

# FOOD AUTHENTICITY TESTING BY NUCLEAR MAGNETIC RESONANCE (NMR TRAINING)

17th - 21st  
APRIL 2025

Food authenticity testing using Nuclear Magnetic Resonance (NMR) is a powerful technique to verify the composition and quality of food products. NMR spectroscopy can be applied to analyses the chemical composition of food items, including the identification and quantification of various components. Here is a general overview of how NMR can be used for food authenticity testing, along with some key considerations for sampling analysis:



Day 1	17-04-25	EVENTS
09.00 – 09.30 am		<b>Registration and Climate Setting</b>
09.30 – 10.00 am		Overview and introduction to NMR
10.00 – 10.30 am		<b>TEA- BREAK</b>
10.30 – 12.30 p.m		How to Utilize a high-resolution NMR spectrometer
12-30 – 14.00 p.m		<b>LUNCH - BREAK</b>
14.00 – 16.00 p.m		<ul style="list-style-type: none"> <li>NMR Instrumentation &amp; Calibration the instrument for accuracy</li> <li>Choice of the appropriate NMR probe (solid/liquid).</li> </ul>

Day 2	18-04-25	EVENTS
9.00 – 10.30 am		How to obtain representative samples from various sources
10.30 – 11.00 am		<b>TEA- BREAK</b>
11.00 – 12.30 p.m		1. Sample Collection & How to Ensure an adequate sample size <ul style="list-style-type: none"> <li>• Sample preservation and how to store samples to prevent degradation</li> </ul>
12-30 – 14.00 p.m		<b>LUNCH - BREAK</b>
14.00 – 16.30 p.m		2. Sample Preparation & Homogenization

Day 3	19-04-25	EVENTS
9.00 – 10.30 am		Extraction compounds if necessary
10.30 – 11.00 am		<b>TEA- BREAK</b>
11.00 – 12.30 p.m		Drying samples to reduce interference (if applicable)
12-30 – 14.00 p.m		<b>LUNCH - BREAK</b>
14.00 – 16.30 p.m		How to Select the appropriate NMR experiments

Day 4	20-04-25	EVENTS
9.00 – 10.30 am		High Resolution NMR analysis for Coffee Adulteration ( <b>Practical's</b> )
10.30 – 11.00 am		<b>TEA- BREAK</b>
11.00 – 12.30 p.m		Honey Adulteration ( <b>Practical's</b> )
12-30 – 14.00 p.m		<b>LUNCH - BREAK</b>
14.00 – 15.30 p.m		<ul style="list-style-type: none"> <li>• Non-alcoholic beverages Adulteration analysis (<b>Practical's</b>)</li> <li>• High Resolution NMR Meat Adulteration analysis (<b>Practical's</b>)</li> </ul>

Day 5	21-04-25	EVENTS
9.00 – 10.30 am		<ul style="list-style-type: none"> <li>• Data Acquisition</li> <li>• Process NMR data through Fourier transformation, baseline correction, and phasing</li> </ul>
10.30 – 11.10 am		<b>TEA- BREAK</b>
11.00 – 12.30 p.m		<ul style="list-style-type: none"> <li>• Interpret NMR spectra to identify and quantify compounds</li> <li>• Compare acquired data to reference spectra and databases.</li> <li>• Apply statistical analysis and multivariate methods for authenticity assessment</li> </ul>
12-30 – 14.00 p.m		<b>LUNCH - BREAK</b>
14.00 – 15.00 p.m		Directors speech and issue of certificates



Deadline: 10th April 2025

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**APRIL 2025**

Cost Kes. 92,800.00  
or USD 928.00

**NAIROBI**

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