



Sensory analysis

Part 1.3: Methodology—Selection, training and monitoring of selected assessors and expert sensory assessors

STANDARDS
Australia



This Australian Standard® was prepared by Committee FT-022, Sensory Analysis of Food. It was approved on behalf of the Council of Standards Australia on 18 November 2014. This Standard was published on 17 December 2014.

The following are represented on Committee FT-022:

- Australian Chamber of Commerce and Industry
 - Australian Institute of Food Science and Technology
 - Australian Society of Cosmetic Chemists
 - Brewers Association of Australia and New Zealand
 - Deakin University
 - Defence Science and Technology Organisation
 - Department of Agriculture, Fisheries and Forestry, Qld
 - Food Technology Association of Australia
 - National Association of Testing Authorities Australia
 - National Measurement Institute
 - University of Queensland
-

This Standard was issued in draft form for comment as DR AS 2542.1.3:2014.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting www.standards.org.au

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard[®]

Sensory analysis

Part 1.3: Methodology—Selection, training and monitoring of selected assessors and expert sensory assessors

Original as AS 2542.1.3—1995.
Second edition AS 2543.1.3:2014.

COPYRIGHT

© Standards Australia Limited

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 1 74342 925 9

PREFACE

This Standard was prepared by the Standards Australia Committee FT-022, Sensory Analysis of Food, to supersede AS 2542.1.3—1995, *Sensory analysis of foods, Method 1.3: General guide to methodology—Selection of assessors*.

This Standard is identical with, and has been reproduced from ISO 8586:2012, *Sensory analysis—General guidelines for the selection, training and monitoring of selected assessors and expert sensory assessors*.

The objective of this Standard is to provide guidelines for the selection, training and monitoring of assessors participating in sensory analysis.

It is acknowledged that specific product sensory testing may require further specialized training beyond the scope of this Standard.

As this Standard is reproduced from an International Standard, the following apply:

- (a) In the source text ‘this International Standard’ should read ‘this Australian Standard’.
- (b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian, as follows:

<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO	AS
5492 Sensory analysis—Vocabulary	2542 Sensory analysis 2542.3 Part 3: Vocabulary
6658 Sensory analysis—Methodology— General guidance	2542.1.1 Part 1.1: Methodology—General guidance

Only normative references that have been adopted as Australian Standards have been listed.

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

CONTENTS

1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Selection of assessors	2
	4.1 General.....	2
	4.2 Recruitment, preliminary screening and initiation.....	2
	4.3 Background information and preselection.....	5
	4.4 Screening.....	7
5	Training of assessors	9
	5.1 Principle.....	9
	5.2 General.....	10
	5.3 Assessment procedure.....	10
	5.4 Training of colour, taste, odour and texture.....	10
	5.5 Training in detection and recognition of special tastes and odours.....	15
	5.6 Training in the use of scales.....	16
	5.7 Training in the development and use of descriptors (profiles).....	16
	5.8 Practice.....	16
	5.9 Specific product training.....	16
6	Final choice of panels for particular methods	17
	6.1 Principle.....	17
	6.2 Difference assessments.....	17
	6.3 Ranking assessment.....	17
	6.4 Rating and scoring.....	17
	6.5 Qualitative descriptive analysis.....	18
	6.6 Quantitative descriptive analysis.....	18
	6.7 Assessors for particular assessments.....	18
7	Training of experts	19
	7.1 General.....	19
	7.2 Sensory memory.....	19
	7.3 Semantic and metric learning of sensory descriptors.....	19
	7.4 Building up a thesaurus of descriptors.....	19
	7.5 Training on assessment conditions.....	19
8	Monitoring and testing of performance of selected assessors and expert sensory assessors	20
	8.1 Objectives.....	20
	8.2 Principle.....	20
	8.3 Analysis of the results.....	20
9	Management and follow-up of the group	21
	9.1 Motivation.....	21
	9.2 Maintaining of skills.....	21
	9.3 Renewal.....	21
	9.4 Retraining.....	21
	Annex A (informative) Repeatability and reproducibility of assessors and panels	22
	Annex B (informative) Use of analysis of variance in the choice of selected assessors for scoring	23
	Annex C (informative) Example of practical application	26
	Bibliography	28

INTRODUCTION

A sensory analysis panel constitutes a true “measuring instrument”, and consequently the results of the analysis depends 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 money.

Sensory assessment can be performed by three types of assessors:

- sensory assessors;
- selected assessors;
- expert sensory assessors.

“Sensory assessors” are any people taking part in a sensory test. They can be “naive assessors” who do not have to meet any precise criterion, or “initiated assessors” who have already participated in sensory tests (see ISO 5492:2008, 1.5).

“Selected assessors” are chosen for their ability to perform a sensory test (see ISO 5492:2008, 1.6).

