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Rules for Veterinary-Sanitary Design of Poultry Facilities

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Abstract: *In the essay, emphasis is placed on veterinary-sanitary regulations for chicken husbandry, egg quality evaluation, weight, shape, egg form, and shell condition. The incubators "Universal-55" and "HB-22528" from China are described.*

Keywords: *Egg, incubation, incubator, avoscope, ventilation, brood.*

Introduction. The production of competitive poultry products is to offer stable and affordable prices in order to supply the population with an adequate amount of poultry products through the continued development and comprehensive support of poultry farming in the republic, the introduction of cutting-edge technologies and innovative developments in the industry, the deepening of processing of poultry products, the expansion of their types, and the scope of export.

The volume of finished goods produced for export and the growth of the poultry industry in our nation are both subject to the decision of the President of the Republic of Uzbekistan dated November 13, 2018 No. PQ-4015 "On Additional Measures for the Further Development of Poultry Farming." Measures are being done consistently to enhance and broaden the diversity, as well as to provide the population with locally produced high-quality and affordable poultry products.

Breeding farms and commodity (egg and meat) farms comprise the poultry industry. The quantity of egg-laying hens defines the capacity of poultry farms focused on producing eggs, while the quantity of young chicks grown for meat throughout the year dictates the capacity of businesses focused on producing meat.

For commodities farms, there will be between 50,000 and 100,000 hens for egg production and between 750,000 and 1.5 million for meat production. Ducks are designed for 125-250-500 thousand heads, whereas turkeys are designed for 25-50-100 thousand heads. The capacity of poultry facilities ranges from 300,000 to 10 million heads and beyond. Breeding farms are designed to hold between 50 and 200 thousand heads, with 20 to 50 thousand designated for ducks and 15 to 25 to 50 thousand for turkeys.

Chicken houses, feed distribution and reception equipment, a feed shop, equipment, and containers are all included in the poultry companies' production structures. The 10 m² egg storage facilities are made to

hold 7.5 thousand duck, goose, and turkey eggs or 10,000 chicken eggs. A laboratory, a facility for sorting young chicks, an incubator, and administration and service facilities are all required.

Keeping birds in cages is the primary strategy used in egg farms. According to the documentation of each cell battery, the density of birds on 1 m² of surface in this instance is determined. The projected dimensions of the corridor between the cages are 0.55 m in width, 0.8 m between the batteries and the wall, 0.7 m between the multi-story batteries, and 1 m between the batteries and the wall.

The standard of density in cages used to house hens in groups is set at a particular level. In each cage, there are 22 heads of poultry from 1 to 30 days old, 11 heads from 31 to 60 days old, 8 heads from 61 to 140 days old, and 6 heads of large chickens. The use of single-cell battery OBN in large-scale poultry buildings is appropriate, according to recent scientific and practical findings. These cells have the benefit of enabling full mechanization in all production processes. All of this enables great output, maintains the health of the chickens, and lowers the price of the goods produced.

There shouldn't be more than 20,000 chicks housed in huge chicken coops from one day to 60 days old on a thick mat on the floor. 2,500 birds are kept in big farms, but in this instance, the structure is divided into various parts, each of which housed 1,000 broiler chickens. In accordance with zoohygienic guidelines, there should be 16 chicks between the ages of 31 and 60 days per 1 m² of floor surface and 25 chicks between the ages of 1 day and 30 days. Chicks that are 1–5 days old are housed in brooders with mangers and watering cans inside as well as fences constructed around them.

Research object and methodology. When determining an egg's quality, consider its weight, the proportions of its components, the height of the protein and yolk, and the thickness and ripeness of the shell. The following criteria are used to assess egg quality: Examining the eggs' appearance and size by weighing and measuring them in a light source.

The egg's shape and shell quality are significant factors when examining its outward appearance. Egg shapes are categorized based on size, diameter ratio, or index given as percent. Regular eggs are oblong, with a ratio of 1.32 between their big and small radii to their circumference, and have a shape index of 76%. An extraordinarily long egg has a ratio of diameters equal to 2, and its form index is close to 50%. The big and small diameters are measured with a caliper and their ratio is computed to determine the ratio of the circumference meters.

The fertilization of the eggs, the hatching, and the survivability of the chicks all affect the hatchability of eggs in the incubator, which is connected to the filling of the chicken flock. Eggs should be 95–97% fertilized.

These indications are based on the quantity, breed, lines, time of year, environmental factors, feeding practices, and all zootechnical and veterinary operations performed on the flock of chickens. The rate of hatching may be 90% or higher.

The eggs must be observed using an ovoscope during the incubation phase. The biological control of the eggs implanted in the incubator is done on days 6, 11, and 18.

During these times, it is possible to regulate the mulberry's growth processes while it is growing regularly. Unfertilized eggs with blood rings, shattered eggs, and cracked eggs are all collected simultaneously throughout the observation procedure. 20% of the eggs are examined and the development of the embryo is tracked during the second check.

On the 18th day of incubation, the total number of eggs is inspected for the final biological control. In this instance, the eggs are transferred from the incubator to the hatching cabinet of the incubator, with the

dead and other damaged eggs being left behind. The surviving eggs are then put in the hatching cabinet of the incubator.

Result and discussion. Utilizing a unique instrument called an indexomer IM-1, the index of egg shape is determined. The egg's shell is straight and smooth, not pitted and curdled. The mucous membrane is present and unbroken, and the egg is still rather fresh, according to the clear color of the shell. An egg that is not round, has a broken or filthy shell, and has two yolks should not be used to hatch eggs in an incubator.

The aforementioned flaws make eggs unfit for hatching as well as unfit for human consumption, hence chicken farms make an effort to produce eggs with the same shape and shell color, a clean surface, flat eggs, and unbroken eggs.

The evaporation of the egg's contents causes an increase in the air space during storage. Its diameter is 17 mm and its height is 3 mm in a fresh egg. The air gap in eggs that have been kept for more than two weeks is 7 mm tall and 25–30 mm in diameter.

Placing the eggs in the incubator

Its core contains an egg yolk, which is lit by a light source to appear as a black spot.

Carotenoids, which boost the biological value of the eggs, are often responsible for the color of the yolk of the egg. The egg's yolk will return to its original place in the egg's core after a number of vibrations, which shows that its ligaments are still intact after the egg is flipped sharply 180 degrees. The egg yolk vibrates a much if one of the connections is broken, moves away from the fractured link, and does not return to the center. A low protein density and poor quality are both indicated by the mobility of the yolk.

Chickens in the parent flock are currently housed in dense bedding on the ground in all industrial poultry farms; as a result, hatching eggs were acquired from chickens maintained in dense bedding. Weight, shape, hatching, color, intactness of the shell, cleanliness, and the width of the air chamber are all characteristics of eggs obtained from a flock of chickens maintained in thick beds, in addition to their location. These signs are examined visually and weighed. The form of the eggs is a determinant of their visual incubation quality.

Conclusion. By specializing in poultry farming, more heads mean better living circumstances for the birds. In terms of veterinary and sanitary considerations, selecting the proper location for the development of poultry farms and factories is crucial. Because there are so many birds in poultry farms or factories, it is important to pay attention to where you put the buildings in relation to the population and other production hubs.

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