

Mycotoxins in wine, are they a problem?

Mycotoxins are heat-resistant toxic secondary metabolites produced by fungi.

Ochratoxin A (OTA) is the most important in wines and other grape by-products. It was discovered by Van der Merwe & Colleagues in 1965.

OTA

Very important in food safety!

Wine may contain other mycotoxins...

Trichotecin

Fumonisin

Patulin

Citrinin

Alternariol

Alternariol methyl ether

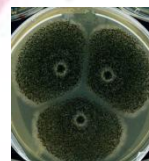
Aflatoxins

Ochratoxin A has nephrotoxic, carcinogenic, teratogenic and immunosuppressive properties.

IARC has classified it in group 2B.

OTA producing species in wine

Black Aspergilli, specially *A. carbonarius*



Legislation: EU Regulation (CE) 105/2010, modifying the EU Regulation (CE) 1831/2006.

MAXIMUM OTA IN WINE OF 2 µG/KG

Real impact

- After cereals, wine is the major source of daily OTA intake

- There is a higher OTA concentration in red wines than in white and rose wines.

- OTA contamination increases in wine from southern Europe, where the warmer climate is associated with a major incidence of *black Aspergilli*

- Special wines have the highest incidence of OTA

Contamination factors

Climate

Conditions of raw material:

Aspergillus attack damaged berries

Conditions of storage

Type of maceration

Contamination control

- Identify regions more likely to be contaminated by OTA.

- Avoid damaged grapes

- Antifungal agents

- Use of pesticides

- Biocontrol

- Cold storage of grapes

- Flash pasteurisation of must

- Adding sulfites

- Use of fining agents

- APPCC

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