“Expert sensory assessors” are selected assessors with a demonstrated sensory sensitivity and with considerable training and experience in sensory testing, who are able to make consistent and repeatable sensory assessments of various products (see ISO 5492:2008, 1.7).

It is necessary to undertake a preliminary selection of the candidates 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 selection and training. The selection and training methods to be employed depend on the tasks to intend for the “selected assessors” and “expert sensory assessors”.

Sensory assessors work as a panel which is managed by a panel leader. In certain cases (especially for descriptive sensory analysis), the panel may be divided into specialized subgroups.

The recommended procedure involves:

- a) recruitment and preliminary screening of naive assessors;
- b) familiarization of naive assessors who are to become initiated assessors;
- c) selection of initiated assessors in order to determine their ability to perform particular tests, who then become selected assessors;
- d) possible training of selected assessors to become expert sensory assessors.

The exact procedure covered by a) and b) and the nature of the tests performed in c) and d) depend on the tasks intended for the panel.

Expert sensory assessors have demonstrated particular acuity and reproducibility in panel work, and have developed a good long-term sensory memory, allowing reliable comparative judgements, possibly in the absence of control samples.

The panel leader is responsible for the general monitoring of the group of expert sensory assessors and for their training. The expert sensory assessors are not responsible for the choice of tests used, the presentation of the samples or for the interpretation of results. These matters are the responsibility of the panel leader who also decides how much information is given to the panel.

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 [Figure 1](#).

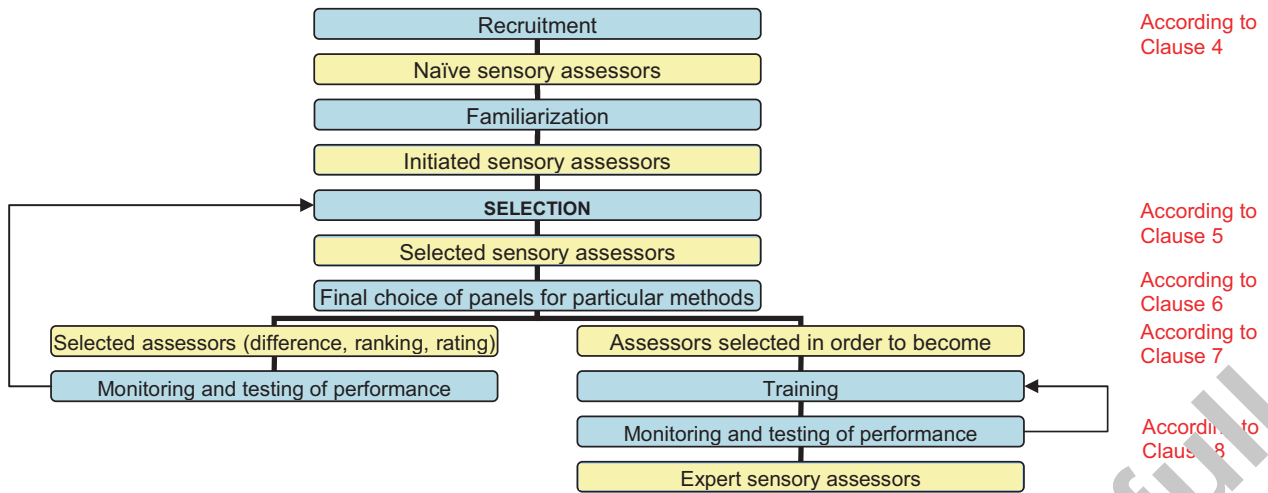


Figure 1 — Entire process

Currently in preview, click buy full version

AUSTRALIAN STANDARD

Sensory analysis

Part 1.3:

Methodology—Selection, training and monitoring of selected assessors and expert sensory assessors

WARNING — This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

1 Scope

This International Standard specifies criteria for the selection and procedures for the training and monitoring of selected assessors and expert sensory assessors. It supplements the information given in ISO 6658.

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 5492:2008, *Sensory analysis — Vocabulary*

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

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

3 Terms and definitions

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

3.1**repeatability**

precision under repeatability conditions

Note 1 to entry: Repeatability can be expressed quantitatively in terms of the dispersion characteristics of the results.

[SOURCE: ISO 3531-2:2006, 3.3.5]

Note 2 to entry: Repeatability related to sensory analysis is defined as a measure of the agreement between assessments on the same sample under the same conditions. See [Table A.1](#).

3.2**repeatability conditions**

observation conditions where independent test/measurement results are obtained with the same method on identical test/measurement items in the same test facility or measuring facility by the same operator using the same equipment within short intervals of time

Note 1 to entry: Repeatability conditions include:

- the same measurement procedure or test procedure;
- the same operator;
- the same measuring or test equipment used under the same conditions;