



Bringing Scientific and Technical resources to the African Continent (NITA/TRN/875)

**QUANTITATIVE DETERMINATION OF AFLATOXIN (B1, B2, B3, G1&G2) IN
FEED STUFFS, CEREALS AND PEANUTS & MILK (25th – 29th Sept 2023)**

Course Overview:

Validated method for determination of four major aflatoxin B1B2G2G2 will be adopted using high precision detection techniques for quantification i.e. TLC, HPLC-FLD and LC-MS. Participants will be undertaken through the principles of sampling, sample preparation, clean up, Hazards, safety precautions and testing

Who is this course for?

This course is ideally tailored towards either the experienced user who is looking for a refresher course, or towards a new user who is looking for an introduction to the analytical technique for Aflatoxin analysis.

Previous knowledge

Background knowledge of TLC, HPLC or Mass Spectrometry may be useful but not necessary, as all the essentials are covered in the course. Previous experience using TLC, HPLC-FLC & LC-MS equipment can be beneficial.

ANNEX

- **SCOPE & FIELD APPLICATION**
- **REFERENCES**
- **PRINCIPLE**
- **HAZARDS**
- **SAFETY & PRECAUTION IN TESTING**
- **REAGENTS AND APPARATUS**
- **SAMPLING & SAMPLE PREPARATION**
- **QUALITY CONTROL CHECKS**
- **PROCEDURE FOR SPIKING SAMPLES**
- **METHOD FOR CALCULATION**
- **VALIDATION OF LOD/LOQ**



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Day	Morning	Afternoon
Day One	Welcome and opening remarks Opening Remarks <ul style="list-style-type: none"> • Introduction of facilitators and meeting participants • Objectives of the training, expected outcomes and review of the agenda Introduction <ul style="list-style-type: none"> • Principles of Aflatoxin analysis • Principles & operation of TLC,HPLC&LC-MS 	Laboratory session <ul style="list-style-type: none"> • Sampling • Sample preparation, reagents and apparatus • TLC Set up • UV light set up • HPLC-FLD • LC-MS
Day Two	Sample preparation techniques overview <ul style="list-style-type: none"> • For TLC • For HPLC • For LC-MS • Post Column derivatization • Pre Column 	Laboratory session <ul style="list-style-type: none"> • Preparation of Cereals sample • Preparation of feeds samples • Preparation of peanuts samples • Sample preparation of Milk Samples • Clean up procedure
Day Three	Calibration methods& Preparation of standard working solutions <ul style="list-style-type: none"> • Internal standard • Standard addition • Calibration curve Use of quality controls <ul style="list-style-type: none"> • Internal QCs – spiking, HRM, replicate testing • External QCs – CRM, PTs, ILC 	Laboratory session <ul style="list-style-type: none"> • Preparation of standards • Preparation of QCs • Method development • Sample analysis using TLC • Sample analysis by LC-MS
Day Four	Interferences & Validation of uncertainty <ul style="list-style-type: none"> • Matrix interferences • interferences Data analysis <ul style="list-style-type: none"> • Results comparison 	Analysis of data & Calculation of concentration Method Validation
Day Five	(Discussion)	Course overview Conclusion & Certificate presentation
Dates: 25th – 29th Sept. 2023 Deadline 11th Sept. 2023	Cost; Ksh. 81,200.00 or USD 812.00 Per person	Nairobi