

## **CONFERENCE PROCEEDINGS**

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### **P5.5 - IS *PENICILLIUM CRUSTOSUM* A POTENCIAL OCHRATOXIN-A PRODUCER?**

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Mycotoxins are fungal secondary metabolites that can cause severe health issues in either humans or domesticated animals when ingested, inhaled and/or absorbed. A short list of mycotoxins with higher health risks are the most studied and Ochratoxin A (OTA) is among those. This toxin is present in a wide diversity of food and feed products [1] being *Aspergillus* and *Penicillium* species associated with the food spoilage and with OTA contamination. The major OTA producers are *P. verrucosum*, *P. nordicum* and *A. carbonarius*, but many other species of *Aspergillus* genus have that ability. Recent studies have reported the presence of OTA in food matrices where known OTA producers are not present [2]. For that reason, and based on previous evidences [3], other species, such as *P. crustosum*, are now being considered. Therefore, the main goal of this work was to search for potential OTA producers among *P. crustosum* strains with different geographic origins and to search for potential genetic differences at the sub-species level.

A total of 44 strains of *P. crustosum* from different parts of the globe supplied by Micoteca da Universidade do Minho (MUM) and Colección Chilena de Cultivos Tipo (CCCT) culture collections were studied. Mycotoxin production was analyzed, after 7 days growth of the fungi, by HPLC-FL. In addition, genes associated with OTA production were tested. RAPD-PCR fingerprinting (M13 and GACA<sub>4</sub>) and beta-tubulin gene sequencing were used to do a wide phylogenetic study.

Some genetic differences between isolates were found allowing the clustering of strains from the same geographic region, except for isolates from Italy. Under the studied conditions, preliminary results showed that there are no OTA producers above the HPLC-FL detection limit. However, further studies with a broader array of conditions need to be considered.

#### References

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3. Vega, F. E., Posada, F., Peterson, S. W., Gianfagna, T. J., Chaves, F., **2006**. *Mycologia*, 98, 31-42.