avian adenoviruses. When birds get sick, they develop specific antibodies against the disease.

Epizootological data. Although common in domestic and wild ducks under natural conditions, this virus does not cause disease in them. Disease transmission in birds is mainly vertical. Transmission is low through horizontal travel and contact with an infected bird. The disease spreads faster when the birds stay on the ground. This disease occurs in all breeding birds, especially during the high laying period (25-35 weeks). This disease can occur at any time during the laying period of the birds. This disease is common in broilers kept for meat. Clinical signs do not appear in young non-productive birds.

Stress can also trigger the disease.

Symptoms. It has no specific symptoms. Sick chickens have diarrhea, loss of appetite, bloat, decreased mobility, and lethargy. Then the bird's beak and beard are blue. Sick birds lay eggs that are discolored, misshapen, with weak shells or no shells for several weeks. The egg whites are runny and cloudy. They show signs of insemination, reduced hatchability and weakness.

Pathoanatomical changes. It is seen that the ovum has shrunk when it is cut, and it has blood in it during pregnancy. Necrosis (cell damage and disintegration) occurs in the tissues of the bird's skin.

Diagnosing the disease. Epizootological, clinical symptoms are determined by metomorphological changes and laboratory tests (detection of antibodies and virus). In particular, the oviposition of birds is analyzed and the shell of the egg is observed. This disease is distinguished from infectious bronchitis and non-infectious diseases that affect productivity.

Disease prevention and control measures. Veterinary-sanitary rules when keeping birds as basic preventive measures

It consists of strict monitoring and timely vaccination against this disease. In order to remove the cell and increase its resistance to disease, they add the main part of vitamins and microelements to high-quality food. The food contains choline, methionine, lysine, B12, E vitamins and mineral supplements. Abroad, NOBIL IB+ND+EDS vaccine is used as a special control measure. Vaccination increases the egg-laying capacity of birds, improves the quality of the egg shell and prevents the spread of disease. Eggs are taken from birds 40 weeks of age and older for incubation.

Smallpox (Variolavium). It is a serious disease that causes sores around the bird's mouth, eyes, and under the wings. By spreading the disease virus, it is transmitted to chickens, turkeys and others. Smallpox usually occurs in one herd and rarely spreads to other herds. Smallpox can occur at any time of the year, but is most common in the fall, winter, and early spring. It causes high bird mortality (up to 76%), reduced egg production, and up to 80% reduction in chick production.

The period of development of the disease is 4-10 days, rarely 11-20 days. There are 4 types of smallpox: true mumps (on the skin),

differoid, mixed and latent - types that damage the internal organs. In true maternal disease, a yellowish, then red rash is formed on the chicken's throat, around the chicken, on all the soft parts without feathers, outside the eye, and over time it looks like a sore, they grow together, cover the bird's eyes, and it becomes difficult to breathe. Birds are vaccinated against the disease with LIVACOX. In order for broiler chickens to grow up healthy, they are vaccinated at the right time and diseases are prevented. Based on the experience of large poultry farms, the accepted schedule of vaccination of chickens is presented in Table 7. When chickens are vaccinated according to the order shown in the table, it helps to increase the economic efficiency of the farm.

Table 7

Procedure for vaccination of farm poultry

Day	Vaccination	Injection method
Day 1	Marek + New Castle	Intravenous injection + spray or eye and nose drops
Day 12	Gamboro	It can be mixed with water
Day 18	New Castle + Infeksion bronhit	It can be mixed with water
Day 24	Gamboro	It can be mixed with water
Week 7	New Castle (Lasota)	It can be mixed with water
Week 10	New Castle (Lasota)	It can be mixed with water
Week 18	New Castle + Infeksion bronhit + Gamboro	The chicken is injected into the meat

