

Mycotoxins on Fermented Foods: A Review [†]

Elizabeth Lalchhanchhuahi ¹, Sakshi Manhas ^{2,*}

¹ Forensic Science, Chandigarh University, India; elizabethlch09@gmail.com (E.L.); sakshi.e14722@cumail.in (S.M.);

* Correspondence: sakshi.e14722@cumail.in (S.M.);

[†] Presented at 3rd National Conference on Environmental Toxicology: Impact on Human Health (Env-Tox 2024)

Received: 16.02.2024; Accepted: 20.03.2024; Published: 28.03.2024

Abstract: Mycotoxins are toxins that are naturally present in a variety of foods and are created by mold, like grains, nuts, and spices. Several mycotoxins are often found in fermented food due to environmental influences and the potential for fungal contamination. In addition to acute poisoning of Aflatoxins, the lethal dose for adults is 10–20 mg, while it is about 3 mg for children. Both adult and pediatric dosages have potential long-term consequences and health risks. 10,000 turkeys perished from aflatoxins (AFs) in 1960, according to numerous cases that have been reported. Even now, there are sporadic mycotoxin outbreaks, particularly in developing Asian and African nations; incidents have been documented in Malaysia, India, and Kenya. This prompted research on mycotoxins in humans and animals, which can be useful in forensic investigations to determine the cause and manner of death. Aflatoxin, ochratoxin A, zearalenone, deoxynivalenol, and citrinin are typical examples of mycotoxins. Various studies employed methods for detecting mycotoxins, including PCR, ELISA (enzyme-linked immunosorbent test), chromatography, and rabbit pyrogen. Mycotoxins are a dangerous consequence of fungus that can seriously endanger both human health and the world's food supply.

Keywords: mycotoxins; fermented food; molds; aflatoxins; ochratoxins A; deoxyvalenon; citrinin.

© 2024 by the authors. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Funding

This review paper has no external funding.

Acknowledgments

I would like to thank Mr. Shahil Sharma (HOD) of Chandigarh University's Forensic Science Department from the bottom of my heart. I also want to thank Miss Sakshi Manhas, my mentor, for all of her hard work and time this year. Your insightful counsel and recommendations were beneficial to me as I completed the assignment. I will always be indebted to you for this. I would want to state that I, and no one else, accomplished this project in its entirety.

Conflicts of Interest

The authors declare no conflict of interest.