



More information may be found on  
<http://www.eac-quality.net>.  
 Participation is open to all interested laboratories  
 in- and outside EAC.

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## East African Community (EAC) Proficiency Testing Scheme



*Information brochure*

## What is proficiency testing?

Proficiency Testing is evaluation of participant performance against pre-established criteria by means of interlaboratory comparisons (ISO/IEC 17043:2010).

## Why proficiency testing?

The demand for independent proof of competence from the regulatory bodies and customers means that Proficiency Testing (PT) is relevant to all testing laboratories in all countries. Hence, it is a requirement of accreditation to ISO/IEC 17025 that the laboratories take part in a proficiency testing scheme, if a suitable scheme exists. Thus, together with the use of validated method, PT is an essential element of laboratory quality assurance.

Regular participation in a proficiency testing scheme provides independent verification of the analytical competence of a laboratory and shows a commitment to the maintenance and improvement of its performance. It demonstrates to the public, customers, accreditation bodies, regulators and management that analytical procedures are under control, and gives analysts confidence that the service which they render withstands scrutiny.

The cost of participation in a PT scheme gives good value for money compared with the consequences of producing inaccurate results which might put the public health at risk, damages a company's reputation, loss of profit, or contravene national regulations.

## How does a proficiency testing scheme operate?

Proficiency Testing (PT) schemes operate by providing participating laboratories with similar samples for concurrent testing. The laboratory analyses the samples, preferably as part of its normal routine, and reports the results to the PT providers. The laboratory is then provided with the report showing how closely their results agree with the accepted values, and where necessary, can then take appropriate actions to improve performance.

All participating laboratories are coded for confidentiality purposes.

## Why EAC proficiency testing scheme?

The primary aim of the EAC Proficiency Testing Scheme is to provide a quality assurance tool to laboratories in the region and to compare performance and take remedial action where necessary to facilitate improvement. Participation in this PT should therefore lead to a higher standard of performance for these types of measurements. This scheme focuses on improving laboratory-testing capabilities with an aim of producing accurate and reliable results that can be respected and trusted within and beyond the borders of the EAC region. This will help the region to become competitive in trade.



## Scheme design

The present rounds, which are supported by PTB of Germany, comprise of samples of wheat flour, edible salt and edible vegetable oil that are provided by the Kenya Bureau of Standards (KEBS), Tanzania Bureau of Standards (TBS), and Uganda National Bureau of Standards (UNBS) respectively.

### Edible common salt

*Analytes:* Cl<sup>-</sup> as NaCl, Ca, Mg, Iodate as I, SO<sub>4</sub><sup>2-</sup>, Moisture  
*Provider:* Tanzania Bureau of Standards (TBS)

### Wheat flour

*Analytes:* Moisture content, Crude protein, Total ash content, Acidity, Crude fat content, Crude fiber.  
*Provider:* Kenya Bureau of Standards (KEBS)

### Edible vegetable oil

*Analytes:* Peroxide Value, Acid Value, Moisture and volatiles content, Iodine Value, Refractive Index, Relative Density, Copper content, Nickel content, Iron content  
*Provider:* Uganda National Bureau of Standards (UNBS)

## Reporting and assessment

The test results are transformed into performance statistics to aid interpretation and allow comparison. These will involve statistical analysis of results, using robust statistical methods according to ISO 13528. The z-score for each result is tabulated and then summarized for each laboratory.