

**AFLATOXINS AND HUMAN HEALTH**

**Ahmed, A.M. Soliman**

*Agriculture Research Center, Animal Production Research Institute, Dokki,  
Egypt.*

**ABSTRACT**

Aflatoxins (AF) are the secondary metabolites produced mostly by certain species of *Aspergillus flavus* and *Aspergillus parasiticus*. These toxins have closely similar structures and form a unique group of highly oxygenated, naturally occurring heterocyclic compounds. Their molecular formulae are established from elementary analyses and mass spectrometric determinations. These compounds contaminate a variety of food and feed products and play an important role in domestic animals and humans health. Also, these compounds caused many acute disease syndromes, while at lowest levels they can be carcinogenic, mutagenic, teratogenic or estrogenic and could reduce the productive performance. The performance of animals such as milk, gain, meat, egg production ...etc., were affected with aflatoxin-contaminated diets.

Aflatoxin AFB<sub>1</sub> and its metabolite residues, had been found in muscles and edible organs of exposed animals (that consumed AF-contaminated feeds), including liver, heart and kidney. So, humans are exposed to AF by direct consumption of contaminated animal products (meat, milk, eggs,...). It is therefore, important to keep the AF intake very low, in order to minimize the danger of AFM<sub>1</sub> entering the human food-chain, and that are considered potentially hazardous to human consumers. The Codex Committee For Food and Additive and Contaminate (CCFAC) has recently legislated a 0.05 µg / Kg AF limit in dairy concentrate products. Therefore, practical and least cost-effective methods to detoxify AF-contaminated feedstuffs are in great demand. Recently, many approaches were applied for the detoxification of AF such as the use of medicinal herbs mixture (MHM), anti-toxin compounds and Bentonite materials in the diet to diminish the harmful effects of AF.

*E-mail address:* ahmednkm@yahoo.com