

Mycokey

Integrated and innovative key actions for mycotoxin management in the food and feed chain

Lay summaries

Knowledge transfer to stakeholders



Mycotoxin biotransformation by native and commercial enzymes: Present and future perspectives

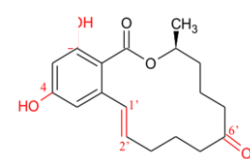
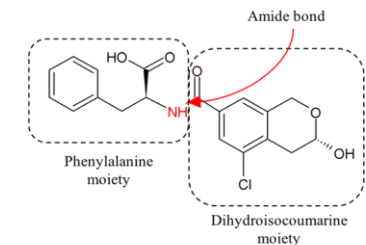
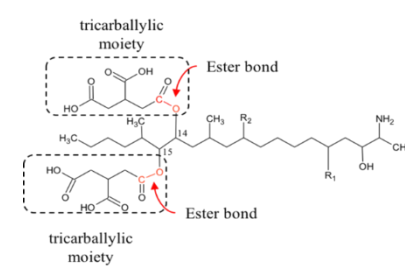
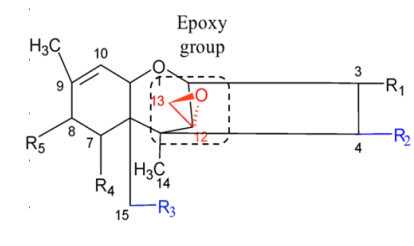
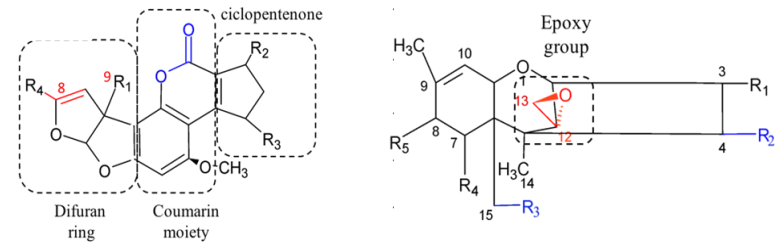
Mycotoxins biotransformation by native and commercial enzymes

ISSUE

Worldwide mycotoxins contamination has a significant impact on animal and human health, and leads to economic losses accounted for billions of dollars annually. Since the application of pre- and post-harvest strategies, including chemical or physical removal, are not sufficiently effective, biological transformation is considered the most promising yet challenging approach to reduce mycotoxins accumulation.

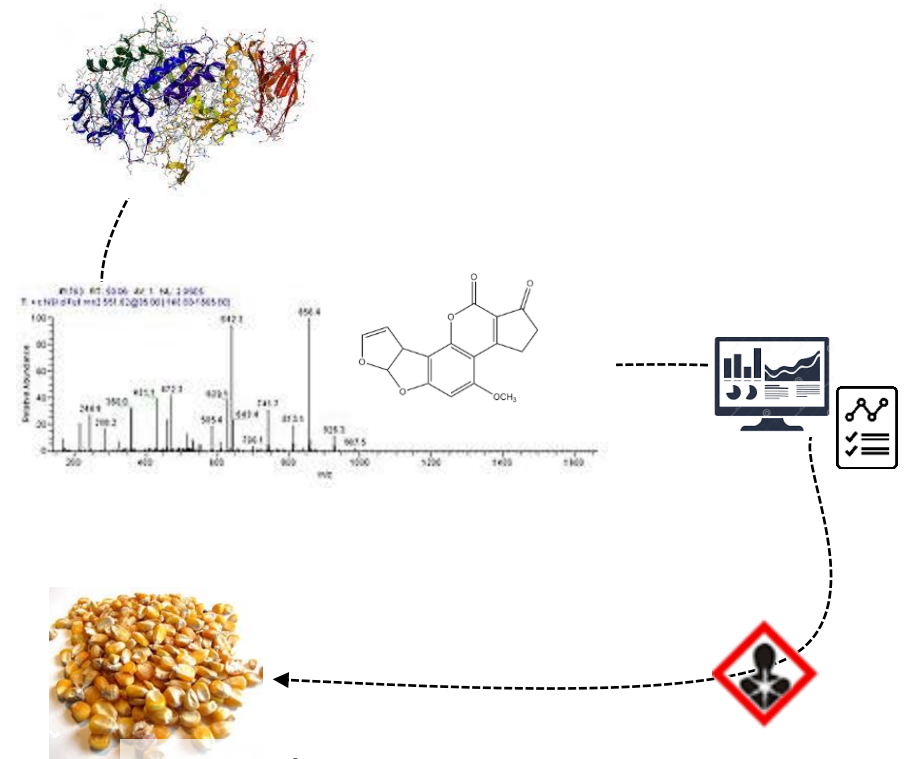
APPROACH

A systematic review of the available data on mycotoxins biotransformation by native and commercial pure enzymes was performed. A global overview of their mechanisms, their current and possible applications and limitations in food, feed and bioenergy in compliance with the European Regulation was discussed.



OUTCOMES

Different enzymes were characterized and identified as capable of degrading mycotoxins. However their use remains limited due to lack of toxicological data of the degradation products and possible effects on the nutritional, technological and organoleptic properties of the treated material.



- Food
- Feed
- Energy field

Loi M., Fanelli F., Liuzzi V., Logrieco A., & Mulè G. (2017).
Mycotoxin biotransformation by native and commercial
enzymes: Present and future perspectives. *Toxins*, 9(4),
111. Doi: 10.3390/toxins9040111