



**toxins**



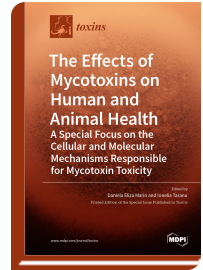
*Special Issue Reprint*

## **The Effects of Mycotoxins on Human and Animal Health—a Special Focus on the Cellular and Molecular Mechanisms Responsible for Mycotoxin Toxicity**

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This Special Issue gathers original eight studies that aim to improve the knowledge concerning mycotoxin toxicity. The effect of ZEA on macrophage-mediated innate immunity after bacterial lipopolysaccharide (LPS) challenge is the subject of one of included studies, suggesting that the intake of ZEA-contaminated food might result in a decrease of innate immunity. An important study relates to the co-exposure to mycotoxins and other food or feed contaminants shows that combining patulin with cadmium induces enhanced hepatotoxicity and nephrotoxicity both in vitro and in vivo, while the exposure to deoxynivalenol and porcine circovirus has an additive effect on inflammatory cytokines. The use of feed waste rich in bioactive constituents to mitigate the mycotoxins effects in piglets are the subject of three studies herein which proved the efficacy of antioxidants from dietary grapeseed and sea buckthorn meal to decrease the toxicity of aflatoxin B1 or both aflatoxin B1 and ochratoxin A at the level of liver and kidney, organs involved in the metabolism and excretion as well as at the level of mesenteric lymph nodes. The use of different cell co-culture model, rat model is recommended by another two studies in order to evaluate the ochratoxin A toxicity or for better prediction of the mycotoxins risk in human cancer. The impact of zearalenone (ZEA) on the immune response is presented in a review which examine the immunotoxicity produced by ZEA on different types of immune cells (and lymphocytes) as well as on immune organs. The mechanism of action used to modulate the immune response is also considered.



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