CONTENTS

ADDİTİONS

1. Addition

The amount of nutrients in the food mixture for farm birds and

Rate of converted energy, in %

Type and age of birds, week	Converted energy 100 *g/kkal*	Crude protein	Raw tissue	Calcium	Phosphorus	Sodium
1	*2*	*3*	*4*	5	*6*	7
For crossbreeds of egg-oriented chickens						
1-7	290	20,0	4,0	1,1	0,80	0,20
8-14	265	15,0	6,0	1,2	0,70	0,20
2-5% from 15 weeks to ovulation	270	16,0	5,0	2,2	0,70	0,20
2-5% from ovulation to 45 weeks	270	17,0	5,0	3,6	0,70	0,20
46 weeks and older	260	16,0	6,0	3,8	0,60	0,20

continuation

1	*2*	*3*	*4*	**5**	*6*	7
For meat-based chicken nuggets						
1-7	290	20,0	4,0	1,0	0,80	0,20
8-13	270	16,0	5,0	1,1	0,70	0,20
14-18	260	14,0	7,0	1,2	0,70	0,20
19-24	265	16,0	5,5	2,0	0,70	0,20
1	2	3	4	5	6	7
25-49	270	17,0	5,5	3,0	0,70	0,20
50 and above	265	16,0	6,0	3,3	0,60	0,20
When broiler chickens are fed two phases						
1-4	310	23,0	4,0	1,0	0,70	0,20
5-7	320	21,0	4,0	0,9	0,70	0,20
1	*2*	*3*	*4*	*5*	*6*	7
When broiler chickens are fed three phases						
1-3	310	23,0	4,0	1,0	0,70	0,20
4-5	315	21,0	4,0	0,9	0,70	0,20
6-7	320	20,0	4,0	0,9	0,70	0,20

continuation

I	*2*	*3*		**5**	*6*	*7*
For medium weight turkeys						
1-8	285	25,0	5,5	1,7	1,0	0,40
9-13	290	20,0	5,5	1,8	0,80	0,40
14-17	290	18,0	7,0	1,8	0,80	0,40
18-30	275	13,0	7,0	1,8	0,80	0,40
31 and above	280	14,0	7,0	2,5	0,80	0,40
For heavy weight turkeys						
1-4	290	28,0	4,0	1,7	1,0	0,40
5-13	300	22,0	5,0	1,7	0,80	0,30
14-17	300	20,0	6,0	1,7	0,80	0,30
18-30	270	14,0	7,0	1,7	0,70	0,30
31 and above	280	16,0	6,0	2,8	0,70	0,30
For meaty duck croquettes						
1-3	265	21,0	5,0	1,2	0,80	0,40
4-7	305	17,0	6,0	1,2	0,80	0,40
8-26	260	14,0	10,0	1,6	0,90	0,40
27-43	270	17,0	6,0	2,8	0,80	0,40
44 and above	270	15,0	6,0	2,8	0,80	0,40

continuation

1	*2*	*3*	*4*	5	*6*	7
For broiler chickens						
1-2	275	21,0	5,0	1,2	0,90	0,40
3 and above	295	15,0	6,0	1,2	0,90	0,40
1	*2*	*3*	*4*	*5*	*6*	7
For gases						
1-3	280	20,0	5,0	1,2	0,80	0,30
4-8	280	18,0	6,0	1,2	0,80	0,30
9-26	260	15,0	10,0	1,2	0,70	0,30
27 and above	250	16,0	10,0	1,6	0,70	0,30

continuation

1	*2*	*3*	*4*	5	*6*	7
For broiler goose chickens						
1-4	290	20,0	4,0	0,65	0,75	0,30
5 and above	300	16,0	4,5	0,60	0,75	0,30
For Quails						
1-4	300	28,0	3,0	1,0	0,80	0,50
5-6	275	17,0	5,0	1,2	0,80	0,50
7 and above	290	21,0	5,0	2,8	0,80	0,50
For quails raised for meat						
1-4	300	28,0	3,0	1,0	0,80	0,50
5-6	310	20,0	5,0	1,0	0,80	0,50

2 nd addition

Feed mixture for farm birds
the sequence of amino acids it contains,
%

Type and age of birds, week	Lisin	Metionin	Metionin+sistin	Triptofan	Arginin	Gistidin	Leysin	Izoleysin	Fenilalanin	Fenilalanin + tirozin	Treonin	Walin	Glisin
1	*2*	*3*	*4*	5	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
For crossbreeds of egg-oriented chickens													
1-7	1,10	0,45	0,75	0,20	1,20	0,35	1,40	0,70	0,63	1,20	0,70	0,80	1,0
8-14	0,70	0,35	0,57	0,15	0,82	0,27	1,05	0,52	0,47	0,90	0,53	0,60	0,75
2-5% from 15 weeks to ovulation	0,75	0,33	0,57	0,15	0,82	0,27	1,05	0,52	0,47	0,90	0,53	0,60	0,75

