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Food microbial contamination by toxigenic molds: Threat for human and animal health

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Food can be contaminated by a range of microorganisms and their toxins causing food borne illnesses. Among them molds is one of the greater significance to human health producing mycotoxins as metabolic products. The most important group of mycotoxigenic molds belonging to *Aspergillus* and *Penicillium* species are aflatoxins (AFs) which are highly potent in the induction of acute and chronic toxicity in humans and in animals. Among them, aflatoxin B1 is carcinogenic to many organs in many species, exhibiting immunosuppressive effects. AFs can influence either alone or in combination with other mycotoxins. Very strong correlation exists between the daily dietary intake of aflatoxin B1 and the incidence of primary liver cancer in humans. Ochratoxin A and citrinin both affect kidney function. Molecular and biochemical mechanisms of action of acute toxicity and carcinogenicity induced by aflatoxin B1 will be discussed in this presentation, as well as the chemical structure of aflatoxins, their biochemical activation, detection, control and prevention.

Biography

Mirjana Menkovska is full Professor at Department of Food Technology and Biotechnology at the Institute of Animal Science, Ss. Cyril and Methodius University in Skopje, Macedonia. She was graduated from the Faculty of Technology and Metallurgy in Skopje, completed MS degree in Instrumental Analysis in Chemistry and Technology at the same university and PhD degree in Food Technology at the University of Belgrade, Serbia. She was a Visiting Scientist for Cereal Research at GMRC in Manhattan, Kansas during the academic 1985-1986 at Cereal Research Institute in Detmold, Germany in 1997 and at other known research centers in Europe. She has published more than 150 papers in domestic and foreign scientific journals and participated in 90 scientific meetings in the country and abroad. She has also translated three scientific books and reviewed three scientific books from English into Macedonian language.

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