

Date - 01/02/2023

Department of Botany
Dr. Sunil Pandit

Paper - II Group - B, Part - II

online class

plant pathology -

J.J. College, Ara. Time - 9:30 - 10:30 E. copy -

Question →

What is aflatoxin? How does it affect human body, plant and plant production and also explain the condition favourable for its spread?

Ans → Aflatoxins are the secondary metabolites of some saprophytic fungi. They are highly injurious to health of human, other animals and plants work on aflatoxin production from agriculture product in storage condition as well as in different crop fields in different parts of the country has been done well by Bilgrami and his associates (1975-1986) at Bihar Bihar. The species of fungi secreting aflatoxins are Aspergillus flavus, A. parasiticus and others. Aflatoxin of A. flavus is known to cause cancer. Rati and Ramalingam (1979) surveyed A. flavus in air samples in outdoor air and air of poultry shed.

The disease symptoms included (a) rapid deterioration in the condition of birds and (b) subcutaneous haemorrhages leading to death. The livers of dead birds were pale, fatty and showing extensive necrosis and biliary proliferation. Similar symptoms were also observed in duckling fed on toxic groundnut meals and several other animals.

Moreover, aflatoxin B₁ is known to cause mutagenicity through chromosomal aberrations and DNA breakage in plant and animal cells. Sinha et al (1987) observed the gross and individual types of chromosomal abnormalities and breakage in the chromosomes of bone marrow cells of mice. The breaks were more frequent in the distal regions of the longer chromosomes.

The spread of aflatoxin depends on the environmental factors. Chaudhary (1991) surveyed the climatic condition on incidence and severity of aflatoxin contamination in the field of maize crop during 1986-1990. Increased level of aflatoxins in non-irrigated maize crops have been linked to higher levels of air borne inoculum of Aspergillus flavus (Bilgrami and Chaudhary 1991).

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