continuation

1	*2*	*3*	*4*	5	*6*	7	*8*	*9*	*10*	*11*	*12*	*13*	*14*
2-5% from ovulation to 45 weeks	0,85	0,42	0,72	0,19	0,90	0,34	1,30	0,66	0,54	0,94	0,56	0,64	0,79
46 weeks and older	0,80	0,40	0,68	0,18	0,85	0,32	1,28	0,62	0,51	0,88	0,50	0,60	0,74
For meat-based chicken nuggets													
1-7	1,10	0,45	0,75	0,22	1,20	0,40	1,40	0,75	0,70	1,27	0,70	0,90	1,0
8-13	0,70	0,34	0,60	0,16	0,80	0,29	0,95	0,56	0,50	0,85	0,50	0,60	0,80
14-18	0,65	0,30	0,53	0,14	0,76	0,25	0,93	0,50	0,48	0,88	0,49	0,56	0,70
19-23	0,73	0,34	0,60	0,16	0,85	0,28	1,12	0,62	0,54	0,91	0,54	0,64	0,80
24-49	0,80	0,36	0,62	0,18	0,92	0,32	1,20	0,66	0,71	1,03	0,56	0,65	0,82
50 and above	0,70	0,33	0,56	0,16	0,80	0,29	0,95	0,56	0,48	0,83	0,50	0,60	0,80

continuation

1	*2*	*3*	*4*	5	*6*	7	*8*	*9*	*10*	*11*	*12*	*13*	*14*
When broiler chickens are fed two veraity													
1-4	1,36	0,53	0,98	0,25	1,25	0,48	1,61	0,88	0,80	1,49	0,91	0,98	1,04
5 and above	1,25	0,47	0,90	0,23	1,14	0,44	1,47	0,80	0,74	1,37	0,83	0,89	0,95
When broiler chickens are fed three veraity													
1-3	1,36	0,53	0,98	0,25	1,25	0,48	1,61	0,88	0,80	1,49	0,91	0,98	1,04
4-5	1,25	0,47	0,90	0,23	1,14	0,44	1,47	0,80	0,74	1,39	0,83	0,89	0,95
6-7	1,17	0,45	0,85	0,21	1,09	0,42	1,40	0,76	0,69	1,30	0,80	0,85	0,90
For medium weight turkeys													
1-8	1,60	0,55	0,97	0,28	1,64	0,53	1,86	1,18	1,18	1,94	0,97	1,30	1,26
9-13	1,20	0,46	0,81	0,23	1,26	0,44	1,49	0,97	0,97	1,62	0,78	1,04	0,94
14-17	0,97	0,37	0,65	0,20	1,07	0,39	1,46	0,87	0,86	1,46	0,71	0,93	0,84
18-30	0,61	0,23	0,41	0,16	0,65	0,29	1,18	0,61	0,63	1,09	0,49	0,72	0,58
31 and above	0,69	0,27	0,48	0,15	0,73	0,30	1,03	0,65	0,67	1,05	0,53	0,72	0,62

continuation

1	*2*	*3*	*4*	5	*6*	7	*8*	*9*	*10*	*11*	*12*	*13*	*14*
For heavy weight turkeys													
1-4	1,50	0,60	1,0	0,27	1,60	0,60	1,90	1,03	1,0	1,80	1,0	1,20	1,10
5-13	1,19	0,47	0,79	0,21	1,26	0,47	1,50	0,80	0,79	1,42	0,79	0,94	0,86
14-17	1,07	0,43	0,71	0,19	i,n	0,43	1,36	0,74	0,71	1,28	0,171	0,85	0,79
18-30	0,75	0,30	0,50	0,14	0,80	0,30	0,95	0,51	0,50	0,90	0,50	0,60	0,55
31 and above	0,70	0,32	0,57	0,15	0,86	0,32	1,20	0,50	0,55	0,88	0,40	0,70	0,74
For meaty ducks													
1-3	1,22	0,55	0,82	0,22	i,n	0,44	1,67	0,56	0,89	1,33	0,61	0,89	i,n
4-7	1,0	0,45	0,66	0,18	0,90	0,36	1,35	0,45	0,80	1,19	0,49	0,72	0,90
1	2	3	4	5	6	7	8	9	10	11	12	13	14
8-26	0,78	0,35	0,59	0,16	0,77	0,32	1,16	0,38	0,53	0,83	0,43	0,62	0,78
27-43	0,95	0,44	0,68	0,18	1,0	0,40	1,50	0,50	0,60	0,99	0,55	0,80	1,0

