INSTRUCTION FOR SENSOR TESTING

	Ime i prezime	Funkcija	Datum	Potpis
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1. SUBJECT AND SCOPE OF APPLICATION

This document provides the necessary explanations for the application of MEST EN ISO/IEC 17025:2018, General Requirements for the Competence of Testing Laboratories, in the accreditation process of laboratories conducting sensory testing.

The document complements MEST EN ISO/IEC 17025 by providing essential guidelines for both the assessors of the Accreditation Body of Montenegro (ATCG) and laboratories engaged in sensory testing. This document is based on EA-4/09, Accreditation for Sensory Testing Laboratories, which was developed by the Food Working Group of the Laboratory Committee of the European co-operation for Accreditation (EA LC). It serves as a tool to facilitate laboratories conducting sensory testing in aligning with accreditation requirements by enhancing their understanding of the provisions of both accreditation standards and sector-specific standards, where applicable.

2. ABBREVIATIONS AND DEFINITIONS

2.1 ABBREVIATIONS

MEST – Crnogorski standard
EN – Evropski standard
ISO/IEC – Međunarodne organizacije za standardizaciju

2.2 DEFINITIONS

Basic tests: Any of the inherent taste tests: sour, bitter, salty, sweet.
NOTE: Other tastes that can be classified as basic include alkaline and metallic.
Bias: Systematic error, which can be either positive or negative.
Classification: A method of sorting into predefined categories.
Confidence interval: The range within which the value of the tested parameter falls with a 95% confidence level.
Consumer: Any person who uses a product.
Stimulus threshold, detection threshold: The smallest value (amount) of a sensory stimulus required to produce a sensation. This sensation does not have to be identified.
Difference test: Any testing method that involves sample comparison.
Differentiation, discrimination: The act of qualitatively and/or quantitatively perceiving differences between two or more stimuli.
Duo-trio test: A difference testing method in which a control sample is presented first, followed by two samples, one of which is identical to the control. The evaluator must identify the identical sample.
Sorting: A general term referring to the following methods: ranking, classification, rating, and scoring.
Hedonic: A preference-based assessment in the "like – dislike" format (in organoleptic evaluation of food).

Unpleasant odor and taste: An atypical odor and taste, usually resulting from spoilage and decomposition of a product.
Unpleasant odor (odor defect): An atypical odor, usually resulting from spoilage and decomposition of a product.
"Paired" test: A procedure in which samples are presented in pairs to be compared based on a specific criterion.
Panel: A group of assessors selected to participate in sensory testing.
Panel leader: A person whose primary duties include managing panel activities, selecting, training, and monitoring assessors. This person may also design and conduct sensory tests, analyze, and interpret data. The panel leader may be assisted by one or more technicians.
Panel technician: A person who performs operational functions by assisting the panel leader or sensory analyst in conducting sensory tests, including carrying out necessary preparatory measures before testing and post-testing activities such as waste disposal.
Perception: Awareness of the effect of one or more sensory stimuli.
Acceptance test: A test used to evaluate the acceptability of two or more samples.
Basic tastes: Each distinct characteristic taste: sour, bitter, salty, sweet, alkaline, metallic, and "umami" (glutamate).
Product: An edible or non-edible substance that may be subject to sensory testing.
Quantitative descriptive test: A profile analysis using descriptive terms to evaluate sensory attributes of samples. The intensity is measured.
Qualitative sensory analysis: Description of the sensory attributes of a product.
Quantitative sensory analysis: Measurement of the determined quantity of each attribute of a product.
Questionnaire: A form containing a set of questions designed to collect information.
Ranking: A classification (sorting) method in which a series of samples is arranged in order of intensity or degree of a specific attribute. This process is ordinal, and the exact difference between samples is not considered.
Rating: A classification method based on categories, each assigned a specific position on an ordinal scale.
Reference: A substance that is not a part of the sample but is used to define an attribute or a specific level of a given attribute.
Repetition: The procedure of evaluating a sample multiple times.
Sample: A type of product. A single unit for evaluation.
Scoring: A method of testing a product or its attributes by assigning scores.
Scaling: The process of assigning a position within a scale.
Screening, triage: A preliminary selection procedure.
Sensory (perceptual): Related to the use of sensory organs.
Sensory analysis: Testing of the sensory attributes of a product using the senses.
Sensory analyst: A person who performs scientific and professional functions, supervises one or more panel leaders, designs and conducts sensory tests, and analyzes and interprets results.
Sensory assessor: Any person participating in sensory testing.

