

Methods for

# Sensory analysis of food —

Part 3: Triangular test —

[ISO title: Sensory analysis —  
Methodology — Triangular test]

UDC 664:543.92

# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Food and Agriculture Standards Committee (FAC/-) to Technical Committee FAC/20 upon which the following bodies were represented:

- Agricultural Research Council, Food Research Institute
- Agricultural Research Council, Meat Research Institute
- British Essence Manufacturers' Association
- British Food Manufacturing Industries Research Association
- British Psychological Society
- Campden Food Preservation Research Association
- Co-operative Union
- Coffee Trade Federation Ltd.
- Consumers' Association
- Department of Trade and Industry (Laboratory of the Government Chemist)
- Flour Milling and Baking Research Association
- Food Manufacturers' Federation Incorporated
- Institute of Food Science and Technology
- Institute of Masters of Wine
- Joint Committee of the Milk Marketing Board and the Dairy Trade Federation
- Long Ashton Research Station
- Ministry of Agriculture, Fisheries and Food
- National Institute for Research in Dairying
- Royal Society of Chemistry
- Society of Chemical Industry
- Society of Cosmetic Scientists
- Society of Dairy Technology
- University of Reading
- University of Strathclyde

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# National foreword

This Part of BS 5929 has been prepared under the direction of the Food and Agriculture Standards Committee. It is identical with ISO 4120:1983, “*Sensory analysis — Methodology — Triangular test*” published by the International Organization for Standardization (ISO) and in the preparation of which the United Kingdom played a full part.

**Terminology and conventions.** The text of the international standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words “International Standard” appear, referring to this standard, they should be read as “British Standard”.

**Cross-references**

| International standards | Corresponding British Standards                                                                                                       |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| ISO 3534:1977           | BS 5532:1978 Statistics — Vocabulary and symbols (Identical)                                                                          |
| ISO 6658 <sup>a</sup>   | BS 5929 Methods for sensory analysis of food<br>Part 1:1980 Introduction and general guide to methodology<br>(Technically equivalent) |

<sup>a</sup> In course of preparation.

**Additional information.** 1) With reference to clause 4, ISO 5492 is being published as a series of lists containing terms in random order. When the lists are complete it is intended to publish them in a classified form and that the resulting international standard will be published as an identical (dual-numbered) revision of BS 5098:1975 “*Glossary of terms relating to sensory analysis of food*”. In the meantime the committee approves the use of ISO 5492 for the definitions of any terms not in BS 5098.

2) With reference to the Figure on page 5, it is pointed out that the Figure is derived from the publication by Wald but not reproduced from it.

3) With reference to Annex B, it is pointed out that the specimen answer forms are three of many possible and that the choice and order of the forms has no significance.

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 8, 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.

## 1 Scope

This International Standard specifies a method of sensory analysis for detecting differences between samples of two products by means of triangular comparison.

The method described is the simple triangular test. Information on possible extensions of the test is given in Annex A.

## 2 Field of application

The method is applicable for revealing slight differences between samples of products. The differences may concern either all attributes or one attribute of the samples.

It may be used in the selection and training of assessors and for monitoring the performance of assessors.

The method is particularly convenient when:

- a) the number of assessors available is not very large;
- b) there is no problem of sensory fatigue.

## 3 References

ISO 3534, *Statistics — Vocabulary and symbols*.

ISO 5492, *Sensory analysis — Vocabulary*.

ISO 6658, *Sensory analysis — Methodology — General guidance*<sup>1)</sup>.

## 4 Definitions

For definitions of terms relating to sensory analysis, see ISO 5492, and for those referring to statistics, see ISO 3534.

## 5 Principle

Simultaneous presentation to the assessors of a set of three test samples, two of which are identical, for identification of the odd sample.

Following testing, written response by the assessors, and interpretation of the replies obtained.

## 6 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 in no way affect the test results.

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

## 7 Sampling

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

The method of sampling shall take account of the test objectives and, if there is no International Standard for the product concerned, shall be agreed between the parties concerned.

## 8 General test requirements

### 8.1 Room

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

### 8.2 Assessors

#### 8.2.1 Qualification, selection, aptitude

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

All the assessors shall have the same level of qualification, this being chosen according to the purpose of the test.

#### 8.2.2 Number of assessors

The minimum number of assessors required depends on the purpose of the test. Thus, for the strict use of the statistical Table (see clause 10), and according to the significance level adopted, it will be possible, for example, to carry out this test with a minimum of 5 assessors at significance levels of 5 % or 1 %, and with a minimum of 7 assessors at a significance level of 0,1 %.

#### 8.2.3 Participation by test supervisor

Normally the test supervisor shall not take part in the test. If he participates he shall not be informed of the codes.

### 8.3 Preliminaries

It may be desirable for the test supervisor to organize a preliminary presentation on the problem concerned and the nature of the samples, provided that this presentation does not bias subsequent judgements.

If the test in question concerns the detection of particular taints, this preliminary presentation shall when possible be supplemented by an examination of a sample free from the taint concerned and of the taint to be detected.

<sup>1)</sup> At present at the stage of draft.