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National Standard of the People's Republic of China

GB 1351—2023

Replace GB 1351—2008

Wheat

小麦

(English Translation)

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Forward

National Food and Strategic Reserves Administration is in charge of this English translation. In case of any doubt about the contents of English translation, the Chinese original shall be considered authoritative.

All technical contents of this document are mandatory.

This document is drafted in accordance with the rules given in the GB/T 1.1—2020 *Directives for standardization — Part 1: Rules for the structure and drafting of standardizing documents*.

This document replaces the GB 1351—2008 *Wheat* in whole.

The main changes compared with GB 1351—2008 are as follows:

- Definition of the term of defected kernel has been changed and noted by those of insect-bored kernel, diseased kernel, black point kernel, fusarium damaged kernel, broken kernel, sprouted kernel and mouldy kernel (see 3.2 and 3.2 in edition 2008). The definition of the term of impurities has been changed and noted by those of screenings, inorganic impurities and organic impurities (see 3.3 and 3.3 in edition 2008). Definition of terms of colour and brightness and odor have been changed (see 3.4, 3.5 and 3.4 in edition 2008). Definition of the term of wheat hardness index has been changed (see 3.7 and 3.7 in edition 2008);
- Term and definition of ‘heat-damaged kernel’ has been added (see 3.2);
- Term and definition of ‘useless wheat’ has been added (see 3.3);
- Description of wheat classes is changed. A ‘note’ has been added to the class ‘mixed wheat’ (see Clause 4, Clause 4 in edition 2008);
- Grading factor ‘mineral’ has been replaced with ‘inorganic impurities’ in Table 1(see Clause 5, Clause 5 in edition 2008);
- Test method ‘determination of moisture content’ has been changed. GB 5009.3 has been added as the arbitration method (see 6.7, 6.6 in edition 2008);
- Clauses related to hygiene requirements have been removed (see 5.2 in edition 2008).

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. The issuing body of this document shall not be held responsible for identifying any or all such patent rights.

This document was proposed and prepared by National Food and Strategic Reserves Administration.

The previous editions of this document are as follows:

—GB 1351-1986, GB 1351-1999, GB 1351-2008.

Wheat

1 Scope

This document specifies the terms and definitions, classification, quality requirement, test methods, inspection rules and the labeling, packaging, storage and transportation requirement for wheat.

This document is applicable to the purchase, storage, transportation, process and sale of commercial wheat.

This document is not applicable to special wheat categories other than those specified in Clause 4.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

GB 5009.3, *National food safety standard – Determination of moisture content in food*

GB/T 5490, *Inspection of grain and oil – General rules*

GB/T 5491, *Inspection of grain and oilseed – Sampling and sampling reduction*

GB/T 5492, *Inspection of grain and oil – Identification of colour, odour and taste of grain and oilseeds*

GB/T 5493, *Inspection of grain and oil – Determination of type purity and their mixture*

GB/T 5494–2019, *Inspection of grain and oil – Determination of foreign matter and defected kernels of grain and oilseeds*

GB/T 5497, *Inspection of grain and oil – Determination of moisture content*

GB/T 5498, *Inspection of grain and oil – Determination of test weight*

GB/T 21304, *Inspection of grain and oil – Determination of wheat hardness – Hardness index method*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

test weight

mass of wheat kernels per unit volume under well-defined conditions

Note 1 to entry: Test weight is expressed in grams per litre (g/L).

3.2

defected kernel

damaged but still useful wheat kernel

Note 1 to entry: It includes insect-bored kernel, diseased kernel/mottled kernel, heat-damaged kernel, broken kernel, sprouted kernel, and mouldy kernel.

Note 2 to entry: Insect-bored kernel is the kernel that damaged to embryo or endosperm owing to attack by insects, rodents, mites or other pests.

Note 3 to entry: Diseased kernel or mottled kernel is the kernel that damaged to embryo or endosperm and shows visible mottle on surface owing to disease. It includes black point kernel and fusarium damaged kernel. Black point kernel is kernel that has a distinct dark brown or black discoloration of the whole germ and surrounding area. *Fusarium* damaged kernel is the kernel that is shrunken and chalk-like, or has purple surface, or has a visible pinkish mould and/or black perithecium growth caused by *Fusarium* head blight.

Note 4 to entry: Heat-damaged kernel is the kernel that materially discolored or damaged by heat from microorganisms or other causes.

Note 5 to entry: Broken kernel is the kernel or piece of kernel that is squashed or broken with damage to embryo or endosperm.

Note 6 to entry: Sprouted kernel is kernel in which the radicle or plumule has not sprouted out but the covering of the germ has split, or the radicle or plumule has sprouted out to clearly visible but is shorter than the kernel length.

Note 7 to entry: Mouldy kernel is the kernel which has mould.

3.3

Impurities; useless materials

useless wheat and all materials other than wheat

Note 1 to entry: They includes screenings, inorganic impurities and organic impurities.

Note 2 to entry: Screenings refers to the material which passes through a test sieve with round apertures having diameter of 1,5 mm.

Note 3 to entry: Inorganic impurities include earth, stone, sand, brick and/or tile pieces and other inorganic matters.

Note 4 to entry: Organic impurities include other grain, useless wheat and other organic matters.