Sensory fatigue: A form of sensory adaptation in which reduced sensitivity occurs. Sensory adaptation is a temporary modification of the sensory organ's sensitivity due to continued and/or repeated stimulation.
Subjective method: A method in which the subjective effect is not minimized.
Spoiled (foreign, unpleasant): An atypical odor and/or taste of a product.
Triangle test: A method used to examine differences, involving the simultaneous presentation of three labeled samples, two of which are identical. The assessor must identify which sample is different or which two are identical.

3. RELATIONSHIP WITH OTHER DOCUMENTS

MEST EN ISO/IEC 17025:2018, General Requirements for the Competence of Testing and Calibration Laboratories
EA-4/09 G 2017, Accreditation for Sensory Testing Laboratories
MEST EN ISO 5492:2010, Sensory Analysis – Vocabulary
MEST ISO 6658:2022, Sensory Analysis – Methodology – General Guidelines
MEST EN ISO 8586:2024, Sensory Analysis – General Guidelines for the Selection, Training, and Monitoring of Selected Assessors and Experts for Sensory Evaluations
ISO 5496:2006/Amd 1:2018, Sensory Analysis – Methodology – Guidelines for the Training of Assessors in the Detection and Recognition of Odors
ISO 3972:2011, Sensory Analysis – Methodology – Method for Determining the Sensitivity of the Taste Organ
MEST EN ISO 8589:2010, Sensory Analysis – General Guidelines for the Design of Test Rooms
MEST EN ISO 8589:2010/A1:2016, Sensory Analysis – General Guidelines for the Design of Test Rooms
ISO 5497:1982, Sensory Analysis – Methodology – Guidelines for the Preparation of Samples Not Suitable for Direct Sensory Analysis
ISO 13300-1:2006, Sensory Analysis – General Guidelines for Sensory Evaluation Laboratory Personnel – Part 1: Responsibilities of Laboratory Personnel
Control of Animal-Origin Food, Textbook, 2011; Milan Ž. Baltić and Neđeljko Karabasili, Faculty of Veterinary Medicine, Belgrade
Control of Animal-Origin Food – Practicum, 2020; Neđeljko Karabasili, Radoslava Savić Radovanović, Silvana Stajković, Nikola Čobanović, and Branko Suvajdžić, Faculty of Veterinary Medicine, Center for Publishing and Teaching Materials Sales, Belgrade

4. PRIMJENA

4.1 Scoup of accreditation

4.1.1
The Accreditation Body of Montenegro (ATCG) will accredit only laboratories that conduct objective tests which are fully documented and validated. For each test, the laboratory must

demonstrate that it will achieve consistent results within defined limits and, when possible, prove the comparability of its results with those from other laboratories.

4.1.2 Examples of objective tests used in sensory testing that may be accredited are:
Discriminative tests or difference tests:

- Triangle test
- Paired comparison test
- Duo-trio test
- Ranking in a series
- Intensity measurement

Descriptive tests:

- Quantitative descriptive (sensory) analysis

4.1.3
The laboratory must demonstrate to the assessors of the ATCG that all accreditation criteria have been met during the application of these tests.

4.1.4
Objective tests are verified through:

- Evaluation of the validation process;
- Evaluation of documentation;
- Evaluation of the training and authorization of personnel conducting the tests;
- Evaluation of the adequacy of testing equipment;
- Evaluation of planning, organization, and operations;
- Evaluation of equipment maintenance and calibration;
- Evaluation of the procedure for the selection and training of assessors for sensory testing;
- Evaluation of quality control procedures for ongoing quality control (QC);
- Evaluation of continuous monitoring of individual assessor performance and panel performance;
- Evaluation of the use of appropriate reference materials and training materials;
- Evaluation of the procedure for verifying data;
- Evaluation of records on test performance or quality.

