

FoodAfrica - Reducing Risk of Mycotoxins

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Mycotoxins

- Produced by moulds and fungi
- Formed in susceptible grains, such as maize and sorghum
- Health risk for humans and animals
- Cause acute poisoning or chronic diseases, including cancer
- Can be transferred to humans through milk and dairy products

Aflatoxins

- One of the most toxic mycotoxins
- Contaminate almost one quarter of global food and feed output
- Each year over 4.5 billion people are at risk of chronic exposure
- Sub-Saharan Africa is especially vulnerable to mycotoxins because of the climate conditions
- Climate change may further aggravate the situation



FoodAfrica PhD students from left: Anima Sirma, Daniel Mugangai and Sara Ahlberg

Europe Day 2015

FoodAfrica - Three research approaches

Integrated risk and economic assessment of the Kenyan feed dairy chain

- Screen for the presence of aflatoxins in the foods and feeds in the Kenyan dairy value chain
- Assess the direct market costs of aflatoxins in the Kenyan dairy value chain



- Assess the human health costs of aflatoxins in the Kenyan dairy value chain
- Suggest economically viable and socially acceptable mitigation strategies that could be followed to avoid/reduce aflatoxin contamination.

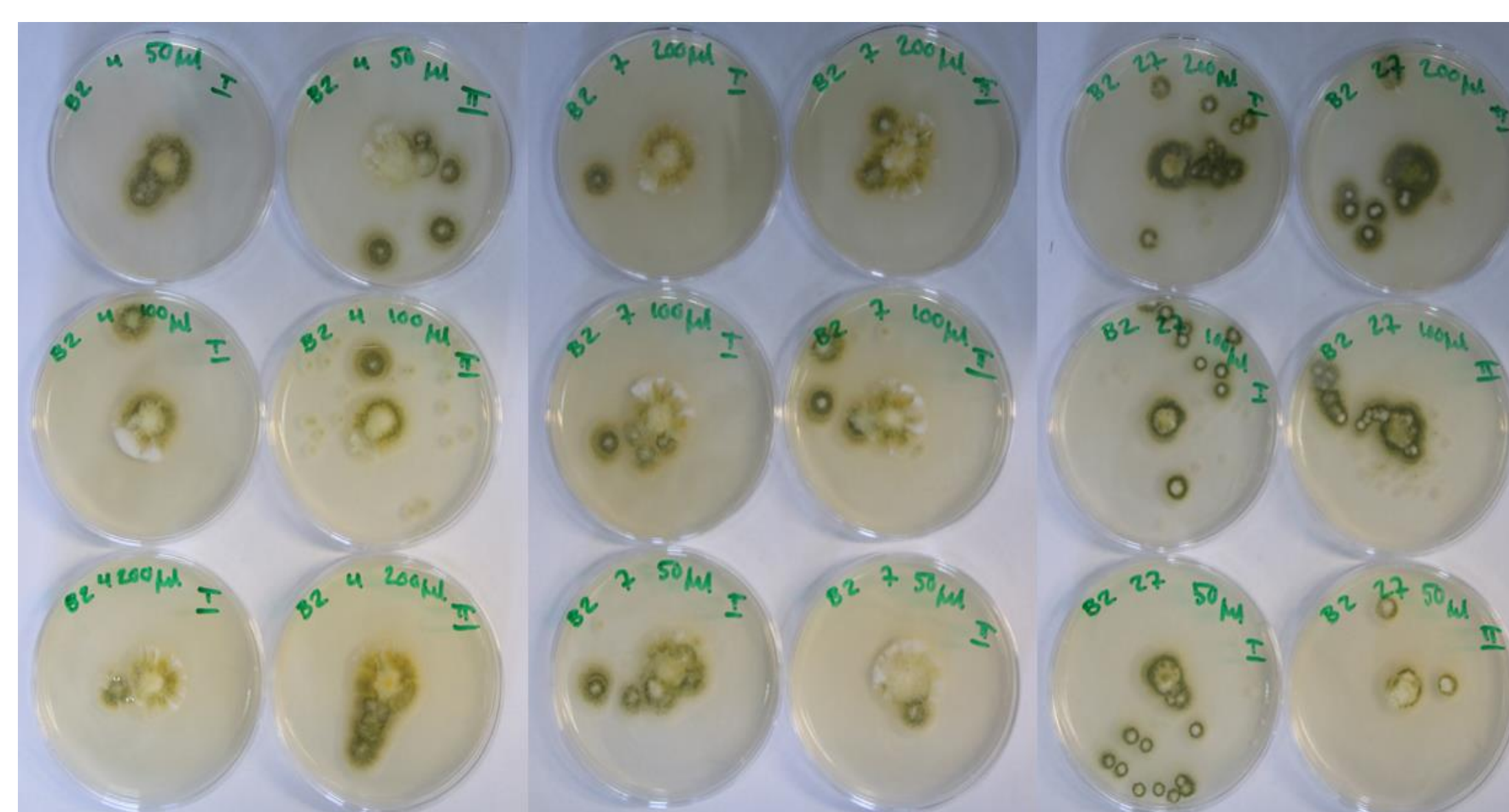
Investigation of technologies and strategies to reduce mycotoxins risk in the feed-dairy chain

Use indigenous **lactic acid bacteria (LAB)** strains from naturally fermented food products to:

A) Bind aflatoxins

Aflatoxin induced risks could be minimized by LAB which carry aflatoxins through the gastrointestinal tract

B) Inhibition of fungal growth



Impact assessment of a package of post-harvest strategies for reducing aflatoxins in maize



- Test impact of access to a mobile maize dryer on aflatoxin contamination in farmers' stored maize through an RCT
- Assess farmers' willingness to pay for the drying service
- Explore options for sustainable delivery of drying services, including paying farmers a premium for aflatoxin-safe maize

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