

Special Issue

Mycotoxin Biomarkers: Innovation and Utility

Message from the Guest Editors

The early epidemiology studies of aflatoxin exposure and liver cancer provided conflicting results. By the late 1980s, the need for a biomarker was apparent, notably to understand the attributable risk of disease. The pioneering work by Professors Chris Wild and John Groopman provided useful information on aflatoxin exposure by measuring the aflatoxin-lysine adduct in serum samples. This led to the production of the seminal papers on liver cancer in relation to aflatoxin exposure in Southern China. Reliable biomarkers of exposure for the other agriculturally important mycotoxins, namely fumonisin B1, deoxynivalenol, zearalenone and ochratoxin A, remain a challenge. Barriers include an understanding of the toxicokinetics of these four toxins in humans across a range of exposures and the impact of nutrition on interpreting the data. Further challenges include the availability and purity of isotopically labelled standards and improvement in the sensitivity of the analytical methods to allow smaller samples to be collected from study participants.

Guest Editors

Dr. Mark W. Sumarah

Agriculture and Agri-Food Canada, Edmonton, AB, Canada

Prof. Dr. J. David Miller

Department of Chemistry, Carleton University, Ottawa, Canada

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Toxins
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
toxins@mdpi.com

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Prof. Dr. Jay Fox

Department of Microbiology, University of Virginia, Charlottesville, VA,
USA

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