4.1.5
Some subjective tests may be accredited if they are designed in a way that ensures the obtaining of objective results, such as consumer preference tests. Factors that must be considered include a scientifically based selection of the testing procedure, experimental design, statistical analysis, the number of consumers, etc.

4.1.6
Subjective tests conducted by only one person cannot be accredited as sensory tests.

4.1.7
Sectoral, national, and international standard methods, as well as non-standard documented and validated methods, can be accredited.

4.2 Staff, MEST ISO/IEC 17025:2018, Section 6.2

4.2.1 Staff of a Sensory Testing Laboratory

4.2.1.1 Staff performing one of the three main functions in a sensory testing laboratory (management/administrative, scientific/technical, and operational functions) may be appointed as: sensory analyst, panel leader, or panel technician. Demonstrated abilities and functionality during the execution of relevant activities serve as the basis for assigning different roles.

Common personnel in sensory testing laboratories include panel leaders (one or more) and panel technicians, and in some cases, sensory analysts. Assessors are typically not considered part of the laboratory staff, as their primary role does not involve conducting or managing tests.

Management grants authority to the personnel in the sensory laboratory and keeps records of these authorizations. The roles, responsibilities, and training requirements for all those involved in sensory testing should be documented.

4.2.1.2. The laboratory must maintain and keep records of the training for all employees and all engaged assessors. The purpose of these records is to provide evidence that all individuals involved in the testing are adequately trained and that their competence to perform specific tests has been assessed. In some cases, it may be relevant to specify particular limitations regarding competence. The records should be available during the evaluation by ATCG and should include, at a minimum:

- Professional qualifications;
- Completed internal and external training;
- On-the-job training and retraining, if necessary;
- Previous experience.

4.2.1.3 In situations where a method or technique is not used regularly, the need for periodic retraining of staff should be considered. In any case, critical intervals related to this should be defined and documented.

4.2.1.4 The laboratory must also maintain other records about the staff, including personal data. Access to such information may be restricted if defined by national data protection regulations. Detailed guidelines regarding the responsibilities of staff in sensory testing laboratories can be found in ISO 13300-1.

4.2.2 Panel Leader

4.2.2.1 The laboratory management should define the minimum requirements in terms of qualifications and experience for key positions in the sensory testing laboratory. Sensory analysis must be carried out by or under the supervision of a panel leader with appropriate qualifications and experience. It is common for such staff to have at least 2 years of relevant work experience before being considered an experienced panel leader. The skills required for each position should be outlined in the job descriptions. Detailed guidelines on staff requirements and training can be found in ISO 13300-2.

4.2.2.2 Training should cover the area of planned sensory testing, including at least:

- Selection of test procedures, experimental design, and analysis;
- Sample preparation and conducting the tests;
- Data entry and processing;
- Report preparation;
- Record keeping;
- Maintenance of all necessary materials and services;
- Procedures for reviewing, selecting, training, and monitoring the performance of sensory assessors;
- The importance of the safety and health of the assessors.

4.2.2.3. In some laboratories, if there is a sensory analyst supervising one or more panel leaders, the sensory analyst may cover some of these areas.

4.2.3 Sensory Assessors

4.2.3.1 A sensory analysis panel serves as a measuring instrument, and the results of the analyses depend on the performance of individual panel members. The selection and training of assessors should be conducted carefully, as the use of "internal assessors" may lead to deviations in results. Detailed guidelines for selecting, training, and monitoring the performance of candidates who are to become assessors are defined in the SRPS EN ISO 8586:2015 standard.

4.2.3.2 The selection and training of sensory assessors does not apply to consumers participating in consumer tests. Sensory laboratories should have defined ethical principles for using people as subjects in testing. These principles should be based on personal safety, voluntariness of the assessors, and the protection of the confidentiality of all personal data.

