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## BOOK OF ABSTRACTS

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## I1. Environmental Microbiology and Biotechnology

### P91. Ochraoxigenic mycobiota in chilli *Capsicum annuum* L. and Chilean Merkén

Jéssica Costa<sup>1</sup>, Rodrigo Rodriguez<sup>2</sup>, Carla Santos<sup>2</sup>, Célia Soares<sup>2</sup>, Nelson Lima<sup>2</sup>, Cledir Santos<sup>1\*</sup>

<sup>1</sup> Department of Chemical Science and Natural Resource, BIOREN-UFRO, Universidad de La Frontera, Temuco, Chile

<sup>2</sup> CEB-Centre of Biological Engineering, MUM-Micoteca da Universidade do Minho, University of Minho, Campus de Gualtar, Braga, Portugal

E-mail: [j.souza@ufromail.cl](mailto:j.souza@ufromail.cl)

In Chile, *Capsicum annuum* L. berry fruits are used for the manufacture of a chilli powder known as Merkén. In January 2017, the Chilean Ministry of Health reported cases of Merkén samples available in the national market contaminated with Ochratoxin A (OTA). The main goal of this study was to search for the OTA potential of mycobiota on the whole processing stages of chilli used in traditional Merkén production, and for the OTA production potential of fungal strains isolated from chilli production process.

*Capsicum annuum* samples were provided by 8 farmers from 4 localities of the Chilean Region of La Araucanía. Chilli berry fruits were collected at three different sampling time points of production: (I) just at the day of ripe fruits harvest (II) after 30 days of harvest (drying process) (III) during the smoking process (IV) ingredients added to Méken (e.g., coriander seeds) and (V) final Merkén samples obtained from the 8 farmers and Merkén obtained from local markets. Cultivable microbiota was isolated on MEA, DRBC and DG18 media. Sequencing of  $\beta$ -tubulin or ITS region was used for fungal identification at species level. The ability of OTA production by isolated strains were assessed through HPLC.

A total of 225 fungal strains belonging to 9 fungal genera were identified. From these, *Aspergillus* (52) and *Penicillium* (118) were the predominant genera. While *Alternaria* (16) and *Fusarium* (15) are isolated mainly in the sampling point I. The variation in the relative abundance in the sample points can be directly influenced by abiotic factors, such as water activity, temperature and oxygen concentration. In addition, *Penicillium brevicompactum* was the only species isolated in all collection points. Regarding ochratoxigenic potential of strains, *P. verrucosum*, *A. flavus* and *A. niger* were identified. *Penicillium* and *Aspergillus* strains were evaluated (YES, 25 °C) for OTA production and its production was not detected under the analysed conditions.

Overall, potentially mycotoxigenic mycobiota and the presence of mycotoxins in Merkén consumed in Chile have already been reported indicating the susceptibility of this substrate. OTA evaluation in Merkén raw material is now under course.