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IS 1798 (2010): Spices and Condiments - Black Pepper, Whole and Ground [FAD 9: Spices and Condiments]



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मिर्च एवं मसाले — काली मिर्च,
साबुत और पिसी — विशिष्टि
(दूसरा पुनरीक्षण)

Indian Standard

SPICES AND CONDIMENTS — BLACK PEPPER,
WHOLE AND GROUND — SPECIFICATION
(*Second Revision*)

ICS 67.220.10

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BUREAU OF INDIAN STANDARDS
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FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Spices and Condiments Sectional Committee had been approved by the Food and Agriculture Division Council.

This standard was originally published in 1961 and revised in 1982 to update it on the basis of experience gained in its usage and modifying the method for the determination of percentage of light berries. In this revision, the requirements have been updated to align with the standards for black pepper, whole and ground, laid down under the *Prevention of Food Adulteration Rules*, 1955 and also with the ISO Standard on the subject, ISO 959-1 : 1998 'Pepper (*Piper nigrum* L.), whole or ground — Specification — Part 1: Black pepper'. The categorization of black pepper, whole, into various grades has been removed and only two specifications have been prescribed, one for unprocessed or semi-processed black pepper and second for processed black pepper in this revision.

Spices and condiments are in common use in this country. Some of them are also exported in considerable quantities. Black pepper is one of the most important commodities exported from India. It is marketed as whole as well as in powder form. This revised standard specifies quality requirements for both the forms.

Due consideration has also been given to the *Prevention of Food Adulteration Rules*, 1955 and the *Standards of Weights and Measures (Packaged Commodities) Rules*, 1977. However, this standard is subject to restrictions imposed under these rules, wherever applicable.

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 : 1960 'Rules for rounding off numerical values (*revised*)'. 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

**SPICES AND CONDIMENTS — BLACK PEPPER,
WHOLE AND GROUND — SPECIFICATION**

(Second Revision)

1 SCOPE

This standard prescribes the requirements and methods of test for black pepper, *Piper nigrum* L. (*Kalimirch*), whole and ground.

2 REFERENCES

The following standards 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 editions of the standards indicated below:

<i>IS No.</i>	<i>Title</i>
321 : 1964	Specification for absolute alcohol (<i>revised</i>)
323 : 1959	Specification for rectified spirit (<i>revised</i>)
460 (Part 1) : 1985	Specification for test sieves: Part 1 Wire cloth test sieves (<i>third revision</i>)
1070 : 1992	Reagent grade water (<i>third revision</i>)
1797 : 1985	Methods of test for spices and condiments (<i>second revision</i>)
2631 : 1976	Specification for isopropyl alcohol (<i>first revision</i>)
5887 (Part 3) : 1999/ISO	Methods for detection of bacteria responsible for food poisoning: Part 3
6579 : 1993	General guidance on methods for the detection of Salmonella (<i>second revision</i>)
13145 : 1993	Spices and condiments — Methods of sampling (<i>first revision</i>)
14216 : 1994	Code for hygienic conditions for spices and condiments processing units
15695 : 2006/ ISO 11027 : 1993	Pepper and pepper oleoresins — Determination of piperine content — Method using high-performance liquid chromatography

3 DEFINITIONS

For the purpose of this standard the following definitions shall apply.

3.1 Black Pepper, Whole — The dried berries of *Piper nigrum* L., brown to black in colour with wrinkled surface, having an unbroken pericarp.

3.2 Black Pepper, Non-processed (NP) — Pepper that has not undergone any clearing, preparation or grading by the producer, and that conforms to the requirements of this standard.

3.3 Black Pepper, Semi-processed (SP) — Pepper that has undergone partial cleaning but without preparation or grading by the producer, and that conforms to the requirements of this standard.

3.4 Black Pepper Processed — Pepper that has been processed (cleaning, preparation, grading, etc) by the producer, and that conforms to the requirements of this standard.

3.5 Black Pepper, Ground — Pepper obtained by grinding black pepper berries without adding any foreign matter to the pepper, and that conforms to the requirements of this standard.

3.6 Light Berry — Berry that has reached an apparently normal stage of development but floats in alcohol with a specific gravity of 0.80 to 0.82 at 25°C.

3.7 Pinhead — Berry of very small size that has not developed.

3.8 Broken Berry — Berry that has been separated into two or more pieces.

3.9 Extraneous Matter — All materials other than black pepper berries, irrespective of whether they are of vegetable (for example, stems and leaves) or mineral (for example, sand) origin.

NOTE — Light berries, pinheads or broken berries are not considered as extraneous matter.

4 REQUIREMENTS**4.1 Taste and Flavour**

The taste and flavour of black pepper, whole or ground, shall be fresh and pungent. The material shall be free from foreign taste and flavour including rancidity and mustiness.

4.2 Freedom from Moulds, Insects, etc

Black pepper, whole or ground shall be free from visible moulds and insect infestation. Black pepper, whole, shall not be dressed.

4.3 Fineness of Black Pepper, Ground

Black pepper, ground, shall be free from coarse particles and shall be of such a fineness that the whole of it passes through IS Sieve 60 [see IS 460 (Part 1)].

4.4 Black pepper, whole and ground, shall also comply with the physical and chemical requirements given in Table 1.

4.5 Hygienic Conditions

The black pepper, whole and ground shall be processed and packed under hygienic conditions (see IS 14216).

