भारतीय मानक

Indian Standard

IS 10643 : 2023

खुली डेटिंग प्रसंस्कृत खाद्य उत्पाद हेतु दिशानिर्देश स्थापित करने के लिए संवेदी मूल्यांकन प्रक्रिया

(पहला पुनरीक्षण)

Sensory Evaluation Procedure to Establish Guidelines for Open Dating Processed Food Products

(First Revision)

ICS 67.240

भारतीय मानक ब्यूरो
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November 2023 **Price Group 5**

Test Methods for Food Products Sectional Committee, FAD 28

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Test Methods for Food Products Sectional Committee had been approved by the Agriculture and Food Products Division Council.

Guidelines for open dating processed food products are important because (a) there will be changes in the quality of such a product over a period of time after the date of processing; (b) for some unknown interval of time, immediately after the processing date, the product quality will remain at the same level; (c) after this interval the product quality will continue to deteriorate at rates specific for different products; and (d) when the deterioration in quality is beyond a certain level, the product will be unacceptable to the consumer.

It is recognized that the precise dates by which deterioration sets in a specified product cannot be given exactly, since, the tests with panellists are influenced by experimental factors pertaining to sample presentation, psychophysical factors involved in the assessment of the product by the panellists and factors due to the insufficient training of panellists in conducting the test.

This standard was first published in 1983 to lay down a method to achieve uniformity in evaluating the changes in processed food products over a period of time. In this first revision, the standard has been brought out in the latest style and format of Indian Standard, and references to Indian Standards, wherever applicable, have been updated.

The composition of the Committee responsible for the formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SENSORY EVALUATION PROCEDURE TO ESTABLISH GUIDELINES FOR OPEN DATING PROCESSED FOOD PRODUCTS

(First Revision)

1 SCOPE

This standard describes recommended methods for evaluating quality changes in processed food products over a period of time for establishing guidelines for open-dating them for consumer use.

2 REFERENCES

The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards.

3 TERMINOLOGY

Open-dating term is used to mean differently in different food industries. The most common ones are defined below.

3.1 Sell-by-Date — The sell-by-date is the last date of offer for sale to the consumer after which there remains a reasonable storage period in the home.

3.2 Expiry or Use by Date — The last day the product is recommended for use at full quality level.

3.3 Date of Minimum Durability (Best Before) — The date which signifies the end of the period under any stated storage condition during which the product will remain fully marketable and will retain any specific qualities for which tacit or express claims have been made. However, beyond that date the food may still be perfectly satisfactory.

4 OPTIMUM REQUIREMENTS

Optimum requirements for conducting sensory evaluation and training of panel and conducting consumer acceptance/preference studies are given in IS 6273 (Part 1).

5 PRINCIPLE

5.1 The product quality just after processing is established through physico-chemical and sensory analysis. This provides the base line data.

5.2 Decision regarding the storage life obtained during laboratory trials/previous factory trials are made use of for projecting the length of storage time and testing intervals.

5.3 Depending on the number of withdrawals and the quantity required for testing at the end of each interval, sufficient samples of the products are drawn and stored.

5.4 Initial tests conducted for assessing product quality using representative product samples are repeated at the end of each interval of storage until significant decline in product quality occurs at any particular stage after which the open date is assigned by the producer.

6 METHODS

6.1 The product is processed and packaged in a manner it is marketed.

6.2 Physico-chemical tests at each stage are carried out by following standard methods of analysis.

6.3 Sensory analysis is done at each stage according to selected experimental designs depending on the test method used, number of product variables to be evaluated and the number of panellists available so as to obtain maximum information with the available resources [IS 6273 (Part 2), IS 6273 (Part 3/Sec 1) and 6273 (Part 3/Sec 2)].

6.4 A representative sample from the product for establishing these guidelines is drawn using standard sampling methods (IS 1548). The quantity

to be drawn is decided by the number of intervals at which tests are to be conducted, as well as the quantity required for each test.

6.5 All production information such as dates, lot numbers and codes are documented and separate laboratory codes are assigned to each sample.

6.6 The samples drawn are subjected to simulated distribution and storage conditions so as to reflect the market conditions of handling and purchase. The market conditions are determined on the basis of a prior knowledge of the temperature, light, environment and display method encountered in the market. Accelerated storage conditions can be used if they are validated against non-accelerated conditions.

6.7 For sensory analysis, train a panel (IS 8140) which has been earlier screened for capacity to discriminate differences in the repeat judgements for the main quality attributes of the product to be evaluated. Familiarize the panel with the test method and ranges of quality differences in the attributes they are to evaluate so that uniformity among panellists in understanding the quality attributes of the product is achieved.

6.8 Determine the attributes of the product to be assessed based on consumer concepts as well as on the knowledge about the composition, anticipated changes, processing methods, and packaging and storage conditions.

6.9 The quality descriptions are developed reflecting the selected impact attributes, that is, colour and appearance, aroma, taste and/or texture.

6.10 The consistency in the performance of the panel is continuously mentioned during evaluations as recommended in IS 8140.

6.11 Based on the appropriate design selected, present coded samples to the panellists under minimal bias generating conditions [IS 6273 (Part 3/Sec 1) and IS 6273 (Part 3/Sec 2)].

6.12 The scale for each quality attribute is chosen to conform with the corresponding physico-chemical measurement.

6.13 The data are collected and collated.

7 ANALYSIS OF DATA

The appropriate analysis and interpretation of data are carried out as recommended in IS 6273 (Part 3/Sec 1) and IS 6273 (Part 3/Sec 2).

8 TEST REPORT

Based on the results and interpretation the ‘open dates’, that is, the sell-by-date, ‘the expiry or use by date’ and the ‘date of minimum durability’ are fixed for each product.

ANNEX A

(*Clause* 2)

LIST OF REFERRED STANDARDS

IS No.	*Title*	*IS No.*	*Title*
IS 1548 : 1981	Manual on basic principles of lot sampling (*second revision*)		Difference/preference tests (*first revision*)
IS 6273 (Part 1) : 2023	Sensory evaluation of foods — Guide: Part 1 Optimum requirements (*first revision*)	IS 6273 (Part 3/ Sec 2) : 2023	Sensory evaluation of foods — Guide: Part 3 Statistical analysis of data, Section 2 Ranking and scoring tests (*first revision*)
IS 6273 (Part 2) : 1971	Guide for sensory evaluation of foods: Part 2 Methods and evaluation cards	IS 8140 : 2023	Selection of panel for sensory evaluation of foods and beverages — Guide (*first revision*)
IS 6273 (Part 3/ Sec 1) : 1983	Guide for sensory evaluation of foods: Part 3 Statistical analysis of data, Section 1		

ANNEX B

(*Foreword*)

COMMITTEE COMPOSITION

Test Methods for Food Products Sectional Committee, FAD 28

Organization	*Representative(s)*
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Association of Food Scientists and Technologists India, Mumbai	DR BASKARAN V. DR WADIKAR D. D. (*Alternate*)
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ICMR - National Institute of Nutrition, Hyderabad	DR M. RADHIKA DR NAVEEN KUMAR R (*Alternate*)
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SHRIMATI VARSHA GUPTA
SCIENTIST 'D'/JOINT DIRECTOR
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Panel for Review of Indian Standards Related to 'Sensory Analysis', FAD 28/Panel II

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Review of Indian Standards

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