



13th African Crop Science Society Conference



Building Africa's Future

Crop Research and Innovation for Agricultural Transformation, Resilience, and Inclusion



BOOK OF ABSTRACTS

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TIME	THEME: PRODUCTION SYSTEMS Session 8 – Food Security and Food safety Room: CPI 2501 Chair: Prof. João Bila and Dra Sandra Inguane		
11:00			
11:05	08 - 01	Zecas C. Gomate	Factors That Contribute To The Food And Nutritional Security Of Households In The District Of Meconta, Nampula Province
11:20	08 - 02	Paula Rodrigues, C. Matusse, A. Tolentino, Z. Lucamba, S. Afonso, A. Venâncio, J. Bila and C. Macuamule	Occurrence Of Aflatoxins In Food Commodities Produced And Consumed In Angola And Mozambique
11:35	08 - 03	Tariro Munyaria, N. Nleyab, K. Chitindinguc and M. Ndemeraa	Effect Of Biofertilizers On Productivity And Aflatoxin Production In Groundnuts (<i>Arachis hypogaea</i>)
11:50	08 - 04	Theoneste Hagenimana, Joseph O. Anyango, Patrick S. Muliro and Clement Bitwayiki	Processing Practices And Acrylamide Levels Of French Fries From Commercial Food Service Establishments In Rwanda (virtual)
12:05	08 - 05	C. O. Echereobia, E. F. Asawalam, K.C. Emeasor and K. Sahayaraj	Efficacy Of Ultraviolet (Uv) Irradiation On The Postharvest Control Of Cowpea Bruchid
12:20	08 - 06	Tamara T. Chirambo and A. Mwangwela	Physical, Cooking Characteristics And Consumer Acceptance Of Whole And Dehulled Pigeon Peas (<i>Cajanus cajan</i> L) Cultivars Grown In Malawi

12:35	08 - 07	Edson C. Bambo, Yanick L. Langa, A. S. Hassane, J. Atanásio, C. R. J. C. Pastola, Henriques V. Colial, Porfirio A. N. Rosa and F. J. Tanleque-Alberto	Evaluation of the Nutritional Quality of sunflower (<i>Helianthus annuus</i> L.) genotypes of different colors of achene produced at IIAM – Nampula
13:00 – 14:00		LUNCH	

OCCURRENCE OF AFLATOXINS IN FOOD COMMODITIES PRODUCED AND CONSUMED IN ANGOLA AND MOZAMBIQUE

Cláudio Matusse^{1,2}, Aritson Tolentino¹, Zeldá Lucamba³, Sandra Afonso³, Armando Venâncio⁴, João Bila⁵, Custódia Macuamule⁶,

Paula Rodrigues^{1,7} | prodrigues@ipb.pt

¹Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança (IPB), Campus de Santa Apolónia, Bragança, Portugal

²Eduardo Mondlane University, Escola Superior de Negócios de Empreendedorismo de Chibuto, Gaza, Mozambique

³Instituto Politécnico de Cuanza Sul, Sumbe, Angola

⁴CEB - Centre of Biological Engineering, University of Minho, Braga & LABELS – Associate Laboratory, Braga/Guimarães, Portugal.

⁵Eduardo Mondlane University, Faculdade de Agronomia e Engenharia Florestal, Maputo, Mozambique & Centre of Excellence in Agri-food Systems and Nutrition (CE-AFSN), Maputo, Mozambique.

⁶Eduardo Mondlane University, Faculdade de Veterinária, Maputo, Mozambique.

⁷Laboratório Associado para a Sustentabilidade e Tecnologia em Regiões de Montanha (SusTEC), IPB, Bragança, Portugal

Aflatoxins, the mycotoxins produced by molds from the genus *Aspergillus* sect. *Flavi* that infest food and feed commodities, are a pressing issue in most African countries and their presence has led to a surge in health problems and food insecurity. The lack of effective monitoring and control in the Portuguese-Speaking African Countries (PALOP) has resulted in the underestimation of these mycotoxins. The present work aimed to determine the occurrence of total aflatoxins (AFs) in several agricultural products – corn, beans, cassava flour, peanuts and rice – produced and consumed in the provinces of Cuanza Sul, Angola, and of Chongoene and Gaza, Mozambique. During 2023 and 2024, 236 samples (96 from Angola and 140 from Mozambique) were collected from local markets and analyzed for AFs using the lateral flow strip AgraStrip® Pro WATEX® (Romer) method. For Mozambique, 44% of all samples were positive for AFs (median=4.9 µg/kg). The highest incidence and contamination levels were found in corn, with all samples contaminated, ranging from the LOD to as high as 9200 µg/kg (median=26.9 µg/kg). Of these, 63% were contaminated above the Maximum Tolerable Limit (MTL) established by the Codex Alimentarius (15 µg/kg). AFs incidence in all

samples from Angola was 66% (median=1.25 µg/kg). Corn samples from this country showed a 96% incidence (median= 1.7 µg/kg, range LOD-82.3 µg/kg), but only 8% were above the MTL. The less contaminated commodity in both countries was cassava flour. For this crop, Angolan samples were all below the LOD, while Mozambican samples showed an AF incidence of 37% (median = 0.75 µg/kg), the highest level being 9.6 µg/kg. Considering the recommended MTLs, the aflatoxin contamination in crops produced and consumed in both countries is extremely high, mainly in corn, which constitutes the dietary basis for most people in the two countries, thus representing a significant public health risk and economic loss. Mozambique is particularly affected by this problem and, given the expected climate changes, the perspective is for its aggravation. Therefore, concerted efforts on mycotoxin control strategies are urgently needed.

Keywords: Mycotoxins, health risk, PALOP.