The effect of vinification on wine contamination with ochratoxin A

Venâncio, A.

IBB – Institute for Biotechnology and Bioengineering. Centre of Biological Engineering, University of Minho, Campus de Gualtar, 4710–057 Braga, PORTUGAL.

* avenan@deb.uminho.pt; Tel: +351 253 604 400; Fax: +351 253 604 429

The filamentous fungi are ubiquitous in nature, so their occurrence in natural substrates is seen as natural. When the presence of these microorganisms is associated with favourable ecological conditions (e.g., temperature and relative humidity), these may multiply and produce undesirable compounds. Classic examples of this relationship are the production of chlorinated anisoles in cork or of polyphenol oxidases in grapes. More recently, in the sixties of last century, the discovery of the production in food of toxic metabolites - mycotoxins - by filamentous fungi has revolutionized the study of food mycology and created a new field: food mycotoxicology. The occurrence of food outbreaks due to the presence of mycotoxins in food is now well recognized, and even admitted that mycotoxins are closely related to some pests described in the Middle Ages.

As in any other row of the agri-food sector, in viticulture field is also possible to find reports on the possible presence of mycotoxins in the vineyard, the grape or its derivatives. However, it is necessary to distinguish between the mere detection of these metabolites and their occurrence at levels that cause harm to health. In this communication we present a historical survey on the detection of mycotoxins in grapes and their derivatives, indicating the case where the presence of the mycotoxin is regarded as a hazard: ochratoxin A. From a perspective of implementing a food safety
model, the carry-over of ochratoxin A from grapes to wine will be presented and discussed.