

Assessors for sensory analysis —

Part 1: Guide to the selection, training and monitoring of selected assessors

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- British Food Manufacturing Industries Research Association
- British Psychological Society
- Campden Food and Drink Research Association
- Coffee Trade Federation Ltd.
- Consumers' Association
- Department of Trade and Industry (Laboratory of the Government Chemist)
- Flour Milling and Baking Research Association
- Institute of Food Science and Technology
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Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
Introduction	1
1 Scope	1
2 Normative references	1
3 Definitions	2
4 Recruitment, preliminary screening and initiation	2
5 Training	7
6 Final choice of panels for particular methods	10
7 Monitoring of selected assessors	11
Annex A (normative) Use of analysis of variance in the choice of selected assessors for scoring	12
Annex B (informative) Example of practical application	13
Annex C (informative) Bibliography	15
Table 1 — Examples of materials and concentrations for matching tests	5
Table 2 — Examples of materials which may be used in detection tests	5
Table 3 — Examples of products which may be used in discrimination tests	6
Table 4 — Examples of olfactory materials for odour description test	7
Table 5 — Examples of products for texture description test	7
Table 6 — Examples of materials to be used during training in detection and recognition	8
Table 7 — Examples of materials which may be used for training in the use of scales	9
Table 8 — Examples of products which may be used during training in descriptive procedures (profiles)	9
Table A.1 — Results of the assessors	12
Table A.2 — Analysis of variance — Data not combined	13
Table A.3 — Analysis of variance — Combined data	13
Table B.1 — Assessor's scores	14
Table B.2 — Analysis of variance — Data not combined	14
Table B.3 — Analysis of variance — Combined data	15
List of references	Inside back cover

National foreword

This Part of BS 7667 has been prepared under the direction of the Agriculture and Food Standards Policy Committee. It is identical with ISO 8586-1:1993 “*Sensory analysis — General guidance for the selection, training and monitoring of assessors — Part 1: Selected assessors*”, published by the International Organization for Standardization (ISO), and in the preparation of which the United Kingdom played a full part.

Cross-references

International standard	Corresponding British Standard
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Normative references

	BS 5929 <i>Methods for the sensory analysis of food</i>
ISO 3972:1991	Part 7:1992 <i>Investigating sensitivity of taste</i> (Identical)
ISO 4120:1983	Part 3:1984 <i>Triangular test</i> (Identical)
ISO 5492:1992	BS 5098:1992 <i>Glossary of terms relating to sensory analysis</i> (Identical)
	BS 5929 <i>Methods for sensory analysis of food</i>
ISO 6658:1985	Part 1:1986 <i>General guide to methodology</i> (Identical)

Informative references

	BS 5929 <i>Methods for sensory analysis of food</i>
ISO 5496:1992	Part 9:1992 <i>Initiation and training of assessors in the detection and recognition of odours</i> (Identical)
ISO 6564:1985	Part 4:1986 <i>Flavour profile methods</i> (Identical)
ISO 8587:1988	Part 6:1989 <i>Ranking</i> (Identical)
ISO 8589:1988	BS 7183:1989 <i>Guide to design of test rooms for sensory analysis of food</i> (Identical)

The Technical Committee has reviewed the provisions of ISO 4121:1987, to which normative reference is made in the text, and has decided that they are acceptable for use in conjunction with this Part of BS 7667.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 16, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Introduction

A sensory analysis panel constitutes a true “measuring instrument”, and consequently the results of the analyses conducted will depend on its members.

The recruitment of persons willing to participate in a panel therefore needs to be carried out with care and to be considered as a real investment, both in time and financially.

Sensory assessment may be made by three types of assessor:

- “assessors”,
- “selected assessors”, and
- “experts”.

Assessors can be “naïve assessors” who do not have to meet any precise criterion, or “initiated assessors” who have already participated in sensory tests.

“Selected assessors” are assessors who have been selected and trained.

“Experts” can be “expert assessors” who have already demonstrated particular acuity in panel work and have developed a good long-term memory, or “specialized expert assessors” who draw on additional knowledge gained in particular fields.

This part of ISO 8586 concerns only the recruitment, selection, training and monitoring of candidates intended to become selected assessors. The recruitment, selection, training and monitoring of candidates intended to become experts will form the subject of ISO 8586-2.

