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# New Insight into *Fusarium* Toxins and Aflatoxins

Guest Editor:

**Prof. Dr. Tapani Yli-Mattila**
Molecular Plant Biology, Department of Biochemistry, University of Turku, FI-20520 Turku, Finland

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## Message from the Guest Editor

Besides the direct plant yield losses due to *Fusarium* infection, the concern of grain contamination by *Fusarium* toxins arises from their frequent occurrence at toxicologically relevant levels. The main toxins produced by *Fusarium* species are fumonisins produced mainly by *F. verticillioides* and trichothecenes. (e.g. DON and T-2-toxin). *F. graminearum* is the most important DON producer, while *F. langsethiae* is the most important T-2-toxin producer. Interactions between these and other *Fusarium* toxins should also be taken into consideration.

Aflatoxins, which are produced by *Aspergillus* species, are a group of polyketide-derived furanocoumarins and the most carcinogenic compounds among the known mycotoxins. The pathway genes involved in aflatoxin production are clustered in fungi, which enables coordination of their transcriptional activation and regulation. The aflatoxin gene cluster presents at least one specific regulatory gene—*aflR* encoding a protein— an AflR. The molecular study of biosynthetic pathways can help elucidate the mechanisms underlying fungal toxin production and enables the development of new effective approaches to control fungal toxicity.

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

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*Toxins* Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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