4.2.3.3 Recommended procedures include:

a) Selection, preliminary screening, and preparation for tests

(i) The ability to recognize and perceive odors and basic tastes should be confirmed. When necessary, the ability to detect specific color perception, identify particular defects/odors, and the candidate’s ability to describe product characteristics should also be confirmed. The personality traits and habits of the assessors should be considered if they could impact the testing process.

b) Training on general principles and methods

(i) Training should include the use of sensory organs, familiarization with the testing procedure, and understanding the influence of external factors such as food intake and perfume use. The laboratory should provide instructions to sensory assessors to adhere to good practices prior to testing, including refraining from wearing perfumes, consuming food, and smoking at least one hour before testing.

(ii) Assessors should be familiar with the types of products that may be subject to testing. Special attention should be paid to the safety of assessors. Records should be kept regarding their diet, health, and any ethical considerations related to the assessors. Assessors should always notify the laboratory of any health issues they may have.

(iii) The selection and training program must be documented to ensure that all assessors are adequately trained for the tasks assigned to them. The program must define the level of competence and other relevant requirements that must be met before assessors are allowed to participate in testing. Where possible, actual values, e.g., repeatability, should be used to assess achieved competence.

c) *Selection for specific purposes*

(i) The laboratory should confirm the assessor's ability to carry out the testing procedure. This can be achieved by altering the concentration of ingredients in the sample and recording the results of the tests, analyzing repeated samples, or, in the case of descriptive analysis, testing one type of product in a series.

d) *Monitoring the performance of individuals to ensure satisfactory performance*

(i) The laboratory should maintain comprehensive records of training conducted for each panel member. After each training session, individual performance should be continuously monitored. The results, along with the date and details of the assessed product, should be part of the individual performance records. To facilitate the use of this data, records should be easily accessible.

(ii) The results should be monitored to identify and investigate any potential impact of sensory fatigue. If fatigue is detected, the number of samples per test or the number of daily tests should be reduced, and this adjustment should be documented.

e) Health factors

(i) Health and related factors that may affect the performance of assessors should be recorded and taken into consideration when removing an assessor from the testing process. These factors include allergic reactions, colds, stomach issues, toothache, pregnancy, the use of certain medications, and psychological stress.

f) Re-training when necessary

(i) The laboratory should have established procedures and criteria to be applied if a sensory assessor has not performed testing for an extended (defined) period or if their results fall outside acceptable limits. The same requirements as described in section b

(ii) The laboratory must have a defined procedure and documentation for the exclusion of a sensory assessor from testing if they have not been re-qualified for the panel.
Detailed guidelines on the initiation and training of assessors for detecting and identifying odors can be found in ISO 5496. General guidelines for the selection, training, and monitoring of assessors can be found in ISO 8586.

4.2.4 Conditions of Accommodation and Environment, MEST EN ISO/IEC 17025:2018, Clause 6.3

4.2.4.1 Environmental conditions are especially critical in sensory testing as they affect the results. The laboratory must provide adequate environmental conditions and establish necessary control for specific tests. Testing must be carried out in an appropriate room designated for that purpose. The laboratory should be in a quiet environment, with controlled lighting, partitions between assessors to reduce visual contact, neutral-colored walls, odor-free surfaces, and proper ventilation. Additionally, a space for sample preparation should also be provided. The design of sensory testing rooms is given in the standard SRPS EN ISO 8589.

4.2.4.2 If the above conditions cannot be met, such as in consumer testing, the laboratory is responsible for demonstrating that the procedures used are suitable for the intended purpose and do not compromise the validity of the tests.

4.2.4.3 The laboratory should be aware of the importance of proper maintenance and cleanliness of the rooms where testing is conducted and where samples are prepared. If the sample preparation room is not located near the testing rooms, special attention must be paid to sample transport and maintaining the required sample temperature for serving. Access to the sample preparation room should be controlled to avoid visual effects influencing the analysis outcome. This is especially important when samples are prepared immediately before analysis.

