

# Accepted Manuscript

Assessment of mycotoxins types in some foodstuff consumed in Rwanda

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PII: S0956-7135(17)30501-7  
DOI: 10.1016/j.foodcont.2017.10.015  
Reference: JFCO 5824  
To appear in: *Food Control*  
Received Date: 20 July 2017  
Revised Date: 30 September 2017  
Accepted Date: 12 October 2017

Please cite this article as: Daniel Umereweneza, Théoneste Kamizikunze, Théoneste Muhizi, Assessment of mycotoxins types in some foodstuff consumed in Rwanda, *Food Control* (2017), doi: 10.1016/j.foodcont.2017.10.015

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## 1 **Assessment of mycotoxins types in some foodstuff consumed in Rwanda**

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### 6 **Abstract**

7 Occurrence and levels of mycotoxins from maize, peanuts and cassava flours consumed in  
8 Rwanda were determined. The assessed mycotoxins include aflatoxins, fumonisins, ochratoxin  
9 A, deoxynivalenol, zearalenone, T-2 toxin and patulin. Sampling of maize, peanut and cassava  
10 flours were randomly drawn from the markets in all four provinces of Rwanda and Kigali City.  
11 Mycotoxins occurrence and concentration in flours were assessed using High Performance  
12 Liquid Chromatography tandem Mass Spectroscopy (HPLC-MS/MS, Agilent). Results showed  
13 that aflatoxins are the most frequent in the analysed foodstuff flours with a frequency of 89%,  
14 100% and 33% in maize, peanut and cassava samples, respectively. The highest total  
15 concentrations of mycotoxins in maize flours were 16.8 µg/kg, 48.1 µg/kg and 3.7 µg/kg for  
16 aflatoxins, fumonisins and ochratoxin A, respectively. Those quantities reached a total  
17 concentration of 126.6µg/kg, 16.3µg/kg and 2.8 µg/kg, respectively in peanut flours, while in  
18 cassava flours concentrations of 2.7µg/kg and 3.7µg/kg for aflatoxins and ochratoxin A,  
19 respectively, were detected. Culture of detecting these mycotoxins at regular basis from foods on  
20 the markets and increasing awareness amongst consumers and vendors on the toxicity profile of  
21 mycotoxins should be instituted by concerned authorities to avoid both human and animal  
22 intoxication.

23 **Keywords:** Maize, Peanuts, Cassava, Flours, Chemical analysis, Mycotoxins, Rwanda

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