

Aflatoxin and Food Safety

Albert Doughan*

Department of Biochemistry and Biotechnology, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

***Corresponding Author:** Albert Doughan, Department of Biochemistry and Biotechnology, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

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Aflatoxin gained popularity in the early 1960s when a lot of turkey's died in several poultry farms in the United Kingdom. That was termed the "Turkey X- disease" [1]. This condition was not only limited to turkeys but to other farm animals such as ducklings and young pheasants. Kenya, Uganda, United States and some other countries also reported similar cases [2].

Aflatoxins, probably the most studied and widely known mycotoxin, comprise a group of naturally occurring mycotoxin that are produced by *Aspergillus* family of fungi such as *A. flavus* and *A. parasiticus*. These fungi typically affect peanuts, corn and corn products, which are usually used as ingredients in both food and feed products.

Aflatoxin-producing members of *Aspergillus* are common and widespread in nature. The production of aflatoxin due to the colonization and contamination by the fungus can occur in crop plant in the field, at harvest, during post-harvest operations or when the crop products are in storage. The rate and level of contamination is dependent on temperature, humidity and soil and storage conditions. This justifies why it is cardinal to store crops under good conditions to minimize contamination with aflatoxin.

The most effective way to reduce aflatoxin contamination in susceptible crops is particularly by stopping or reducing the growth of the causative toxigenic fungi. Traditionally, this can be achieved through the use of fungicides for reducing fungal infections in growing crops, by using correct storage methods for harvested crops and the use of effective antimould preservatives and adherence to proper postharvest processing, transport and distribution practices.

Screening of food grains for aflatoxin contamination is a relative strategy to assure the safety conditions of food grains. The presence and level of potentially toxigenic fungi and toxins in food grains may be relevant to enhance safety guarantees for livestock production and for human beings. Detoxification of aflatoxins in-vitro and in-vivo by using various means like physical, chemical and biological should be undertaken on priority to reduce its synergistic effects.

Though aflatoxin cannot be completely eliminated in food, it is fortunate that several important groundnut and grain-producing countries have recognized the problem and are supporting research and monitoring activities aimed at mitigating the problem.

Bibliography

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