4.2.4.4 The required environmental conditions for analysis should be documented, and where critical for test execution, they should be monitored, controlled, and appropriately recorded. For example, in temperature-controlled rooms, a minimum/maximum thermometer or a recording thermometer should be used to demonstrate effective temperature control. These temperature measurement instruments should be included in the laboratory's equipment calibration program, with traceability to national or international standards through a continuous chain of comparisons.

4.2.4.5 For tests involving samples that are not at room temperature, the conditions must ensure that the necessary and homogenized sample temperature is maintained throughout the test period. Records must be kept to demonstrate that this requirement is met.

4.2.5 Testing Methods and Method Validation, MEST EN ISO/IEC 17025:2018, Clause 7.2
4.2.5.1 Where applicable, the laboratory must apply valid standard methods and procedures. For tests where such methods do not exist or in cases where other methods or procedures are applied, the laboratory may be accredited for non-standard methods, provided that these methods are documented and properly validated and assessed.

4.2.5.2 All methods must be documented to the extent that ensures proper implementation and consistent application in all circumstances. Standard methods must be introduced into the laboratory's routine work according to a predefined procedure. Non-standard methods and procedures should contain all necessary information to ensure that the test can be performed adequately. The minimum information that should be included in such non-standard methods or procedures is indicated as a note in clause 7.2.2.1 of the MEST EN ISO/IEC 17025 standard, but sensory testing methods should also include the following:

- Method or type of testing
- Requirements for assessor training
- Sample preparation and presentation
- Composition of the sensory panel
- Monitoring of assessors' performance and work
- Special environmental and room conditions
- Statistical analysis methods for results

4.2.5.3 To ensure that the same testing procedure is always applied to the same sensory problem (subject and testing parameter), a procedure for determining the applicable testing method and analysis strategy must be established. This procedure should define the method and each step of the process and determine the responsible personnel for each step, with each of these processes being adequately documented.

4.2.5.4 Where possible, factors such as assessor fatigue, sensory saturation, and assessor comfort should be carefully considered when designing the experiment, including balanced sample serving and, where necessary, sufficient time between tests.

4.2.5.5The safety of assessors is of utmost importance and should take precedence over all other concerns.

4.2.5.6 Standard methods must be verified to confirm their application in the laboratory. Non-standard methods, including modifications of standard methods, should be validated to confirm that they are suitable for their intended purpose. The entire procedure related to the method, the sensory team, and statistical data processing should be assessed. Validation should include procedures for sample storage, handling, preparation, and serving. Each laboratory should establish the requirements for determining performance characteristics for the execution of specific methods and produce validation data to demonstrate that the method meets these

requirements. Depending on the method used, the following elements may be particularly important:

- Reproducibility/repeatability
- Sample discrimination
- Sensitivity
- Detection threshold
- Comparison with existing methods
- Inter-laboratory testing

4.2.6 Measurement Uncertainty, MEST EN ISO/IEC 17025:2018, Clause 7.6

Sensory testing is typically accompanied by statistical data processing that determines the significance level of the results. However, sensory testing falls into a category of tests that do not require strict metrological and statistically validated calculations of measurement uncertainty.

In certain cases, where results are numerical, it is possible to assess uncertainty based on the repeatability and reproducibility of the data. In these cases, individual components of uncertainty should be identified and shown to be under control. The assessment of uncertainty depends on the method used and the estimated contributions to the uncertainty, as well as their relevance to the quality and significance of the final results.

The importance of measurement uncertainty assessment in sensory testing largely depends on the nature of the test, the precision of the data, and whether the results are numerical or qualitative. When numerical data is available, identifying sources of uncertainty—such as the variability between assessors or variations in sample presentation—can help assess the reliability and accuracy of the results. These uncertainties should be quantified and controlled to ensure the robustness of the testing process and the validity of the conclusions drawn from the data.

