

Pesticide Analysis Winter school

Supporting sustainable agricultural practices, ecosystem health and exports through accurate measurement.



nmisa
training centre

The agricultural sector is a major contributor to the gross domestic product (GDP) as well as total employment of many African Countries. To place exports in context, the value of edible fruits and nuts from Africa to the European Union represent a € 43 billion market.

Agricultural products to be sold for human or animal consumption are governed by local and international legislation stipulating MRLs for pesticides. Therefore, accurate quantification of these compounds is not only crucial in safeguarding human and animal health but also in securing exports.

The aim of this summer school will be to empower attendees with a broad background in pesticide analysis, as well as **hands-on experience in the extraction, purification, and quantification.**

This will range from legislative requirement, the implementation of decision rules, as well as **the analysis process from intake to reporting.**

Limited space available,
maximum of ten
participants - register now!

JOIN OUR PESTICIDE
ANALYSIS JOURNEY

From the farm to market
– how to ensure analysis
supports industry.

08 July – 19 July 2024

An informative workshop
aimed at anyone interested
in the analysis of pesticides
in food matrices.



AFRIMETS
Intra-Africa Metrology System
Système Intra-Africain de Métrologie



The AFRIMETS initiative supported by



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DEUTSCHE ZUSAMMENARBEIT



PTB Physikalisch
Technische
Bundesanstalt

Visit www.nmisa.org or contact us
on +27 12 947 2780 for more information.

Excellence through measurement
Opening the doors to Africa and beyond

WEEK 1

DAY 1 : Regulations and Legislation	DAY 2: Fundamental Laboratory techniques	DAY 3: Calibration	DAY 4: Sampling, extraction and purification	DAY 5: Extraction and purification in the lab
<ul style="list-style-type: none"> • Introduction • The regulatory environment • African agriculture in perspective • Maximum residue levels • How to adapt to the export market • Codex Alimentarius: Recommended methods of sampling 	<ul style="list-style-type: none"> • Good weighing practice • Care and effective use of pipettes • General calculations for the preparation of calibration solutions • General quantification calculations • Introduction to performing these calculations in Excel 	<ul style="list-style-type: none"> • Preparation of calibration spreadsheets • Preparation of calibration standards • Preparation of calibration curve • Successful pesticide analysis: The measurement procedure 	<ul style="list-style-type: none"> • Extraction techniques commonly used for pesticide analysis • Purification- improve you LOD/LOQ • Theory of QuEChERS • Adapting the QuEChERS technique to suit your matrix and analyte 	<ul style="list-style-type: none"> • Preparing the raw fruit for analysis • Sample preparation • QuEChERS extraction • QuEChERS purification



Finding a course that is right for you

The NMISA Training Centre is committed to building measurement capacity in Africa. The centre has a number of courses that may meet your training needs, from personnel at the beginning of their careers to those wanting to develop advanced skills. Please visit our website www.nmisa.org for more information or contact us at training@nmisa.org or call +27 12 947 2461.

We are with you every step of the way

- The NMISA provides an extensive suit of products and services to meet your laboratory's needs. This includes but is not limited to consultation services that spans the entire lifetime of your laboratory from design to implementation.
- Training in method development; validation and uncertainty.
- Providing calibration, proficiency testing and reference materials to assist your laboratory in meeting quality control and assurance objectives.



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WEEK 2



DAY 1: Chromatographic analysis

- Combining the analytical strength of liquid and gas chromatography
- What to consider when procuring an instrument
- Improving your separation
- Analytical quality control and method validation considerations

DAY 2: GC-MS/MS analysis

- Analytical quality control and method validation considerations
- Setting up the GC-MS/MS
- Analytical Quality Control
- Sample lists
- Data Processing
- Trouble shooting based on GC data

DAY 3: LC-MS/MS analysis

- Setting up the LC-MS/MS
- Analytical Quality Control
- Sample lists
- Data Processing
- Trouble shooting based on LC data

DAY 4: Data analysis

- Calibration curves
- Mass conversions and dilution factors
- Setting up analytical reports
- Introduction to decision rules
- How the decision rule should be applied in the laboratory

DAY 5: Experimental Design and Quality

- Experimental design towards validation
- Course evaluation
- Q&A session

Finding Proficiency Tests that suit your needs

The NMISA is an ISO/IEC 17043 accredited proficiency testing service provider with accreditation in the following fields: Food Testing (chemical additives, residues, and nutritional content); Water Testing (Chemical contaminants and residues) and Forensic Testing (forensic level alcohol, forensic preservatives and breath alcohol).

We are with you every step of the way

To support your measurement quality control and quality assurance objectives, the NMISA has released several reference materials and certified reference materials. These materials where possible originate from within the African Continent, to ensure compatibility with the samples routinely measured in your laboratory. Reference materials currently available include mycotoxins (analytical standards as well as naturally incurred materials such as maize flour and peanut slurry), forensic blood alcohol analysis analytical standards, matrix materials for nutritional content, nutritional and toxic elements as well as pesticides. Please visit our on-line store for available products and pricing www.store.nmisa.org



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