The selection and training methods to be employed depend on the tasks which one intends to give the selected assessors. It should be pointed out that these methods sometimes only constitute a way of choosing the better candidates among those who are available, rather than those who satisfy predetermined criteria. This is particularly the case when it is necessary to constitute internal panels.

A preliminary selection of candidates has to be undertaken at the recruitment stage, in order to eliminate those who would be unsuited for sensory analysis. However, the final selection can only be made after training and the completion of the envisaged tasks.

The recommended procedure involves

- a) recruitment and preliminary screening of naïve assessors;
- b) training of naïve assessors who will become initiated assessors;
- c) selection of initiated assessors according to ability to perform particular tests; they will then become selected assessors;

d) selection following the performance of an actual sensory assessment (useful in the case of descriptive analyses);

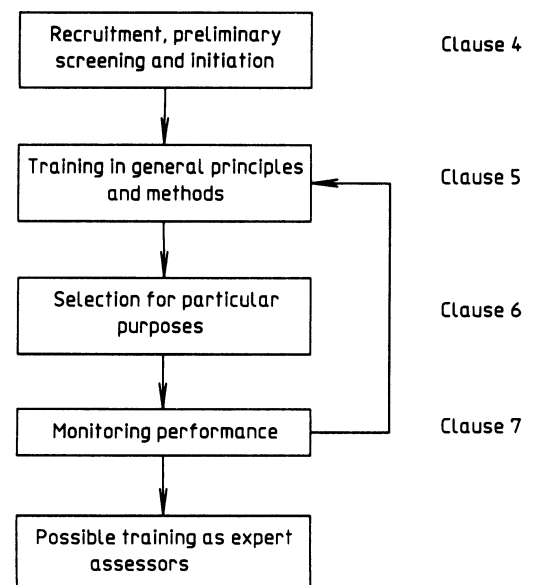
e) possible training of selected assessors to become expert assessors.

In certain cases (especially for descriptive sensory analysis), the panel may be divided into specialized sub-groups.

The exact procedures covered by a) and b) and the nature of the tests performed in c) and d) depend on the tasks which the panel is to perform.

The performance of selected assessors should be monitored regularly to ensure that the criteria by which they were initially selected continue to be met.

The entire process is illustrated in the following diagram.



1 Scope

This part of ISO 8586 specifies criteria for the selection and procedures for the training and monitoring of selected assessors. It supplements the information given in ISO 6658.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8586. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8586 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4120:1983, *Sensory analysis — Methodology — Triangular test*.

ISO 4121:1987, *Sensory analysis — Methodology — Evaluation of food products by methods using scales*.

ISO 5492:1992, *Sensory analysis — Vocabulary*.

ISO 6658:1985, *Sensory analysis — Methodology — General guidance*.

3 Definitions

For the purposes of this part of ISO 8586, the definitions given in ISO 5492 apply.

4 Recruitment, preliminary screening and initiation

Recruitment is an important starting point in forming a panel of selected assessors. Different recruitment methods and criteria are available and there are various tests that can be used for screening candidates for suitability for further training.

4.1 Principle

To recruit candidates and to select those most suitable for training as selected assessors.

4.2 Recruitment

The following three questions arise when recruiting persons to form a sensory analysis panel:

- where should one look for the people who will constitute the group?
- how many people shall be selected?
- how shall the people be selected?

4.2.1 Types of recruitment

Two types of recruitment are available to organizations:

- recruit through the personnel department of the organization (internal recruitment), or
- recruit people from outside the organization (external recruitment).

It is possible to constitute a mixed panel made up of both types of recruitment.

4.2.1.1 Internal recruitment

The candidates are recruited from amongst the office, plant or laboratory staff. It is advisable to avoid those persons who are too personally involved with the products being examined, in particular those involved at the technical or commercial level, because they may cause the results to be biased.

In this type of recruitment, it is vital that the organization's general management and hierarchy provide their support and make it known that sensory analysis is considered as forming part of everyone's work. This can be made known at the hiring stage of the personnel.

4.2.1.2 External recruitment

The recruitment is conducted outside the organization.