4.2.7 Records, MEST EN ISO/IEC 17025:2017, Clause 7.5

4.2.7.1 Records for each test should include all necessary information to ensure that any test can be repeated under the same conditions and in the same way as the initial test. In sensory testing, the following elements are particularly important:

- Instructions or questionnaires provided to the assessors
- Analysis of results or reference to documents in electronic form
- The interval between sample tests
- Sample identification codes
- Sample preparation methods and the equipment used
- Identification of the individuals preparing the samples
- The order and details of serving the sample to each sensory assessor
- The characteristics of the assessors and their qualifications for the method

- Description of consumers in consumer tests
- Identification of the panel leader or sensory analyst
- Method of data collection
- Method of statistical analysis

4.2.7.2 When computers and software are used for statistical analysis, the laboratory must ensure that:

a) Adequate application of the software developed in the laboratory is confirmed. Existing general-purpose software used within its designed scope may be considered sufficiently validated; however, calculations and data transfer will be subject to systematic verification.

b) Procedures for data protection are established and applied.

4.2.8 Equipment, MEST EN ISO/IEC 17025:2018, Clause 6.4

4.2.8.1 Equipment should be regularly maintained, and its characteristics should be checked to meet the specified performance requirements. It is crucial to maintain equipment properly to ensure reliability. Attention should be given to the potential for contamination, either from the equipment itself or due to cross-contamination from previous uses. Equipment not directly used in performing analyses or tests, such as washing machines or water purification systems, should be included in an appropriate maintenance and cleaning program. Records of maintenance should be kept.

4.2.8.2 Equipment typically found in sensory testing laboratories can be categorized as follows:

a) *Equipment for Sample Preparation and Storage (e.g., ovens, heating plates, microwave ovens, refrigerators, freezers, mills, knives, blades)*

(i) Generally, this equipment is maintained by cleaning, and, if necessary, safety checks. Calibration or performance checks should be carried out if they may significantly affect the test results.

(ii) The performance of heating devices depends on various factors. If needed, methods of heating should be defined, and clear usage instructions should be provided based on the heating mechanisms of the devices. It may also be necessary to perform a temperature distribution analysis in ovens.

b) *Measuring Instruments and Equipment (e.g., thermometers, timers, scales, bottles, sample temperature maintenance devices, etc.)*

(i) Correct use of this equipment, along with periodic servicing, cleaning, and, when applicable, calibration, is mandatory.

c) *Sample Handling Equipment*

(i) The equipment used depends on the characteristics of the samples and the testing method. Some standards for testing require specific equipment. All containers used in sensory testing must be identical at any stage of the testing. Glass or ceramic containers must be thoroughly

cleaned before use and should only be used for sensory testing. When using plastic cups or utensils, it should be verified whether they alter the sensory properties of the sample. The use of strong-scented markers to label sample containers should be avoided.

d) *Computers, Requirements for protecting hardware and software from unauthorized adjustments. For software, refer to Clause 3.2.7.2.*

4.2.9 Reference Materials, MEST EN ISO/IEC 17025:2018, Clause 6.4

4.2.9.1 When appropriate reference materials (including certified reference materials) are available, they should be used in the training of assessors, monitoring the laboratory's performance, validating methods, and comparing methods. For many types of analysis, training can be conducted using standards prepared by the laboratory itself from chemicals of known purity and composition. In other cases, it may be necessary to use a representative type of food or other materials.

4.2.9.2 Reference materials should be adequately labeled to prevent confusion during identification. Information on the shelf life, storage conditions, method of use, and limitations of use should be available. All containers should be properly marked to indicate their identity, concentration, preparation date, and/or expiry date. Reference materials should be handled in a way that protects them from contamination. It should be possible to identify, through records, the personnel responsible for preparing and handling the samples.

This ensures the proper handling and use of reference materials, which are critical for the quality control and accuracy of sensory testing. The procedures for labeling, storage, and handling reference materials should be clear and standardized to avoid any risks of contamination or confusion.

4.2.10 Sampling, MEST EN ISO/IEC 17025:2018, Clause 7.3

4.2.10.1 In many cases, sensory testing laboratories do not perform sampling. When the laboratory conducts sampling, it is strongly recommended that the sampling be ensured through quality assurance procedures, and ideally, the laboratory should be accredited for sampling activities.