4.6 Pesticide residues and metallic contaminants in the product shall not exceed the limits as prescribed in the *Prevention of Food Adulteration Act, 1954* and the Rules made thereunder.

5 PACKING AND MARKING

5.1 Packing

Black pepper, whole or ground shall be packed in clean, sound and dry container made of metal, glass, foodgrade

polymers, wood or jute bags. The wooden boxes or jute bags shall be suitably lined with moisture-proof lining which does not impart any foreign smell to the product. The packing material shall be free from any fungal or insect infestation and should not impart any foreign smell. Each container shall be securely closed and sealed.

5.2 Marking

The following particulars shall be legibly and indelibly marked or labelled on each container of black pepper, whole or ground:

- Name and address of the manufacturer or packer;
- Name of the material (whole or ground);
- Trade-name or brand name, if any;
- Batch or code number;
- Net mass;
- Best before..... (month/year);
- Year of the harvest (in case of whole);
- Month and year of packing (in case of ground); and
- Any other marking as required under the *Standards of Weights and Measures (Packaged Commodities) Rules, 1977* and the *Prevention of Food Adulteration Act, 1954* and the Rules framed thereunder.

Table 1 Requirements for Black Pepper, Whole and Ground
(Clauses 4.4 and 7)

Sl No.	Characteristic	Requirement			Method of Test, Ref to	
		Whole		Ground	Clause of IS	Annex of this Standard
		NP or SP ¹⁾	Processed			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Extraneous matter, percent by mass, <i>Max</i>	1.0	1.0	—	4 of IS 1797	—
ii)	Light berries, percent by mass, <i>Max</i>	10	5.0	—	—	A
iii)	Pinheads or broken berries, percent by mass, <i>Max</i>	5.0	4.0	—	Physical separation and weighing	—
iv)	Bulk density (g/l), percent by mass, <i>Min</i>	450	490	—	3 of IS 1797	—
v)	Moisture, percent by mass, <i>Max</i>	12.0	12.0	12.0	9 of IS 1797	—
vi)	Total ash on dry basis, percent by mass, <i>Max</i>	7.0	6.0	6.0	6 of IS 1797	—
vii)	Non-volatile ether extract, percent by mass, <i>Min</i>	6.0	6.0	6.0	14 of IS 1797	—
viii)	Volatile oil content on dry basis, percent by mass, <i>Min</i>	2.0	2.0	2.0	15 of IS 1797	—
ix)	Peperine content on dry basis, percent by mass, <i>Min</i>	4.0	4.0	4.0	IS 15695	—
x)	<i>Salmonella</i> (in 25 g)	Absent	Absent	Absent	IS 5887 (Part 3)	—
xi)	Insect damaged matter, percent by mass, <i>Max</i>	1.0	1.0	—	—	—
xii)	Acid insoluble ash, percent by mass, <i>Max</i>	1.2	1.2	1.2	8 of IS 1797	—
xiii)	Crude fibre, percent by mass, <i>Max</i>	—	—	17.5	13 of IS 1797	—

¹⁾ NP — Non-processed, SP — Semi-processed

6 SAMPLING

6.1 Representative samples of the material shall be drawn and tested for conformity to this standard as prescribed in IS 13145.

6.2 Samples of black pepper, whole, shall be ground so that the whole of the material passes through IS Sieve 20 [*see* IS 460 (Part 1)]. The material so ground shall be used for determining moisture (*see* Table 1).

7 METHODS OF TEST

The samples of black pepper, whole and ground shall be tested for ascertaining conformity of the material to the requirements in accordance with the relevant clauses given in col 6 of Table 1.

8 QUALITY OF REAGENTS

Unless specified otherwise, pure chemicals and distilled water (*see* IS 1070) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which effect the results of analysis.

ANNEX A

[Table 1, Sl No. (ii), Col 7]

DETERMINATION OF PERCENTAGE OF LIGHT BERRIES

A-1 REAGENTS

A-1.1 Alcohol-Water Solution (Specific Gravity of 0.80 to 0.82 at 25/25°C) — The alcohol used in the preparation of this solution may be ethyl alcohol (*see* IS 321), rectified spirit (*see* IS 323) or isopropyl alcohol (*see* IS 2631).

A-2 PREPARED SAMPLE

For the purpose of the test, remove extraneous matter and pinheads from a suitable mass of black pepper, whole.

A-3 PROCEDURE

A-3.1 Weigh accurately a sample of 30.0 g black pepper from the prepared sample (*see* A-2). Transfer the sample into a 600-ml beaker, add 300 ml of the alcohol water solution to it and stir the material with a spoon stirrer. Allow the material to settle for 2 min and then spoon off the berries which float on the surface. Repeat this procedure of stirring, settling and removal of the

floating berries until no more berries float on the surface in two successive stirrings.

NOTE — Only the berries which float on the surface should be removed and not those which may stay suspended some distance below the surface of the alcohol-water solution.

A-3.2 Blot the removed berries to remove excess liquid and then spread them to air-dry on a piece of paper, towel or any other absorbent material. Dry these berries for one hour and then weigh them accurately.

A-4 CALCULATION

Light berries, percent by mass = $\frac{m}{M} \times 10$

where

m = mass of the light berries removed (*see* A-3.2), in g; and

M = mass of sample taken for the test (*see* A-3.1), in g.

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Amendments Issued Since Publication

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