Food Mycology:
From the Fork to the Farm

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Filamentous fungi are ubiquitous in nature and are responsible for producing mycotoxins in agricultural crops. Fungi and mycotoxins are considered generally as being natural and unavoidable [1].

The control and detection of mycotoxins is a continuous process in commodity production. Since mycotoxins can become established and remain within the commodity anywhere throughout the production, storage, transportation and processing chain, there is a need to study all the food chain: **from the fork to the farm**. The control over the presence of mycotoxins involves several competencies, such as taxonomy skills, ability to evaluate mycotoxins production by fungi, and ability to quantify mycotoxins in commodities.

The prevention of mycotoxin formation is achieved by influencing environmental conditions through management of agricultural practices prior to harvest. After harvest, two overriding factors for storage are water activity (aw) and temperature. Control over these parameters may lead to the prevention of fungi growth and of mycotoxins accumulation. Strategies followed to have control over the presence of mycotoxins in commodities will be illustrated by presenting case studies: (i) ochratoxin A in wine; and (ii) aflatoxins in maize and in nuts.

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