Management of Mycotoxins Contamination in Maize Grains

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Maize grain utilization @ Nestlé

Global maize utilization is approximately 1,435,000 tons (approximately 1% of global maize production).

- Maize utilization in Africa is approximately 50,000 tons
- Maize is generally sourced as whole grains and milled in-house
- Maize is utilized in several products
Aflatoxin management @ Nestlé

- Our acceptance limits for Aflatoxins in Maize used for the production of all family cereals is 4 µg/kg.
- Our acceptance limits for Aflatoxins in liquid milk is 0.025 µg/kg and milk powder is 0.05 µg/kg.
Management of Aflatoxins in Grains

Partnerships
- Government
- Universities
- International research institutes
- NGOs
- Farmers

Science & Technology
- Variety selection*
- Grain sorting technology
- Biological control*

Training
- Good farming practices
- Good post-harvest management practices

* Field trials in collaboration with International Institute for Tropical Agriculture (IITA)
Continuous reduction of Aflatoxins in Maize

2007

Grains Supplied

50 %

Accepted < 4 µg/kg

50 %

2016

Grains Supplied

96 %

Accepted < 4 µg/kg

Cleaning & Sorting

99.8% reduction in total aflatoxin contamination

Storage & Pest Control

50 %

Training & Demonstration

4 %
Grain sorting technology

135 µg/kg → 2 µg/kg

98% reduction in total aflatoxin contamination
Testing for Mycotoxins @ NQAC Abidjan

- Advanced Accredited Analytical Laboratory
- P-Test participation
- Multi-Mycotoxins Analysis
- LC-MSMS

Nestlé Quality Assurance Centre Abidjan, Côte d’Ivoire
Challenges!

- Absence of harmonized & enforcable norms for mycotoxins in grains.
- Absence of data on the presence of other mycotoxins in grains.
- Alignment of sampling protocol and analytical methods alignment.
- Absence of data on ‘masked’ mycotoxins in grains.
- Low uptake of proven technologies (e.g. Mechanical sorting).
- Absence of data on the impact of climate change on mycotoxins contamination in grains.
Thank you!

Any Question?