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Networking on Aflatoxin Reduction in the Food Value Chain - Aflanet

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Abstract

Aflatoxins are naturally occurring, potent fungal toxins in maize and other cereals, spices, herbs and nuts, which are declared responsible for stunting in children and may poison humans and animals even at low concentrations. The frequent occurrence of aflatoxin in food and feed, especially under sub-Saharan climatic conditions, is related to enormous economic losses in the African countries and has a great impact on food safety. Despite the still relevant gain of knowledge and tremendous efforts of the scientific community, the aflatoxin problem has not been solved yet.

The design of the presented project founded by the German Ministry of Food and Agriculture in 2016 is built as an initial study that is planned to be followed by a more intensive, overall collaborative project with European and African partners. The goal of the AflaNet project is to establish a long-term network between scientific and development partners in Kenya/East Africa and Germany to transfer knowledge for reducing aflatoxins in the food value chain. Scientific results have been gathered within the project

- by conducting a carry-over study of aflatoxin into milk,
- about verifying aflatoxin rapid tests and
- to set up molecular methods ensuring the control of fungal contamination.

Information about the extent to which aflatoxins are transferred from the feed into the milk and what content can be found in yogurt and cheese, will be presented. This information is of great importance, because it is not an unusual strategy of farmers feeding their cattle with moulded maize unsuitable for food and consuming the contaminated milk in the diet. In addition it is desirable that less trained persons (such as farmers) should be able to detect aflatoxins simply, quickly and safely in order to ensure the harvested maize (or milk) are of no health concern. Furthermore, improved methods will be reported to determine the conditions which lead to aflatoxin formation, to monitor the growth of *Aspergillus flavus* and to obtain knowledge about the physiology and the behaviour of the fungus.

Keywords: Aflatoxin B1, Aflatoxin M1, Africa, *Aspergillus flavus*, carry-over, food safety, fungal contamination, maize, milk, mould, mycotoxin, PCR, rapid test

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