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An initial characterization of aflatoxin B1 contamination of maize sold in the principal retail markets of Kigali, Rwanda

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Abstract

Food security considerations have shifted in recent years, with the recognition that available food should also be nutritious and safe. There is a growing evidence base for contamination of maize and other crops by fungal toxins in the tropics and sub-tropics. As an initial snapshot of contamination by one of these toxins in Rwanda, Aflatoxin B1 (AFB1) was analyzed in 684 samples of maize flour collected in seven principal retail markets of Kigali and in 21 samples of animal feed from seven feed vendors. Two rounds of sample collections were carried out, the first in September 2014 and the second in January 2015. A questionnaire given to vendors was used to determine if gender and education level of vendors, origin of maize and awareness of aflatoxins had any significant effect on AFB1 level in collected samples. Enzyme-Linked Immunosorbent Assay (ELISA) and Immuno-affinity fluorimetry were used to analyze samples.

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