

## **Polyphasic Approach Including MALDI-TOF Mass Spectrometry to Characterise Aflatoxigenic Species of *Aspergillus* Section *Flavi***

Rodrigues, P.<sup>(1,2)</sup>, Santos, C.<sup>(2)</sup>, Kozakiewicz, Z.<sup>(2)</sup>, Venâncio, A.<sup>(2)</sup> & Lima, N.<sup>(2)</sup>

<sup>1</sup>CIMO, Escola Superior Agrária de Bragança, Bragança, Portugal

<sup>2</sup>IBB/Centre of Biological Engineering, Micoteca da Universidade do Minho, Braga, Portugal

Aflatoxins are toxic compounds which are produced as secondary metabolites by the fungi *Aspergillus flavus*, *A. parasiticus* and *A. nomius* growing on a variety of food products and are known to be carcinogenic, mutagenic, teratogenic and immunosuppressive<sup>1,2</sup>. *Aspergillus* is a large genus, with a complex taxonomy. The genus is easily identified by its characteristic conidiophore, but species identification and differentiation is complex, mainly because it is traditionally based on a range of morphological features. One includes the aflatoxigenic species referred above *A. flavus*, *A. parasiticus* and *A. nomius*, which cause serious problems in agricultural commodities, and the other one includes the non-aflatoxigenic species *A. oryzae*, *A. sojae* and *A. tamarii*, traditionally used for production of fermented foods. Species from *A. flavus* group are morphologically and genetically very similar, and are therefore difficult to differentiate by both cultural and molecular methods. Matrix Assisted Laser Desorption Ionization Time-of-Flight (MALDI-TOF) Mass Spectrometry has already shown high potentialities in discriminating very closely related taxa. In this work is presented a polyphasic approach including MALDI-TOF MS to discriminate *A. flavus* group strains.

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### References

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