4.2.10.2 The conditions for transport and storage should be such that they preserve the sample's properties (e.g., chilled or frozen, when necessary). These conditions should be monitored, and records should be maintained. If necessary, documentation must define the responsibilities related to the transport and storage of the sample during the period between sampling and delivery to the laboratory. The sample should be tested as soon as possible after sampling and in accordance with the relevant standards and/or national/international regulations.

4.2.10.3 Sampling should be performed by trained personnel. It should be conducted using appropriate equipment, which must be clean. Environmental conditions that can affect the performance of assessors and the characteristics of the sample should be monitored, and records must be kept at the sampling site. The time and date of sampling must be recorded.

4.2.11 Handling and Sample Preparation, MEST EN ISO/IEC 17025:2018, Clause 7.4

4.2.11.1 Sample containers and equipment used for handling samples should be designed such that the surface that comes into contact with the sample cannot alter its sensory properties or pose microbiological or chemical risks. The sample packaging should be adequately sealed to prevent leakage and sample contamination.

4.2.11.2 Labeling of samples is important and should unambiguously identify the sample and link it to the corresponding sample plan and register. Furthermore, in analytical procedures, labeling becomes especially crucial if samples are subdivided or aliquots are taken. Additional information is required at this stage, such as the connection to the main sample and any procedures used for aliquot preparation. The label should be securely attached to the sample packaging and, where possible, should be resistant to fading, sample spillage, and acceptable extreme temperature and humidity conditions.

4.2.11.3 Samples should be stored in a manner that prevents changes to their properties. The storage area should be clean and organized. Extreme environmental conditions that could alter the sensory characteristics of the samples should be avoided. If necessary, environmental conditions should be monitored. Adequate access control should be in place to limit unauthorized access to the samples.

4.2.11.4 Food samples sent for analysis may often require special storage conditions, such as refrigeration or freezing. In such cases, the laboratory must store the samples under the appropriate conditions and ensure they are monitored, maintained, and documented to demonstrate that special requirements are met.

4.2.11.5 It is essential to establish procedures that include all steps and elements of sample preparation (such as sieving, thawing, tempering, cooking, thermal processing, baking, etc.). These descriptions should be as detailed as possible to ensure that all samples are handled consistently, enabling better reproducibility of results. For example, when cooking potatoes, the procedure should specify the amount of water, salt, cooking time, and average potato size.

4.2.11.6 The laboratory should establish procedures for handling and preparing all new types of samples.

4.2.11.7 The laboratory should have a documented policy for the storage and disposal of samples after testing.

4.2.12. Ensuring Confidence in the Quality of Test Results, MEST EN ISO/IEC 17025:2025, Clause 7.7

4.2.12.1 Internal Quality Control

4.2.12.1.1 The laboratory should apply appropriate quality control procedures as a means to monitor the daily performance of each sensory testing method and all evaluators. The quality

control schemes adopted by the laboratory vary depending on the type of sample, the analysis method, and the frequency of testing. However, the level of quality control should be sufficient to demonstrate the validity of the results.

4.2.12.1.2 Examples of how quality control can be carried out include the following:

- Repeated analysis of samples performed at a defined percentage of the total number of samples analyzed.
- Randomly selected duplicate samples included in the sample analysis system at specified intervals.
- Reference and specific materials used as part of the quality control system.

4.2.12.1.3 The level and type of quality control depend on the nature and frequency of the analyses, as well as the complexity and reliability of the tests. As a guideline, the degree of quality control may range from 5% to 10% of the tested samples, although a higher degree may be required for more complex procedures.

4.2.12.1.4 Evaluator performance should also be monitored as part of the internal quality control process.

4.2.12.1.5 All quality control measures should be clearly defined in the management system documentation.

4.2.12.2 External Quality Assessment (Proficiency Testing)

4.2.12.2.1 Whenever possible, the laboratory should participate in proficiency testing that is appropriate for its scope of accreditation, with priority given to proficiency testing schemes that use relevant matrices. In certain cases, participation in these schemes may be mandatory.

4.2.12.2.2 The laboratory should use external quality assessments not only to assess the systematic error of the laboratory's results but also to verify the validity of the entire quality assurance system.

5. FORMS

This guideline does not include accompanying forms.