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MYCOTOXICOSIS IN BIRD

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Abstract
The article discusses mycotoxicosis of poultry, a non-infectious disease caused by the consumption of feed containing mycotoxins produced by microscopic mold fungi. Particular attention is paid to sources of feed contamination, the role of storage conditions and procurement technology in the development of mycotoxicoses, as well as their impact on the health and productivity of poultry. The stages of disease development, characteristic clinical manifestations in various forms of the course (acute, subacute, chronic), preventive measures and features of veterinary and sanitary assessment of contaminated meat are presented. The complexity of therapy and the need for feed quality control at poultry enterprises are also considered**.**

Key words: Mycotoxicoses, poultry, mycotoxins, molds, feed, Aspergillus, Penicillium, Fusarium, veterinary and sanitary examination, intoxication, pathogenesis, prevention, feed base, product safety.

Introduction

Modern poultry farming is characterized by a high level of intensification, which requires special attention to feeding and the veterinary and sanitary condition of poultry. One of the important factors affecting the health and productivity of poultry is mycotoxicosis, a non-infectious disease caused by the use of feed contaminated with mycotoxins. These toxic substances are produced by microscopic mold fungi that develop intensively when feed storage conditions and harvesting technology are violated.

Mycotoxicosis is a serious problem in animal husbandry, as it affects internal organs, suppresses the immune system, reduces productivity and leads to significant economic losses. In Uzbekistan, as in many other countries, some grain and leguminous crops can be affected by mold fungi due to unfavorable weather conditions, which increases the risk of mycotoxicosis when using such grain as feed.

This article discusses the causes of mycotoxicosis in poultry, the main clinical manifestations, stages of disease development, as well as preventive measures and veterinary and sanitary assessment of contaminated meat.

Mycotoxicosis is a disease that occurs as a result of feeding farm animals and poultry with feed containing toxins produced by microscopic fungi.

At the same time, most types of microscopic fungi are practically incapable of parasitizing in the tissues and organs of birds. They intensively reproduce in plant feed containing starch, sugar and other carbohydrate substances, violating the technology and timing of their collection and storage.

Creation of a solid feed base for poultry farms based on environmentally friendly field farming is the main and traditional direction of agricultural development in many countries of the world, including Uzbekistan. At the same time, a certain part of the annual harvest of grain and legumes is harvested in difficult weather conditions, which leads to the appearance of mold and the accumulation of mycotoxins during storage. Such grain is considered feed, but when fed to birds it can cause acute and chronic mycotoxicosis.

When intensifying poultry farming, the feed base and quality of feed, taking into account the physiological needs of the bird and its veterinary and sanitary well-being, are of great importance. Therefore, much attention is paid not only to providing poultry farms with a sufficient amount of feed, but also to increasing their nutritional value and improving their sanitary quality. As a result of violations of their production and storage technology, their nutritional value and sanitary quality decrease. This occurs mainly due to spoilage of feed by mycotoxins, other microorganisms and microscopic fungi that produce chemicals that get into the feed.

The greatest danger to the organism of animals and birds is represented by feed affected by fungi producing mycotoxins (fungi of the genera Aspergillus and Penicillium), which get into the grain during harvesting and intensively multiply when storage conditions are violated. The second group consists of fungi that affect plants during the growing season and are capable of further development if storage conditions are violated (fungi of the genus Fusarium, etc.), the toxins of which are very dangerous for animals and birds.

Mycotoxicoses have characteristic features that distinguish them from infectious diseases (lack of infectivity, simultaneous occurrence in many birds, decreased incidence when changing feed, normal or low body temperature of the sick bird, etc.). The severity of the course and clinical signs of mycotoxicoses depend on the amount of mycotoxins received, the type of toxins and the degree of toxicity of the feed contaminated with fungi, the duration of feeding and the effect of the toxin, as well as the age and physiological state of the bird that received mycotoxins with feed. Mycotoxicosis occurs as a result of introducing grain feed and their processed products into the diet (compound feed, bran, grain waste, haylage, etc.). Damage by

toxic fungi occurs during storage and when feeding animals feed made from grain affected by microscopic fungi.

