

**P10****Climate change and aflatoxins exposure in Portugal – could we expect a significant health risk?**

Ricardo Assunção<sup>1\*</sup>, Carla Martins<sup>2</sup>, Susana Viegas<sup>3</sup>, Carla Viegas<sup>3</sup>, Lea S. Jakobsen<sup>4</sup>, Sara Pires<sup>4</sup>, Paula Alvito<sup>1</sup>

<sup>1</sup>INSA; CESAM, Lisbon; Aveiro, Portugal; <sup>2</sup>INSA; CESAM; NOVA ENSP, Lisbon; Aveiro; Lisbon, Portugal; <sup>3</sup>GIAS, ESTeSL; CISP, ENSP NOVA, Lisbon; Lisbon, Portugal; <sup>4</sup>National Food Institute, DTU, Lyngby, Denmark

\* Corresponding author: ricardo.assuncao@insa.min-saude.pt

In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans. Climate change (CC) has become one of the most critical issues for the sustainable development of human societies and the functioning of ecosystems on earth. Portugal is highly vulnerable to CC impacts due to its Europe south-western geographical situation, mainly through decreasing annual precipitation, more intense extreme weather and climate events. In fact, CC is considered as one of the biggest global threats to human health of the 21st century and its effects will undoubtedly influence agricultural systems and food safety. Due to the potential impact on the occurrence of food hazards, increased concern has been aroused. Mycotoxins, natural contaminants produced by fungi, are among the most important of such hazards, especially due to their potential to establish deleterious health conditions. From all known mycotoxins, aflatoxins stand to the most toxic for humans. Dietary aflatoxins exposure is considered a significant risk factor for hepatocellular carcinoma (HCC). Considering the impact of CC in mycotoxin contamination of food products available in Portugal, the present study aims to discuss the potential influence of CC in the health risk associated to aflatoxins dietary exposure of Portuguese population. To tackle this objective, the estimated number of hepatocellular carcinoma (HCC) and the associated burden of disease in terms of Disability Adjusted Life Years (DALYs) were derived. Results showed that the number of extra cases of HCC associated to Portuguese aflatoxin dietary exposure ranged from 0.52 and 2.00. The derived DALYs ranged between 8.0 and 30.9. It is expected that in the future the number of DALYs and the associated HCC due to aflatoxin exposure should increase due to CC. These results should represent an alert for the potential consequences of an incompletely explored perspective of CC – the health impact of the human exposure to aflatoxins. Politics and decision-makers should be involved and committed to implement effective measures to deal with CC issues and to reduce its possible consequences.

This research was performed funded by INSA (Projeto BioMAN, BioMAN/DAN/01) and CESAM by the FCT (UID/AMB/50017/2013), through national funds, and the co-funding by the FEDER (POCI-01-0145-FEDER-00763), within the PT2020 Partnership Agreement and Compete 2020.