The most commonly used means for this purpose are:

- recruitment through classified advertisement in the local press, in specialized publications, or in newspapers which are distributed free of charge, etc. (in this case, all types of people will reply and it will be necessary to carry out a selection);
- opinion poll institutes; certain of these institutes can provide the names and addresses of persons likely to be interested;
- in-house "consumer" files, compiled as a result of advertizing campaigns or complaints;
- persons visiting the organization;
- personal acquaintances.

4.2.1.3 Mixed panel

A mixed panel may be formed using internal and external recruitment, in variable proportions.

4.2.2 Advantages and disadvantages of internal and external recruitment

Organizations may wish to use independent internal or external panels for different tasks.

4.2.2.1 Internal recruitment

4.2.2.1.1 Advantages

The advantages are that

- the people are on the spot;
- it is not necessary to make provision for any payment (however, in order to maintain interest, it may be desirable to offer small presents or perks);
- a better confidentiality *vis-à-vis* the results is ensured, which is particularly important if it is a question of research work; and
- there is better stability of the panel with time.

4.2.2.1.2 Disadvantages

The disadvantages are that

- candidates are influenced in their judgements (by knowledge of the products);
- it is difficult to allow for the evolution of the organization's products (people are influenced by their familiarization with the organization's products);

- replacement of candidates is more difficult (limited number of persons in small organizations);
- lack of availability.

4.2.2.2 *External recruitment*

4.2.2.2.1 *Advantages*

The advantages are that

- there is a wide range of choice;
- there is subsequent supply of new persons by word of mouth;
- there are no problems with hierarchy;
- selection is much easier, without the risk of offending people if they are unsuitable;
- easy availability.

4.2.2.2.2 *Disadvantages*

The disadvantages are that

- the method is expensive (remuneration, paperwork);
- this method is better suited to urban communities where there is a sufficient number of inhabitants; however, in rural areas, advantage can be taken of co-operatives (e.g. milk, wine);
- since it is necessary that the individuals are available, one sometimes encounters an inordinate number of (old age) pensioners or unemployed women or even students; it is more difficult to recruit working people; and
- after having paid for the selection and training, one risks people leave at a moment's notice.

4.2.3 *Number of persons to be selected*

Experience has shown that, after the recruitment, the selection procedures eliminate approximately half the people for reasons such as gustative sensitivity, material conditions, etc.

The number of persons to be recruited will vary depending on the following elements:

- the financial means and the requirements of the organization;
- the types and frequency of tests to be conducted;
- whether or not it is necessary to interpret the results statistically.

It is not desirable for a panel to operate with less than 10 selected assessors. It is necessary to recruit at least two to three times the number of persons actually required to constitute the final panel. For example, in order to obtain a panel of 10 persons, it is necessary to recruit 40 and to select 20.

For specialized purposes, a higher level of recruitment will be required.

4.3 *Background information*

Background information on the candidates may be obtained by submitting them to a combination of clearly understood questionnaires coupled with interviews by persons experienced in sensory analysis. The aspects specified in 4.3.1 to 4.3.8 shall be explored.

4.3.1 *Interest and motivation*

Candidates who are interested in sensory analysis and the product or products to be investigated are likely to be more motivated and hence are likely to become better assessors than those without such interest and motivation.

4.3.2 *Attitudes to foods*

Strong dislikes for certain foods and beverages, in particular those which it is proposed to assess, together with any cultural, ethnic or other reasons for not consuming certain foods or beverages, should be determined. Candidates who are venturesome in their eating habits often make good assessors for descriptive analyses.

4.3.3 *Knowledge and aptitude*

The initial sensory perceptions of the candidates have to be interpreted and expressed, requiring certain physical and intellectual abilities, in particular the capacity to concentrate and to remain unaffected by external influences. If the candidate is then required to evaluate only one type of product, knowledge of all aspects of that product may be beneficial. It is then possible to choose expert assessors from amongst those candidates who have shown an aptitude for sensory analysis of this product.

4.3.4 *Health*

The candidates shall be in good general health. They shall not suffer from any disabilities which may affect their senses, or from any allergies or illnesses, and shall not take medication which might impair their sensory capacities and thus affect the reliability of their judgements. It may be useful to know whether the candidates have dental protheses, since they can have an influence in certain types of evaluation involving texture or flavour.

Colds or temporary conditions (for instance, pregnancy) should not be a reason for eliminating a candidate.