

Effect of Water Activity, Temperature, and Incubation Time on Growth and Ochratoxin a Production by *Aspergillus fresenii* and *Aspergillus sulphureus* on Niger Seeds

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Abstract : Mycotoxin contamination of foods and feeds poses a high risk for human and animal health. Ochratoxin A (OTA) is a ubiquitous mycotoxin produced by *Aspergillus* and *Penicillium* fungi. It exhibits nephrotoxicity, teratogenicity, mutagenicity, and immunotoxicity in both humans and animals. OTA has been detected in foods such as cereals, coffee, grapes, cocoa, wine, and spices. Consumption of food contaminated with OTA has been linked to kidney and liver diseases. Niger (*Guizotia abyssinica*) is an oil seed that is used for extracting cooking oil in countries like Ethiopia and India. The seed cake (a byproduct from oil extraction) is also used as dairy cattle feed in Ethiopia. It is also exported to North America and Europe to be used mainly as bird feed. To our knowledge, there have been no studies on the growth and production of OTA on niger seeds. In this study, the environment conditions that support OTA production including effects of water activity, temperature, and incubation time on growth and OTA production by *A. fresenii* and *A. sulphureus* were investigated.

Keywords : mycotoxin, ochratoxin A, aspergillus, niger seed

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