Special Issue

Influence of Deoxynivalenol and Zearalenone in Feed on Animal Health

Message from the Guest Editors

Zearalenone, deoxynivalenol, and their metabolites compromise the health quality of foodstuffs and feedstuffs, and increases the risk of ischemia and reperfusion injury, stress-related intestinal disorders, as well as endocrine, metabolic, and immune disorders. Small doses can cause disease without clinical symptoms or they can interact with the host body at various stages of life. Due to this ambiguous dose–response relationship, the symptoms associated with high mycotoxin doses cannot be easily extrapolated to low doses. Deoxynivalenol ingested in small doses inhibits the uptake of substrates responsible for protein transport across intestinal walls. On the other hand, zearalenone has estrogenic properties, and low doses of this mycotoxin stimulate proliferative processes. Mycotoxins also influence the activity of local and general immune systems, and their adverse effects become manifested in immunosuppressed hosts. Mycotoxins can also suppress the host's immune system, thus increasing the risk of disorders caused by microorganisms, intestinal enzymes, and other toxins in the digestive tract without the clinical symptoms that are characteristic of mycotoxicoses.

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Deadline for manuscript submissions

closed (31 January 2023)

Toxins

an Open Access Journal by MDPI

Impact Factor 4.0
CiteScore 8.2
Indexed in PubMed

mdpi.com/si/67907

Toxins
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