continuation

1	*2*	*3*	*4*	*5*	*6*	7	*8*	*9*	*10*	*11*	*12*	*13*	*14*
44 and above	0,84	0,39	0,62	0,16	0,89	0,36	1,32	0,44	0,53	0,91	0,49	0,71	0,89
For broiler chickens													
1-2	1,16	0,54	0,82	0,22	1,n	0,44	1,67	0,56	0,44	0,89	0,61	0,89	1,11
3 and above	0,88	0,39	0,62	0,18	0,89	0,36	1,33	0,44	0,35	0,71	0,49	0,71	0,89
For goose													
1-3	1,O	0,50	0,78	0,22	1,O	0,47	1,66	0,67	0,83	1,20	0,61	1,05	1,10
4-8	0,90	0,45	0,70	0,20	0,90	0,42	1,49	0,60	0,74	1,07	0,55	0,94	0,99
9-26	0,75	0,38	0,59	0,17	0,75	0,35	1,23	0,50	0,61	0,89	0,46	0,78	0,83
27 and above	0,72	0,34	0,63	0,18	0,94	0,38	1,09	0,54	0,56	0,93	0,53	0,77	0,88
For broiler goose chickens													
1-4	1,O	0,50	0,78	0,22	1,O	0,47	1,66	0,67	0,83	1,20	0,61	1,05	1,10
5 and above	0,94	0,41	0,64	0,19	0,92	0,41	1,42	0,53	0,74	0,96	0,52	0,81	0,95

continuation

1	*2*	*3*	*4*	5	*6*	7	*8*	*9*	*10*	*11*	*12*	*13*	*14*
For quails													
1-4	1,41	0,61	1,02	0,30	1,57	0,50	1,84	0,99	0,91	1,71	0,99	1,15	1,14
5-6	0,86	0,37	0,62	0,16	0,95	0,30	0,98	0,60	0,55	1,04	0,60	0,70	0,69
7 and above	1,05	0,44	0,74	0,20	1,20	0,34	1,21	0,73	0,66	1,28	0,66	0,80	0,84
For quail raised for meat													
1-4	1,41	0,61	1,02	0,30	1,57	0,50	1,84	0,99	0,91	1,71	0,99	1,15	1,14
5-6	1,O	0,43	0,72	0,19	1,17	0,33	1,18	0,72	0,63	1,18	0,64	0,78	0,82

3rd addition

It is considered to feed farm birds with mixed food
The norm is 1 cup per day/g

Age of birds, weeks	Crossbreeds of egg-oriented chickens		Meaty Chicken Crossovers		Broiler chickens	Turkeys		Ördekler		Goose	Quails
	white in color	brown in color	when kept on the ground	when kept in a cage		Medium type	Heavy type	pekin Ducks	Meat krosses		
1	*2*	*3*	*4*	**5**	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1	9	12	14	13	24	10	10	40	50	35	4
2	16	19	30	22	44	25	25	70	75	90	7
3	22	25	45	33	86	40	40	115	110	110	13
4	28	32	50	45	107	60	60	185	145	220	13
5	34	36	55[1]	45[1]	140	90	90	215	200	270	16
6	40	41	58	50	150	140	140	230	245	280	16

continuation

1	*2*	*3*	*4*	5	*6*	7	*8*	*9*	*10*	*11*	*12*
7	45	46	60	55	175	145	150	250	280	328	17
8	49	51	62	55	190	160	165	255[1]	150[1]	338	20
9	53	55	64	60	-	190	195	230	150	338	20
10	57	58	66	60	-	210	220	230	160	320	20
1	2	3	4	5	6	7	8	9	10	11	12
11	60	61	68	65	-	240	250	230	168	290	20
12	63	64	70	65	-	255	260	230	175	280	20
13	66	67	70	70	-	260	265	230	185	280	20
14	68	70	70	70	-	275	280	230	192	280	20
15	70	72	75	75	-	285	290	230	199	280	20
16	72	75	75	75	-	305	310	230	206	280	20
17	76	78	80	75	-	315	325	230	213	280	20

