

Development of a multi-mycotoxin maize reference material for PTS and certification

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Your measure of excellence

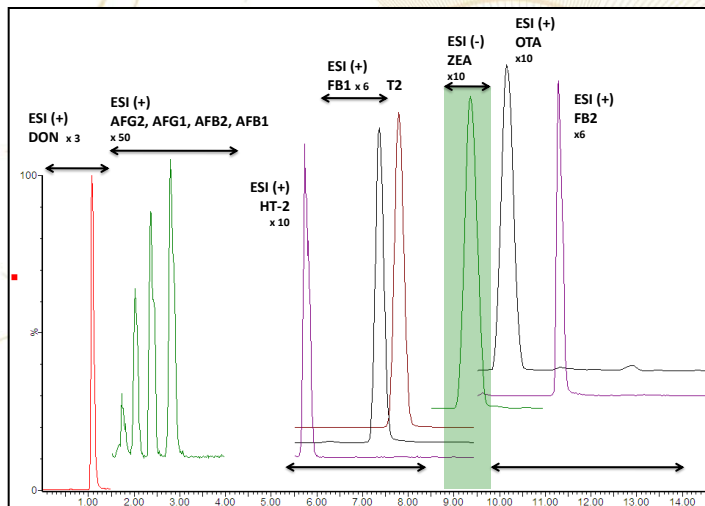
NMISA mycotoxin project

- Survey
- Traceable reference measurement
 - Proficiency testing scheme
 - Reference materials
 - Certified Reference Material
- Quality assurance – quality control
- Continued demonstration of competence
- Accuracy determination – method validation
- Comparability

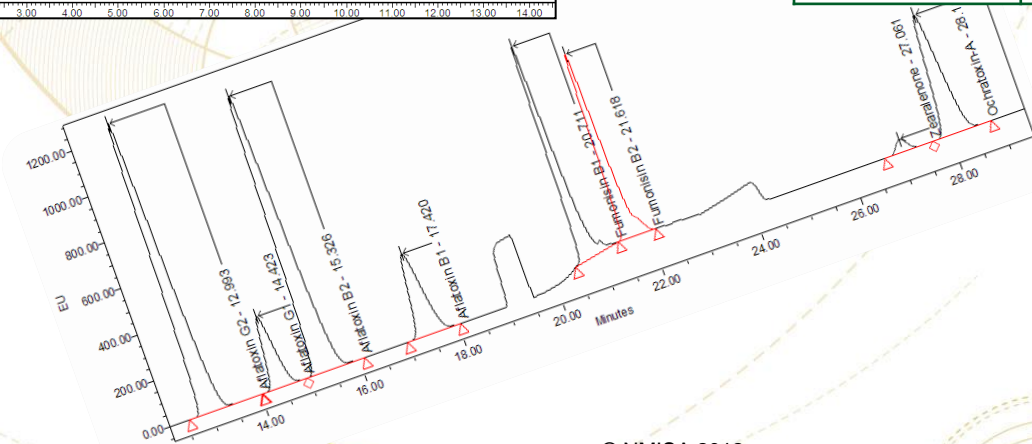


Challenge is for multiple mycotoxins in maize

Current trend involves analysis of multiple analyte classes in one extract-one analysis



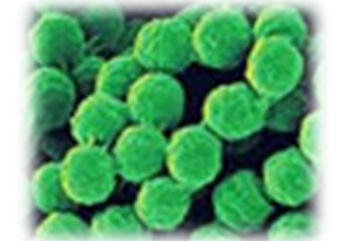
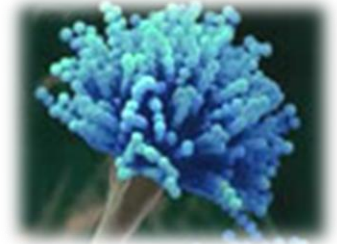
AFB1	DON	HT2
AFB2	ZON	T2
AFG1	FB1	OTA
AFG2	FB2	



Feasibility study

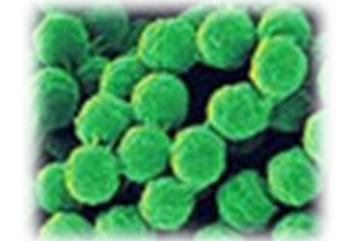
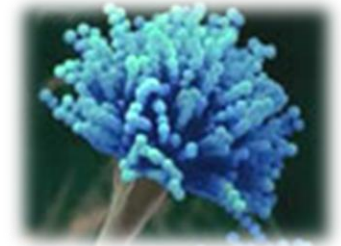
Sourcing and processing material

- Milling(<0.5 mm, 95%)
- Spiking (x)
 - Inhomogeneity
- Blending to target analytes and concentrations ($\sqrt{\quad}$)
 - Particle size distribution
 - Agglomeration
- Drying
- Packaging
 - Aluminium coated polypropylene under Ar/ N₂
- Sterilization (γ -irradiation 15kGy)



Feasibility study

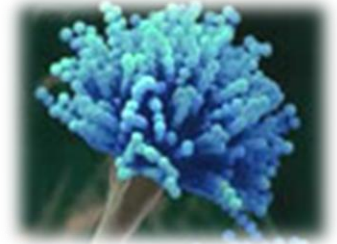
- Characterization
 - Water activity(a_w)
 - Water content
 - Particle size distribution
 - Value assignment of mycotoxin content
 - Interlaboratory comparisons
- common calibrants*
- Homogeneity
 - Stability (isochronous)
 - Storage
 - Transportation
 - Short-term; long-term studies



Assistance

Candidate Reference Material

- Sourcing “blank” maize materials
- Sourcing contaminated maize materials
 - At least 5 kg (preferably 10 kg)
 - 6 months -1 year
- Processing (SAGL)
- For γ -irradiation (NECSA)
- Participants in ILC (commercial, R&D)
- Expert committee nominations
 - Review processing and data integrity
- NMISA PhD bursary (PDI)



Thank you

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