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CONTROL OF MYCOTOXICOSES CAUSED BY MYCOTOXINS

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Abstract:

This article provides some information about mycotoxins found in farm animals and the mycotoxicoses they cause, as well as ways to protect farm animals from them.

Keywords: *Mycotoxin, mycotoxicosis, fungi, toxin, mold, mycetes tachycon, fungus, immunity, therapy, antibiotic, microorganism.*

Introduction

Mycotoxins are toxic substances released by mold under certain conditions.

Mycotoxins were first identified in 1960. At that time, it was believed that the cause of the mass death of insects in England was mold, which was sent to grow and produce mycotoxins. Different types of mold produce different mycotoxins. Currently, more than four hundred types of mycotoxins are known. All of them are dangerous to health and cause the development of poisoning and mycotoxicosis in the body. There are several most popular groups of toxic substances. Depending on the type of toxic compound, the effect on the body is different, but for all types of

toxic substances, a number of common effects are revealed. When animals eat contaminated feed, the nervous system is disrupted, spontaneous abortion is possible, and internal organs are affected.

It is difficult to detect the presence of a toxic substance, harmful feed consumed by farm animals, when entering the stomach, turns into dangerous compounds and breaks down into various forms, which causes symptoms of overdose. What products are most susceptible to mycotoxin poisoning?. Dangerous substances can be present in food products on which mold is clearly visible, as well as in food products that seem to be of good quality.

Mycotoxins found in agricultural products are toxins produced naturally by certain fungi. Fungi typically thrive in foods, especially nuts, dried fruits, apples, grains, spices, and coffee beans, usually in warm, moist conditions. When people consume these foods that produce mycotoxins, they experience several health problems. Mycotoxins pose health risks to both humans and animals. These threats range from acute poisoning to chronic diseases such as immune deficiency and cancer.

The food and Agriculture Organization of the United Nations investigates mycotoxin contamination of food and agricultural products and assesses the health risks associated with naturally occurring toxins, including mycotoxins. International Standards and Criteria for Application (Codex Alimentarius) have been established to limit exposure to mycotoxins in certain foods and animal feeds. Exposure to mycotoxins occurs either directly by eating food contaminated with mycotoxins or indirectly by eating animal products, especially milk. Some food-borne mycotoxins have acute effects. Mycotoxicosis is characterized by severe symptoms that appear immediately after eating contaminated food. Other food-borne mycotoxins have long-term health effects, including cancer and immunodeficiency.

Mycotoxicosis (Greek mykes mushroom and toxicon - poison) - poisoning of farm animals and humans. Mycotoxicosis occurs when eating food contaminated with fungal toxins. The disease is characterized by a sudden onset, mass spread, a short incubation period and non-infectiousness. Mycotoxicosis can occur when cattle graze in the spring on pastures where grass and plants that died in the fall or after winter were not removed, as well as when feeding wet feed to cattle during the fattening period in a barn.

Mycotoxicosis affects all organs and systems of animals. The severe and clinical course of mycotoxicosis depends on the amount of mycotoxin ingested, the level of toxicity of feed and the characteristics of the microorganism. Depending on the type of toxins, sick (poisoned) animals experience problems with hematopoiesis, the functioning of the heart and blood vessels, the nervous system, the respiratory system and the urinary system. All mycotoxicoses are divided into independent nosological units named after the type or genus of the poisonous fungus. Mold is always around people. People use substances produced by molds for medical purposes and make medicines from them. However, if they are not processed, such waste is dangerous.

Such compounds destroy the activity of other microorganisms. They appear as a result of mold damage to food products, plants during storage and cultivation and production of food products from them. The greatest danger is posed by mycotoxins contained in cereals and products of animal origin.

Mycotoxicosis often affects cereal crops, legumes and various seeds. Mycotoxins are often found in vegetables, fruits and nuts. Acceptable conditions are sufficient for the spread of dangerous derivatives of fungi. Dangerous substances synthesized by mold fungi are metabolic toxins. Mycotoxicosis occurs in humans and farm animals under the influence of such compounds. Any toxic product can cause disease.

Symptoms of mycotoxicosis caused by mycotoxin. In farm animals, there are three main symptoms of mycotoxin poisoning:

1. When animals are poisoned by mycotoxins, ulcers appear on the mucous membrane of the oral cavity, gastric glands and intestines. After infection, a large amount of hydrochloric acid is released from the parietal cells of the stomach, which leads to the appearance of adenitis.
2. Toxins absorbed through the digestive tract are mainly broken down by the liver, so mycotoxin poisoning can cause swelling, blackening of the liver, or rectal bleeding.
3. Poisoning with mycotoxin-contaminated (i.e. moldy) feed can cause functional changes or damage to animal organs. Severe conditions can also lead to death of animals and suppression of immunity.

For prevention, it is advisable to exclude mycotoxin-contaminated, i.e. moldy, feed from the diet, not to take animals to contaminated pastures, not to allow them to eat moldy grain products, keep feed storage areas clean, i.e. keep them dry and clean.

In mycotoxicoses, the antidotes for the treatment of chronically or acutely infected animals that may be poisoned by mold and mycotoxins are antibiotic therapy, immunotherapy, symptomatic therapy, diet therapy and suppressive drugs. Much attention should be paid to the body's immune system.

In conclusion, it is worth noting that mycotoxicoses cause significant economic damage to the agricultural sector. In this regard, timely prevention of poisoning of farm animals with mycotoxins consists of not giving contaminated feed to farm animals, excluding moldy feed from the diet, not feeding animals on contaminated pastures, not allowing them to eat moldy grain products, and preferably keeping feed storage areas clean.

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