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CAUSES OF INFECTION OF BIRDS WITH COLIBACILLOSIS AND PASTEURELLOSIS IN FARM ENTERPRISES AND PRIVATE FARMS

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ПРИЧИНЫ ЗАРАЖЕНИЯ ПТИЦ КОЛИБАКТЕРИОЗОМ И ПАСТЕРЕЛЛЕЗОМ В ФЕРМЕРСКИХ И ИНДИВИДУАЛЬНЫХ ХОЗЯЙСТВАХ

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Abstract. The article talks about the causes of infection of birds with colibacillosis and pasteurellosis in farm enterprises and private farms, about research work carried out in recent years at poultry farms, about the influence of opportunistic microbes on the activities of farms. The difference in infection of domestic chickens with colibacillosis and pasteurellosis for each age group was identified by us during the examinations. So, in 30-day-old chickens, infection with colibacillosis 24.4%, pasteurellosis 31.1%, in 45-day-old colibacillosis 33.3%, pasteurellosis 37.7%, in 60-day-old colibacillosis 20.0%, pasteurellosis 26.6% was detected.

Аннотация. Рассматриваются причины заражения птиц колибактериозом и пастереллезом в фермерских и индивидуальных хозяйствах Масаллинского и Хачмазского районов Азербайджанской Республики. В ходе обследования выявлено заражение домашних кур колибактериозом и пастереллезом по каждой возрастной группе. Так, у 30-дневных цыплят выявлено заражение колибактериозом — 24,4%, пастереллезом — 31,1%, у 45-дневных колибактериозом — 33,3%, пастереллезом — 37,7%, у 60-дневных колибактериозом — 20,0%, пастереллезом — 26,6%.

Ключевые слова: куры, птицеводство, колибактериоз, пастереллез.

Keywords: chickens, poultry farming, colibacillosis, pasteurellosis.

Introduction

Continuous improvement of the business environment for the sustainable development of poultry farming in our country, improvement of the legislative framework in this area, development of regions, attraction of local and foreign investments, modern technologies, managerial experience and thus production of high-quality, competitive products are among the priorities of the economic development strategy implemented under the leadership of President Ilham Aliyev. As a result of the work done, the mechanism of state financial support for poultry farming has been significantly improved. Poultry farming also occupies a leading place in the field of agricultural production in many countries of the world. This industry provides the population with high-quality dietary products,

and industry provides raw materials for processing. Poultry farming is one of the fastest growing and profitable branches of animal husbandry. So, since poultry meat is a dietary product, there is always a need for poultry farming. Despite veterinary and medical, sanitary and hygienic measures and the improvement of poultry culture, there are cases of infection of birds with infectious diseases. It is a well-known fact that improper feeding of birds and the use of substandard feed is the cause of the emergence and spread of many pathogens, including colibacillosis, pasteurellosis, etc.

In accordance with the research topic, the results of monitoring conducted in farms in various zones of the republic show that colibacillosis and pasteurellosis diseases are widespread in poultry enterprises. At the present stage of poultry farming development, infectious diseases occupy a special place in the increase in the number of birds, which are considered to be the reasons that seriously hinder the increase in their productivity. Infectious diseases are often found in farms. Pathogens of various types of diseases penetrating into the organs and tissues of birds cause pathologies [1, 2].

Some progress has been made in the study of infectious diseases of birds in farm enterprises and private farms. However, the organization of effective measures and methods to combat a number of diseases is also beginning to become important for other diseases. Colibacillosis and pasteurellosis are also among such diseases that are often registered in poultry farms and lead to the death of birds [3, 4].

In recent years, as a result of the transfer of poultry farming to a farm basis, the epizootic situation has changed significantly due to many infectious diseases, especially diseases caused by pathogenic and opportunistic microbes [5, 6].

Thus, in poultry farms, on the one hand, the gathering of a large number of birds of different ages in a limited area and their regular renewal, deficiencies in the conditions of their feeding and maintenance, increased susceptibility of birds to stress factors and diseases, and on the other hand, due to the introduction of medicines to chickens from the first day, as a result the cessation of the development of beneficial intestinal microflora weakens the general condition of the bird's body and its natural protective functions.

