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## Optimal Management of Mycotoxins for Improving Food Safety and Trade of Maize in West Africa

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### Abstract

Mycotoxin-producing fungi can infect grains from pre-harvest in the field to post-harvest in the stores. In Benin and Togo (West Africa), aflatoxin levels in maize averaged five times the safe limit in up to 30 % of household grain stores. As a result, farmers and consumers are being exposed to high levels of aflatoxins and other mycotoxins. Studies have shown that 99 % of fully weaned children had nearly 2-fold higher aflatoxin-albumin adduct levels compared to those breast-fed. The International Institute of Tropical Agriculture (IITA) recognises mycotoxins as an important constraint to improving human health and well being of African people and enhancing African trade internationally.

Based on past work by IITA and its collaborators, several pre- and post-harvest strategies are being developed and tested to reduce risks of aflatoxin and fumonisin contamination. These strategies include the use of resistant and/or tolerant varieties, biological control, appropriate postharvest handling (sorting, cleaning, drying, good packaging, application of hygiene, use of appropriate storage systems, appropriate transportation means), awareness and sensitisation on the impact of mycotoxin contamination on human, animal health and trade, promotion of management practices that reduce mycotoxins in food products and the use of appropriate pesticides on food products during storage. Appropriate technologies for processing food in rural areas and their efficacy in reducing toxin contamination are being evaluated. Work continues to focus on food basket surveys, bio-ecology of aflatoxin production, biological control through competitive exclusion strategy, and resistance breeding. Furthermore, strategies to reduce impact of mycotoxin on regional and international trade need investigations.

**Keywords:** Food safety, maize, management, mycotoxins, trade