
International Standard



6564

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Sensory analysis — Methodology — Flavour profile methods

Analyse sensorielle — Méthodologie — Méthodes d'établissement du profil de la flaveur

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 6564 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Sensory analysis — Methodology — Flavour profile methods

1 Scope and field of application

This International Standard describes a family of methods for describing and assessing the flavour of food products by qualified and trained assessors.

The methods are used

- a) in the development, modification or improvement of food products;
- b) in characterizing the differences between products;
- c) in quality control;
- d) to provide sensory data for the interpretation of instrumental data;
- e) to provide a permanent record of the attributes of a product;
- f) to monitor changes in a product during storage.

2 References

ISO 5492/1 to 6, *Sensory analysis — Vocabulary*.¹⁾

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

3 Definitions

For the purpose of this International Standard, the definitions in the various parts of ISO 5492 apply.

4 Principle

The methods are based on the concept that flavour consists partly of identifiable olfactory and gustatory attributes and partly of an underlying complex of attributes not separately identifiable.

The methods consist of procedures for describing and assessing the flavour of a product in a reproducible way. The separate

attributes contributing to the formation of the overall impression given by the product are identified and their intensity assessed in order to build up a description of the flavour of the product.

5 Apparatus

The apparatus shall be selected by the test supervisor according to the nature of the product to be analysed, the number of samples, etc., and shall not affect the test results.

If standardized apparatus corresponds to the needs of this test, it shall be used.

6 Sampling

Refer to the International Standards relating to sampling, for sensory analysis, of the product or products to be examined.

If there is no such International Standard, the method of sampling to be used shall be selected based on the test objective and shall be agreed upon between the parties concerned.

7 General test requirements

7.1 Room

For the conditions in the room in which the tests are to be conducted, see ISO 6658.

7.2 Assessors

7.2.1 Qualification, selection, aptitude

For the conditions which the assessors shall fulfill, see ISO 6658.

All the assessors shall have the same level of qualification. This qualification shall be chosen according to the purpose of the test. Selected assessors shall be chosen after training (see 7.2.2). For the examination of specific foods, experts may be used.

¹⁾ Part 6 is at present at the stage of draft.

7.2.2 Training of assessors

The assessors chosen shall be trained to improve their ability to identify and assess the intensity of the attributes of the product. This training increases their familiarity with the terminology and ensures the repeatability of their results. The extent and duration of training vary according to the purpose of the panel. If the panel is non-specialist (capable of describing the flavour of any type of food product), lengthy training periods of up to 1 year or more may be required. Training for a specific type of food product can be accomplished in a much shorter time. New assessors shall receive training before they join a panel of selected assessors or experts that have already been trained.

7.2.3 Number of assessors

Five to eight selected and trained assessors or experts are required.

8 Test methods

8.1 There are various methods for carrying out a descriptive analysis of flavour, and these can be divided into two categories, i.e. those for arriving at a unanimous description of the flavour of the product, referred to in this International Standard as the "consensus method", and those which do not require this consensus, referred to as "independent methods".

8.2 In the consensus method, the assessors work as a group in order to arrive at a unanimous description of the flavour of the product. An essential element in this method is that the panel leader is also one of the assessors.

The ability of the assessors to work together as a group and to clearly express their opinions is an important factor in the success of the consensus method.

The panel leader leads the assessors' discussions until agreement is obtained on each component thus enabling a description of the attributes of the product.

If a consensus is not obtained, it is possible to refer to reference substances to aid the group in reaching an agreement. Sometimes, one or more panels have to be held in order to reach a consensus. The panel leader reports and interprets the results.

8.3 In independent methods, the consensus of the panel is not required. The assessors discuss the flavour of the product within the group and then independently record their perceptions.

These individual results are compiled and analysed by the panel leader who in general does not form part of the panel.

9 Procedures

Regardless of whether the consensus method or an independent method is used for establishing the flavour profile of a pro-

duct, it is necessary to have a period of orientation before the official panel is brought together.

This period comprises one or more information meetings in which the samples to be studied are examined. Similar products are introduced in order to establish a framework for comparison.

The assessors (and the panel leader in the case of the consensus method)

- draw up a list of character notes for the sample;
- decide on reference substances (pure compounds or natural products that elicit particular attributes);
- define the vocabulary for describing the character notes.

The panel also establishes the best method for presenting and examining the samples.

9.1 Components of the method

The following are necessary for carrying out a descriptive analysis of the flavour of a product :

- a) identification of perceptible attributes;
- b) determination of the order in which these attributes are perceived;
- c) assessment of the degree of intensity of each attribute;
- d) examination of after-taste and/or persistence;
- e) assessment of overall impression.¹⁾

9.1.1 Identification of character notes

The perceptible character notes are defined in descriptive or associative terms.

9.1.2 Determination of order of perception

The order in which the character notes appear and are perceived is recorded.

9.1.3 Assessment of intensity

The intensity (quality and/or duration) of each character note is determined either by the panel as a group (consensus method), or by the assessors working independently.

Various scales may be used for rating the intensity of the character notes; a few examples are given below.

Scale A

- 0 = not present
- 1 = just recognizable or threshold
- 2 = weak
- 3 = moderate
- 4 = strong
- 5 = very strong

1) In certain cases, the assessment of overall impression is carried out initially.



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