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QUALITY INDICATORS OF INCUBATION EGGS

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Abstract: The article discusses veterinary and sanitary rules in poultry farming, focusing on evaluating egg quality by examining their weight, shape, and external appearance, particularly the condition of the shell. Information is provided on the "Universal-55" and Chinese "HB-22528" incubators.

Keywords: egg, incubation, incubator, candling lamp, ventilation, embryo.

Introduction

In Uzbekistan, the development and comprehensive support of the poultry industry involve introducing advanced technologies and innovative solutions, deepening the processing of poultry products, expanding product varieties and export scope, and producing competitive poultry products. This ensures a stable and sufficient supply of affordable poultry products to the population.

As stated in the Presidential Decree of the Republic of Uzbekistan No. PQ-4015, dated November 13, 2018, titled "Additional Measures for Further Development of Poultry Farming," consistent measures are being implemented to develop the poultry sector, increase the volume and diversity of export-oriented finished products, and ensure the population's access to high-quality and affordable locally produced poultry products.

Egg incubation and chick hatching are considered essential zootechnical activities. Proper management of these processes ensures a consistent supply of young birds throughout the year, thereby meeting demands and accelerating reproduction and product output. Artificial egg incubation is carried out in modern incubation facilities, where processes such as egg reception, categorization, storage, disinfection, incubation in universal incubators (models 45-55-90), chick hatching, and cleaning of all used equipment are performed.

Eggs are sourced from flocks raised with roosters, ensuring fertilization and their suitability for hatching. The incubation facilities are prepared according to specific norms before accepting eggs from parent flocks. Data on chick hatching processes are presented in the table included in the article.

Information on the Preparation of the Incubation Facility for Egg Reception

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1 - table

Justification Based on the Data in the Table : The incubation facility of the poultry farm is in a

Section Name	**The indications**			
	Air temperature (%)	**Relative Humidity (%)**	**Air Velocity (m/s)**	**Light Intensity (lux)**
Egg Reception Area	15-20	60-70	0,1-0,5	50
Egg Sorting and Tray Placement Area	18-22	60-70	0,1-0,5	50
Egg Storage Area	10-18	75-80	0,1-0,5	10
Egg Disinfection Area	20-26	60-80	0,1-0,5	10
Egg Incubation Area	20-22	50-70	0,2-0,5	30
Chick Hatching Area	20-22	50-70	0,2-0,5	50
Chick Evaluation Area	24-26	60-65	0,2-0,5	50
Equipment and Accessories Washing Area	18-22	90	0,3-0,5	50

proper zootechnical condition to accept eggs and carry out the required technological processes. Eggs brought from the parent flock were delivered to the reception area of the incubation facility. The number and cleanliness of the eggs were checked, and selected eggs were recorded in a

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specialized journal. Eggs that did not meet the requirements were immediately separated and sent for consumption, with the producer being notified.

Once these tasks were completed, eggs deemed suitable for incubation based on visual characteristics were moved to the sorting area. Selection criteria included the eggs' elliptical or oval shape, clean and unblemished shells, and smooth surfaces. Eggs with intact yolks and albumen that did not mix were selected. The yolk was required to be positioned in the center. Sorting was carried out on a specialized table, and each selected egg was candled to verify fertilization before being placed into trays.

Eggs were sorted by the age of the chickens and then transferred to storage rooms with appropriate microclimate conditions. From the storage area, the eggs were moved to the disinfection room equipped with electric heaters and ventilation systems to maintain proper temperature and air circulation. Before incubation, the eggs underwent disinfection using a formaldehyde solution prepared with 30 ml of formalin and 20 grams of potassium permanganate mixed into one cubic meter of water. The prepared solution was sprayed with fans, and during this process, windows were sealed, and lighting was dimmed. After disinfection, the facility was ventilated, and the eggs were transferred to the incubation chamber, placed in incubators, and monitored.

The quality of eggs is determined by their morphological structure and various factors, primarily genetics and nutrition. According to poultry scientists and specialists, the composition and quality of eggs suitable for incubation depend largely on hereditary traits and feeding conditions. Among these factors, this study focused on examining the influence of hereditary conditions.

Currently, parent flocks in all industrial poultry farms are kept on deep litter. Therefore, incubation eggs were sourced from hens maintained on deep litter systems. The quality indicators of eggs from these flocks include weight, shape, fertilization, shell color, cleanliness, intactness, air cell diameter, and placement. These indicators were examined visually and through weighing. The primary visual indicator for determining incubation suitability was egg shape. Observations revealed that eggs of elliptical and oval shapes were prevalent, with elliptical eggs significantly outnumbering oval ones.

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