The purpose of our research was to determine the presence of infectious diseases in poultry farms, the causes of their occurrence and spread, the prevalence of colibacillosis and pasteurellosis by age groups.

Material and methods

In the poultry farms of Masalli and Khachmaz districts, studies were conducted to determine the epizootic situation for colibacillosis and pasteurellosis, and bacteriological examinations were conducted in the Department of Avian Diseases of the Azerbaijan Veterinary Scientific Research Institute.

In the course of research, data from poultry farms in Masalli and Khachmaz districts were analyzed to clarify the epizootic situation. 45 pathological materials were selected and examined from the poultry farms of each district (a total of 135 birds), from 30-, 45-, 60-day-old birds from each age group. At the same time, the livestock of birds in the farm, the conditions of keeping, the composition of feed, the age of birds in the farm, economic and transport links, veterinary and sanitary facilities, the effectiveness of therapeutic and preventive measures were analyzed.

Thus, the degree of infection of birds depending on age was studied on the basis of pathological materials taken from poultry farms of Masalli and Khachmaz districts.

Cultures were obtained by extracting from the bone marrow of chickens and inoculation them into nutritional medium, and Endo and Bismuth sulfide nutrient medium were used for differentiation.

Results obtained and their discussion

As a result of the studies conducted, infection of domestic chickens with infectious diseases — colibacillosis and pasteurellosis was identified. So, in the farm enterprises of Masalli and Khachmaz districts, where we conducted examinations, infection of domestic chickens with colibacillosis and pasteurellosis by age groups was detected.

As it can be seen from Table 1, 135 specimens of pathological material brought from farms, depending on age, passed through a bacteriological examination. During the examination conducted, it was identified that the infection of domestic chickens in the Masalli district with colibacillosis and pasteurellosis are different for each age group. Thus, infection in 30-day-old chickens with colibacillosis of 24.4%, pasteurellosis of 31.1%, in 45-day-old chickens with colibacillosis of 33.3%, pasteurellosis of 37.7%, in 60-day-old chickens with colibacillosis of 20.0%, pasteurellosis of 26.6% were recorded. Rate of infection with colibacillosis on the farm was 26.0%, and with pasteurellosis-32.0% (Figure).

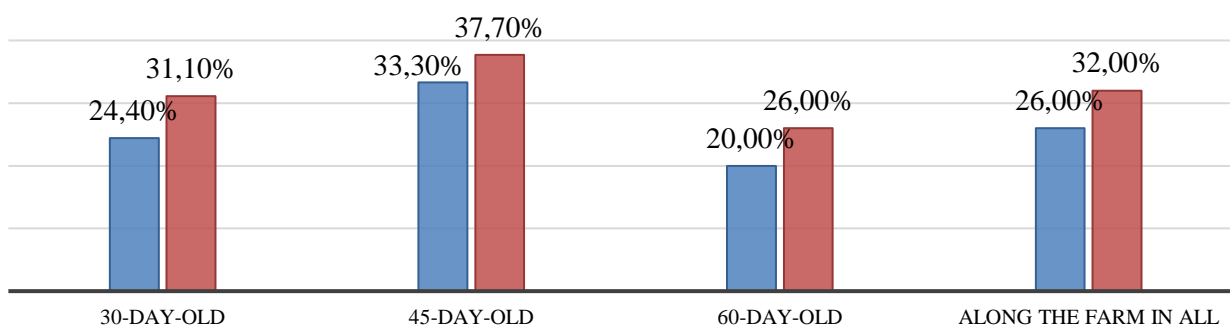


Figure. Infection dynamics of domestic chickens with colibacillosis and pasteurellosis

