INTERNATIONAL STANDARD

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Second edition
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Sensory analysis — Methodology — Ranking

Analyse sensorielle — Méthodologie — Classement par rangs

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 8587 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 12, *Sensory analysis*.

This second edition cancels and replaces the first edition (ISO 8587:1988), which has been technically revised.

Sensory analysis — Methodology — Ranking

1 Scope

This International Standard describes a method for sensory evaluation with the aim of placing a series of test samples in rank order.

This method allows for assessing differences among several samples based on the intensity of a single attribute, of several attributes[1)] or of an overall impression. It is used to find if differences exist, but cannot determine the degree of difference that exists between samples.

The method is suited for the following cases:

a) evaluation of assessors' performance

   1) training assessors,

   2) determining perception thresholds of individuals or groups;

b) product assessment

   1) pre-sorting of samples

      i) on a descriptive criterion,

      ii) on hedonic preference;

   2) determination of the influence on intensity levels of one or more parameters (e.g. order of dilution, influence of raw materials, of production, packaging or storage methods)

      i) on a descriptive criterion,

      ii) on hedonic preference;

   3) determination of the order of preference in a global hedonic test.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5492, *Sensory analysis — Vocabulary*

ISO 6658, *Sensory analysis — Methodology — General guidance*

1) In this case, each attribute is tested through a different test in which the same products have different codes and are served in different orders to the same assessor.

ISO 8586-1, *Sensory analysis — General guidance for the selection, training and monitoring of assessors — Part 1: Selected assessors*

ISO 8586-2, *Sensory analysis — General guidance for the selection, training and monitoring of assessors — Part 2: Experts*

ISO 8589, *Sensory analysis — General guidance for the design of test rooms*

ISO 3534-1, *Statistics — Vocabulary and symbols — Part 1: General statistical terms and terms used in probability*

ISO 11035, *Sensory analysis — Identification and selection of descriptors for establishing a sensory profile by a multidimensional approach*

ISO 11036, *Sensory analysis — Methodology — Texture profile*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3534-1 and ISO 5492 apply.

4 Principle

The assessors receive simultaneously three or more samples in random order.

NOTE Although it is possible to rank two samples, the paired comparison method, as described in ISO 5495[1], usually is preferred.

The assessors are asked to rank the samples according to a specified criterion: either a unidimensional criterion (i.e. particular attribute or specific characteristic of an attribute) or a global intensity (e.g. overall impression).

The rank sums are determined and statistical comparisons are made.

5 General test conditions

Refer, where available, to the standards (see ISO 6658) describing the sampling methods, the room in which tests are conducted (see ISO 8589) and the apparatus.

When preparing the test samples, the important points to be taken into consideration are as follows:

a) preparation, coding and presentation of the test samples;

b) number of samples to be compared that can be compared reliably (to be determined based on the nature of the test product (saturation sensitivity effects) and the design chosen; the number of samples shall be adapted based on

   1) the type of product [e.g. up to 15 samples can be assessed by selected assessors (ISO 8586-1) or experts (ISO 8586-2) on mild samples, while three can be a real maximum for harsh, spicy or high fat products assessed by consumers], and

   2) the criterion to be assessed (e.g. sweet is less saturating than bitter);

c) possible illumination of the samples.

