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# **Nutritional Labelling Proficiency testing schemes 2020-21**

## **NMISA-PT-58 Sugar content determination in iced tea**

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## 1 FOREWORD

This is the call for participation in the NMISA proficiency testing (PT) scheme for the determination of sugar content in fruit concentrate. Participants will be required to report on all parameters which form part of their routine laboratory services. A confidential report will be issued to all participants after completion of the PT scheme. Information on the parameters included in this PTS round as well as dates for registration, distribution and reporting are listed in Table 1.

This forms part of a range of PT scheme services offered by NMISA. Please consult our website [www.nmisa.org](http://www.nmisa.org) for more information. NMISA can also assist with the preparation of traceable gravimetrically prepared spike solutions for benchmarking *ad-hoc* analyses for which commercial PT schemes are not available.

## 2 SCHEME AIMS

This scheme will assist laboratories that routinely analyse sugars to monitor their laboratory performance. This covers aspects such as the accuracy and comparability of measurement results produced; the continued competency of analytical staff and the maintenance and effectiveness of the current quality assurance systems within the laboratory. In addition, this information may also be used to provide accreditation bodies or clients with objective evidence of laboratory performance.

## 3 PARTICIPATION FEES AND ADDITIONAL CHARGES

The cost of participation in each of the PT schemes is R 2 000. This rate excludes costs associated with delivery (0% VAT, please note that we are not a VAT registered company). This fee includes the materials and a confidential report upon completion. Upon registration for participation an official quotation will be provided.

Since many of the South African participants are located within proximity to NMISA, the option of collecting the PT scheme samples directly from NMISA premises is permitted.

***International laboratories will have test samples sent by courier and appropriately packaged to maintain sample integrity. International participants must provide NMISA with any import or quarantine permits that might be required to complete sample delivery well in advance of the shipment date and are liable for any customs or import duties charged.***

## 4 PT SCHEME DESCRIPTION

The timelines for the PTSs is presented in Table 1. Laboratories are requested to report results for as many of the parameters specified as possible, to allow for maximum benefit to be obtained from the participation. This study is designed to support laboratories routinely performing sugar measurements. The levels of the analytes should be easily achievable using analytical methods typically applied. Instructions for proper handling and storage of the samples prior to sample preparation will accompany the PT scheme samples. Participants should adhere to these instructions to ensure sample integrity.

Table 1: PTS details for NMISA-PT-ORG58 sugar in iced tea

NMISA-PT-ORG58 Sugar content determination in iced tea		Sample format	Distribution/Dispatch	Result reporting
Parameters	<p><b>Sugars (g/100 g):</b> Glucose, fructose, sucrose, galactose, lactose and maltose (where applicable) at levels typically found in iced tea</p> <p>Total sugar (by Brix test or HPLC analysis)</p>	50 - 100 mL iced tea concentrate	Feb 2021	Mar 2021
Result Reporting	<p>Participants will be required to perform the analysis using their normal laboratory procedures, and required to report <b>two results for all selected parameters measured</b></p> <p>Participants are encouraged to include an uncertainty estimate for each result obtained. The result reporting form will be distributed to participants and will request additional information on the measurement technique and instrument parameters, any recovery correction application, calibrants used etc.</p>			
PT conduct	<p><b>Assigned value</b> The assigned values for the individual sugars will be the gravimetric preparation values, supported by LC-RI homogeneity analysis by the NMISA Organic Analysis Laboratory. The assigned value for the total sugar content will be derived by consensus*, determined from participant results in accordance with ISO 13528:2017 statistical principles.</p> <p><b>Laboratory performance</b></p> <ul style="list-style-type: none"> <li>Laboratory performance will be evaluated using the z-score</li> </ul> <p><b>Standard deviation of proficiency assessment</b></p> <ul style="list-style-type: none"> <li>Where applicable, the standard deviation for proficiency assessment will be in accordance with the tolerances stipulated in section 3 of Guideline 5 referred to in the South African regulations related to food labelling (R146).</li> <li>The Horwitz model to estimate a standard deviation that can typically be expected as the standard deviation of participant results will be included in the final PT report for reference.</li> </ul> <p><b>PT report</b></p> <ul style="list-style-type: none"> <li>The PTS report will be distributed within 1 week following the result submission deadline. Reports will be provided in electronic format only (Adobe Acrobat- pdf) files.</li> <li>The scheme is fully confidential. Each participant will be issued with a unique identification number. For multiple participants within the same laboratory the participating laboratory is required to identify its analysts by a code known only to the laboratory.</li> </ul>			

*\*consensus values can only be determined if a minimum of 10 results are received for the specific parameter*