continuation

1	*2*	*3*	*4*	**5**	*6*	*7*	*8*	*9*	*10*	*11*	*12*
18	79	82	85	80	-	460-200[2]	460-220[2]	230	*220*	280	*20*
19	83	87	90	85	-	480-210	500-240	230	*225*	280	*20*
20	86	90	105	90	-	500-240	520-260	230	*230*	280	*20*
21	93	100	ПО	100	-	510-250	540-280	230	*237*	280	*20*
22	97	ПО	120	ПО	-	520-260	580-285	230	*243*	280	*20*
23	ПО	115	130	120	-	530-265	585-290	230	*250*	280	*20*
24	115	117	140	130	-	530-270	590-290	230	*255*	280	*20*

continuation

1	*2*	*3*	*4*	**5**	*6*	*7*	*8*	*9*	*10*	*11*	*12*
25	115	120	145	135	-	520-260	580-280	230	260	280	20
26	115	120	150	140	-	510-260	560-280	230	260	280	20
27-29	115	120	155-160	145-150	-	510-260	560-280	240	270	330	20
30-42	115	120	160	150	-	510-260	560-280	240	270	330	20
43-54	115	120	155	150	-	510-260	560-280	240	270	330	-
55	115	120	150	145	-	500-230	560-280	240	270	330	-

Note. 1- to feed by pause belongs to the rooster and the turkey

4 th addition

Recommended composition of feed mixture for farm poultry, in %

Type and age of birds, week	Grain foods	Dand ruff	Soybean and soy sauce	Animal waste	Food dozes	Gra ss flou r	Miner al foods	Fats and vegetab le oil
1	*2*	*3*	*4*	5	*6*	*7*	*8*	*9*
For crossbreeds of egg-oriented chickens								
1-7	60-70	-	10-20	4-7	0-3	0-3	1-2	0-5
8-14	70-80	0-10	5-10	0-3	0-5	0-10	2-3	0-5
2-5% egg lying from 15 weeks	60-70	0-5	8-15	2-4	0-4	0-5	2-4	0-2
2-5% egg laying period and above	60-75	0-7	8-20	2-6	0-5	0-10	7-9	0-4

continuation

1	*2*	*3*	*4*	**5**	*6*	*7*	*8*	*9*
For meat-based chicken nuggets								
1-7	60-70	-	10-20	4-7	0-3	0-3	1-2	0-2
8-13	70-80	0-5	5-10	0-3	0-5	0-7	1-2	0-2
14-18	70-80	0-10	5-10	0-2	0-5	0-10	2-3	0-1
19-23	60-70	0-5	5-10	2-4	0-4	0-15	2-4	0-2
24 and above	60-75	0-7	8-20	2-6	0-5	0-10	7-9	0-4
For broiler chickens								
1-4	55-65	-	15-25	4-8	0-3	-	0.5-1	0-6
5-7	60-70	-	10-20	4-5	0-5	0-3	0,5-2	0-8
For ducks								
1-3	65-75	-	10-20	4-7	0-5	0-5	1-2	0-2
4-8	70-80	-	5-15	2-5	0-5	0-10	1-2	0-5
9-21	65-70	5-10	15	0-2	0-5	0-10	2-3	0-1
22 and above	60-75	0-7	6-12	2-4	0-5	0-15	4-6	0-6

continuation

1	*2*	*3*	*4*	5	*6*	*7*	*8*	*9*
For geese								
1-3	65-75	0-5	10-20	2-3	0-5	0-5	1-2	-
4-8	70-80	0-5	5-15	2-5	0-5	0-10	1-2	-
9-26	65-70	5-10	0-5	0-2	0-5	0-10	2-3	-
27 and above	60-75	0-7	5-10	3-4	0-5	30 çenli	4-5	0-6
For turkeys								
1-4	45-50	-	20-30	10-15	0-8	3-5	0,5-1	0-2
1	2	3	4	5	6	7	8	9
5-17	50-55	-	10-20	4-8	0-8	5-6	1-2	0-5
18-30	75-80	-	5-10	0-4	0-6	6-8	2-4	0-1
31 and above	60-75	-	8-15	2-6	0-5	30 çenli	5-6	0-1
For quails								
1-4	40-60	-	20-45	7-15	0-3	3-5	1-2	0-2
5-6	50-60	-	15-30	5-12	0-3	3-5	1-2	0-5
7 and above	65-70	-	10-25	2-6	0-5	0-12	2-3	-

Note. Animal feed includes blood meal, meal, meat meal, fish meal, etc. you have changed

MANUAL TO

BREEDING OF FARM POULTRY

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