THE SCIENCE WORLD
A Monthly e Magazine
Popular Article
ISSN:2583-2212
December, 2022; 2(12), 2122-2124

Mycotoxicosis In Poultry

Prashant B. Dabhi*, Digjay V. Kabariya and Ritu J. Patel

Department of Veterinary Pathology, College of Veterinary Science and Animal Husbandry, Kamdhenu University, Anand-388001, Gujarat, India.

https://doi.org/10.5281/zenodo.7437292

Introduction

Mycotoxicosis is mainly a disease of broiler birds. The major toxins of poultry importance include Aflatoxin, Ochratoxin, Citrinin, Oosporin, Trichothecene toxin etc. In broiler birds, this disease is caused by the use of excessively moist corn and soybean grains contaminated with fungi or by storing the grains for more days in the farm, causing the development of fungi that produce aflatoxin or ochratoxin and the production of mycotoxin. The fungi producing mycotoxins have very simple requirements for existence. Usually, high moisture grains, insect damaged grains, sweating of feed ingredients, defective feed bins, defective waterers or feed spilling on the damp litter promote fungal growth and toxin production.

This fungal toxin damages the liver and kidneys of the bird (figure 2 and 3) and mortality is observed. This fungal toxin causes bright green (parrot colour) diarrhoea in live birds. Due to this disease, the immunity of the birds also decreases, and the mortality rate increases. Liver damage from such grains leads to mortality in young chicks, while in older birds stunted growth and reduced production capacity.

Especially after the monsoon season, the disease is more common in the beginning of winter due to the high moisture content in the new maize or soya. Food ingredients should be moisture free and of good quality. Fungicide as well as toxin binder drugs should be added to poultry feed.

Name of toxin	Source	Organs affected	Feeds
Aflatoxin (B1, B2, G1, G2, M1, M2)	Aspergillus flavus	Liver	Maize, Groundnuts, oilseed cakes
Ochratoxin	Pencillium species	Kidneys	Maize, Wheat
Trichothecenes	Fusarium species	Kidneys	Corn and soyabean grains

Economic Impact

- Affects many raw materials and finished feed intended,
- Reducing the nutritional value
- Increasing the production costs and mortality
- Increasing the susceptibility to infectious diseases and leading accordingly to huge agricultural and industrial losses.
- Impact on human health via animal by-products such as meat, eggs, milk as the result of contaminated animal feed eating.

General toxic signs

- Poor weight gain,
- FCR Low egg production,
- Poor shell quality,
- Reduced hatchability,
- Leg weakness,
- Organ damage,
- Mortality and Immuno suppression
- The mould growth reduces nutrient quality and palatability of feed

Prevention and treatment of mycotoxicosis:

1. To prevent this disease, physical examination of grain components, especially corn and soybeans, should be conducted with low moisture and moisture-free, clean, dry and good quality soybean meal as well as rice, dry corn kernels. Especially use corn with less than 13-14 percent moisture content.
2. When this disease is found in farm birds, drugs like liver tonic should be used. Replace old, stored grain with new grain.
3. Toxin binders can also be used in grains to reduce fungal toxins.

4. Mycotoxicosis being an unavoidable yet complex problem, prevention and control has to be a multifaceted approach. It can be broadly divided into those before consumption and those after consumption. Mold inhibition by using organic acids like propionic acid has been adopted to check

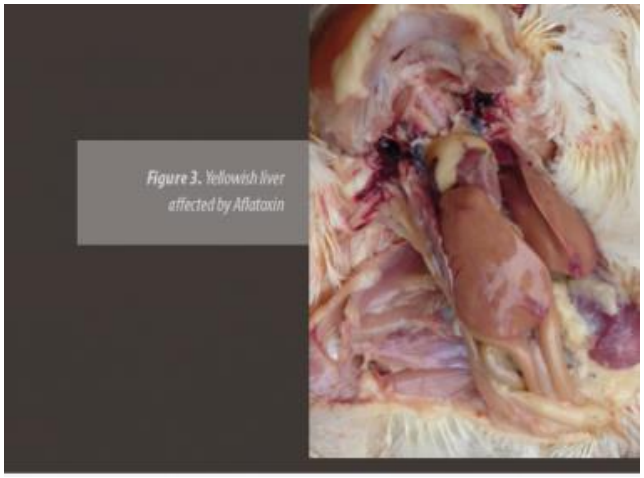

Fig.1 broilers with poor growth due to mycotoxicosis

fungal growth. High porous activated charcoal or activated carbon is ideally suited for pesticide binding, clinically effective as best toxin binder.

Fig.3 enlarged pale fatty liver

Fig.2 enlarged and yellowish discolouration of kidneys