Table 1
 INFECTION OF DOMESTIC CHICKENS WITH COLIBACILLOSIS AND PASTEURELLOSIS OVER THE MASALLI DISTRICT

Age of birds	Examined	Colibacillosis		Pasteurellosis	
		Number of infected ones	Infection, %	Number of infected ones	Infection, %
30-day-old	45	11	24,4	14	31,1
45-day-old	45	15	33,3	17	37,7
60-day-old	45	9	20,0	12	26,6
Along the farm in all	135	35	26,0	43	32,0

Similar studies were conducted in individual poultry farms of Khachmaz district. 135 specimens of pathological material brought from farms passed through the bacteriological examinations. Thus, along the Khachmaz district, the presence of colibacillosis and pasteurellosis infection in domestic chickens was also determined to be different for each age group. Thus, in 30-day-old chickens, the presence of infection with colibacillosis of 28.8%, pasteurellosis of 33.3%, in 45-day-old chickens with colibacillosis of 37.7%, pasteurellosis of 42.2%, in 60-day-old chickens with colibacillosis of 26.6% and 31.1% with pasteurellosis was recorded. Along the farm, infection with colibacillosis was 31.1%, and with pasteurellosis was 35.5% (Table 2).

In the farms that are the object of the study, infectious diseases cause great damage from an economic point of view. The main method of eradicating these diseases in farms is the complete

sterile condition of breeding workshops, complete and strict implementation of veterinary and sanitary measures in incubators, as well as the operation of poultry farms in absolutely closed conditions. However, to increase the resistance of birds to diseases, a balanced feed rich in vitamins and trace elements should be used.

Table 2

INFECTION OF DOMESTIC CHICKENS WITH COLIBACILLOSIS AND PASTEURELLOSIS
OVER THE KHACHMAZ DISTRICT

Age of domestic chickens	Examined	Colibacillosis		Pasteurellosis	
		Number of infected ones	Infection, %	Number of infected ones	Infection, %
30-day-old	45	13	28,8	15	33,3
45-day-old	45	17	37,7	19	42,2
60-day-old	45	12	26,6	14	31,1
Along the farm in all	135	42	31,1	48	35,5

Result

Infection of domestic chickens along the Masalli district with colibacillosis and pasteurellosis was studied by age groups. Thus, in 30-day-old chickens, infection with colibacillosis was 24.4%, pasteurellosis — 31.1%, in 45-day-old chickens was 33.3%, pasteurellosis was 37.7%, in 60-day-old chickens with colibacillosis was 20.0%, pasteurellosis-26.6%.

Along the Khachmaz district, infection in 30-day-old chickens with colibacillosis was 28.8%, pasteurellosis was 33.3%, in 45-day-old chickens with colibacillosis was 37.7%, pasteurellosis was 42.2%, in 60-day-old chickens with colibacillosis was 26.6% and pasteurellosis was 31.1%.

According to the conditions of the restriction, the following is proposed: In case of confirmation of colibacillosis and pasteurellosis diseases in the poultry farm, the farm is considered unhealthy for this disease, and restrictions are imposed on the farm:

- Eggs of birds that have a positive reaction to colibacillosis and pasteurellosis antigen are sent to food enterprises for the preparation of sweets and bakery products that are cooked at high temperature

- Eggs intended for incubation must be disinfected with an aerosol method at the entrance to the incubator storage, after sorting, 6 hours after collection in the incubator and before transferring the embryos to the exit cabinet.

- After the slaughtering of sick birds and birds suspected for disease, their meat should be evaluated in veterinary and sanitary terms, the inspection of slaughtered birds should be carried out in accordance with the rules of veterinary and sanitary examination of meat products.

- Every time after examining the birds that have given a positive result, they should be selected and immediately slaughtered, and disinfected with an aerosol method in the premise during the entire stay of the birds inside.

- The carcasses of birds, the remains of incubation must be neutralized within 2 hours at 120 °C in a specially installed utilization shop.

- On poultry farms, it is necessary to regularly control rodents, ectoparasites and prevent wild birds from penetration into poultry houses.

- Full-quality and rational feeding of birds and their storage in accordance with zoogygienic conditions should be organized.

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