Mycotoxicosis occurs in 4 stages:

* exposure to mycotoxins directly at the point of entry into the body;
* further development of the pathological process associated not only with the specific action of the mycotoxin itself, but also with a change in the reactivity of the macroorganism upon receipt of secondary toxic microbial metabolites;
* the stage of development of the pathological process caused by a decrease in the immune status and the occurrence of secondary infections;
* the stage of recovery or death (the outcome depends on the dose of the toxin and the reactivity of the affected organism).

Specific treatment for mycotoxicosis has not yet been developed, so pathogenetic and symptomatic treatment or slaughter of sick birds are mainly used. To remove mycotoxins from the body, efferent therapy or removal of toxins using sorbents and hemosorption are used, which are very difficult for veterinary practice.

When birds are infected with mycotoxicosis, suspicious feeds affected by mold fungi are excluded first of all, and water is given without restriction.

The vast majority of mycotoxicoses are caused by saprophytic micromycetes that affect feed during the period of preparation and storage (autumn - winter - early spring), and then the accumulation of toxic metabolites.

The course of mycotoxicosis is determined by a number of factors, among which the dose of the toxic substance that has entered the bird's body plays a special role. Depending on this, the course of mycotoxicosis can be acute, subacute and chronic.

Acute mycotoxicosis is characterized by a sudden onset, damage to the central nervous system (excitation or depression), tremor, convulsive contractions of individual muscle groups and a desire to move forward. The duration of acute mycotoxicosis is up to 18-24 hours, sometimes the bird dies without showing clinical signs or retaining the main symptoms for some time. Subacute course is observed in many mycotoxicoses, the clinical picture of which is very diverse. In some cases, the intake of small amounts of mycotoxins into the bird's body leads to the development of a single type of poisoning, which does not differ in clinical signs. Clinical signs observed in subacute mycotoxicosis develop sequentially and are characterized by damage to individual organs and tissues. In this case, the central nervous system is affected in almost all birds and persistently. Signs of meningoencephalitis, hypertension, in severe cases - paresis, paralysis and convulsions are observed. Almost all mycotoxicoses are accompanied by gastrointestinal disorders in the form of constipation or diarrhea with blood. The respiratory system is impaired, and signs

of pulmonary edema develop. Signs of respiratory damage are sometimes the result of aspiration of spores and mycelial fragments. In subacute mycotoxicosis, the cardiovascular system is also affected, the nutrition of the heart muscle worsens, and the permeability of blood vessels suffers and is impaired. Usually, the rhythm of cardiac activity changes, tachycardia or bradycardia, hypotension or hypertension, and signs of heart failure develop.

In most subacute mycotoxicoses, the obligatory and main symptoms are changes in the blood in the form of progressive leukopenia, agranulocytosis as a result of bone marrow damage. A frequent and characteristic symptom, although not in all cases of poisoning, is focal necrosis of the mucous membranes and skin. Ulcer-necrotic processes are detected mainly on the oral mucosa, conjunctiva of the eyes, in the intestinal mucosa, stomach and esophagus. Hyperemia and edema of the skin occur at the site of mycotoxin exposure, and then ulcer-necrotic processes develop.

Chronic mycotoxicoses caused by feed contaminated with micromycetes (fusarium, aspergillus, penicillin, etc.) have not yet been sufficiently studied. However, observations show that they are widespread in practice and are characterized by gradual weight loss, growth retardation in young animals, decreased productivity in adult livestock, and the development of dystrophic processes in the parenchyma of internal organs. Mycotoxicoses may cause complications that are accompanied by septic phenomena of secondary infection, as well as the removal of non-viable offspring.

Conclusion

Mycotoxicosis in poultry represents a significant veterinary and economic concern due to the non-infectious yet highly toxic effects of mycotoxins produced by microscopic mold fungi such as Aspergillus, Penicillium, and Fusarium. These toxins can enter the bird's body through improperly stored or contaminated feed, leading to acute, subacute, or chronic health problems. The disease affects multiple systems in the body, suppresses immunity, reduces productivity, and can cause high mortality. Preventive measures, including proper feed storage, quality control, and timely veterinary-sanitary assessments, are crucial in minimizing the risk of outbreaks. Since there is no specific treatment for mycotoxicosis, emphasis should be placed on prevention, early detection, and symptomatic therapy to ensure the health and safety of poultry and the quality of their products.

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