Adaptation and mitigation options to manage aflatoxin contamination in food with a climate change perspective - DTU Orbit (01/01/2019)

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Understanding the impact of climate change remains vital for food safety and public health. Of particular importance is the influence of climatic conditions on the growth of Aspergillus flavus and production of their toxins. Nevertheless, little is known about the actual impact of climate change on the issue. Setting up of relevant measures to manage the impact has therefore become a daunting task especially in developing nations. Therefore, this study aimed at providing adaptation and mitigation options to manage this risk with a special focus on Kenya where cases of aflatoxicosis have been recurrent.

We used a systematic literature review of review and research articles, with limited searching but systematic screening to explore available qualitative and quantitative data. Projections from the data, showed that on average, a 58.9% increase of aflatoxin contamination in the Central and Western parts and a decrease of 44.6% in the Eastern and Southern parts is expected but with several possible scenarios. This makes the impact of climate change on aflatoxin contamination in Kenya complex. To protect the public and environment from the negative impact, a regulatory framework that allows for an integrated management of aflatoxins in a changing climate was proposed. The management practices in the framework are divided into agronomic, post-harvest and institutional levels. Given the multiple points of application, coordination amongst stakeholders along the chain is fundamental. We therefore proposed a complimentary framework that allows the food safety issues to be addressed in an integrated manner while allowing for transparent synergies and trade-offs (in implementing the measures). A policy-oriented foresight should be carried out to provide policy based evidence for the applicability of the proposed adaptation and mitigation measures.

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