



Food Mycotoxicology

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Food Mycotoxicology is the branch of mycology focused on the study of the mycotoxins produced by fungi in food commodities. Filamentous fungi are ubiquitous in nature and are considered as being natural and unavoidable. Fungi have plagued mankind before and since the beginning of organized crop production [1].

The control of mycotoxins is a continuous process in commodity production. They can become established and remain within the commodity anywhere throughout the production, storage, transportation and processing chain. No absolute controls over mycotoxins are available, and total control is probably not economically feasible. Additionally, control of mycotoxin contamination involves either the **prevention** of its synthesis prior to harvest, or the **prevention** and **decontamination** after harvest.

Two overriding factors for storage are water activity (a_w) and temperature. These parameters, if not kept at the desired levels, may lead to the growth of fungi and the accumulation of mycotoxins in stored crops. Another way of controlling mycotoxins is by removal of contaminated kernels. The amount of mycotoxins still present in raw material may be further reduced during processing. Physical, chemical or biological processes may be useful in the removal/deactivation of mycotoxins. During this presentation, the main competencies in this field and a few case studies will be presented.

[1] Venâncio A, Paterson RRP, The Challenge of Mycotoxins. In: Food Safety – A practical and case study approach (2007), Springer, Ch.2, 24-47.