Note 5 to entry: Useless wheat refers to the kernel which is rendered unfit for use as raw material. It includes completely discolored wheat, sprout wheat in which the radicle or plumule sprouted longer than the kernel length, nematode wheat and bunt wheat.

3.4

colour and brightness

the exterior colour and luster of a batch of wheat under specified condition

3.5

odour

the smell of a batch of wheat under specified condition

3.6

wheat hardness

the ability of wheat kernel to resist deformation and breakage under external force

3.7

wheat hardness index

sample remaining on the sieve account for mass fraction of the test sample which is squashed under specified condition

Note 1 to entry: It is expressed by HI.

4 Classification

Wheat is classified by kernel hardness and seed coat color as follows:

- a) Hard white wheat. Wheat in which not less than 90 percent of kernels have white or yellow-white seed coat and whose hardness index is not less than 60.
- b) Hard red wheat. Wheat in which not less than 90 percent of kernels have dark red or reddish brown seed coat, and whose hardness index is not less than 60.
- c) Soft white wheat. Wheat in which not less than 90 percent of kernels have white or yellow-white seed coat, and whose hardness index is not more than 45.
- d) Soft red wheat. Wheat in which not less than 90 percent of kernels have dark red or reddish brown seed coat, and whose hardness index is not more than 45.

e) Mixed wheat. Any wheat that does not comply with specifications from a) to d).

Note 1 to entry: Wheat in which the seed coat of the kernels purple or black or colour other than white or red is classified as special wheat categories.

5 Quality requirements

The quality requirements of all grades of wheat are given in Table 1, among which the test weight is the grading index and Grade 3 is the medium grade.

Table 1 Quality requirements

Grades	Test weight/ (g/L)	Defected kernel/%	Impurities /%		Moisture content /%	Color and brightness, odor
			Total	In which: inorganic		
1	≥790	≤6.0	≤1.0	≤0.5	≤12.5	normal
2	≥770					
3	≥750					
4	≥730					
5	≥710					
Off-grade	<710					
Note: “—” means not required.						

6 Test methods

6.1 Sampling and sample reduction: in accordance with GB/T 5491.

6.2 Inspection of colour of wheat seed coat: in accordance with ‘color of kernel’ in GB/T 5493.

6.3 Inspection of wheat hardness: in accordance with GB/T 21304.

6.4 Inspection of colour and brightness, odour: in accordance with GB/T 5492.

6.5 Inspection of test weight: in accordance with GB/T 5498.

6.6 Inspection of impurities and defected kernel content: in accordance with GB/T 5494–2019, in which, inorganic material shall be determined in accordance with clause 6.1.4 of GB/T 5494–2019.

6.7 Inspection of moisture content: in accordance with GB 5009.3 or GB/T 5497. GB 5009.3 is the arbitration method.

7 Inspection rules

7.1 General inspection rules are carried out in accordance with GB/T 5490.

7.2 Inspection lot shall be wheat of the same class, place of origin, same harvest year, same transportation unit and same storage unit.

7.3 Criterion rules: Test weight shall comply with corresponding grade as specified in Table 1. Other indexes shall be in accordance with relevant national provisions.

8 Labeling

Name, type, grade, place of origin and harvest year of the product shall be indicated on the package or attached documents.

9 Packaging, storage and transportation

9.1 Packaging

Packaging shall be clean, firm, odorless and undamaged, sealed tightly and strong to avoid leakage.

9.2 Storage

Wheat shall be stored in warehouses which are clean, dry, rain-proof, damp-proof, insects-proof, rodents-proof and odour-free. No product shall be stored together with toxic or hazardous matters or substances with relatively high moisture content.

9.3 Transportation

The transport tools shall comply with hygienic requirements, and be rain-proof and pollution-free during transportation.

《小麦》（GB 1351-2023）（英文版）征求意见稿翻译说明

1 任务来源及主要工作过程

1.1 任务来源

根据《国家标准化管理委员会关于下达〈便携式木折梯安全要求〉等 360 项国家标准外文版计划的通知》（国标委发〔2020〕36 号）要求，由全国粮油标准化技术委员会负责归口，翻译国家标准《小麦》（GB 1351-2023）英文版，外文版项目计划编号 W20201452，具体信息见下表。

序号	外文版项目计划编号	国家标准/计划编号	国家标准/计划名称	翻译语种	主管部门	归口单位
1	W20201452	20171310-Q-449	小麦	英文	国家粮食和物资储备局	全国粮油标准化技术委员会

1.2 主要工作过程

GB 1351-2023 英文版翻译起草工作由国家粮食和物资储备局科学研究院负责，在 GB 1351 提交报批稿后进行。英文版在起草过程中参考国际标准和美国、加拿大、澳大利亚等国家的小麦标准，进行对比分析，力求忠实原文、表述准确，符合英文语言的表达习惯。

《小麦》英文版翻译起草工作的主要过程如下：

2020 年 12 月，国家粮食和物资储备局科学研究院成立起草工作组，成员孙辉、洪宇。工作组根据标准中文版，并按照《国家标准外文版管理办法》、GB/T 20000.10-2016 和 GB/T 20000.11-2016 的要求开展英文版的翻译起草工作；

2023 年 6 月，根据《小麦》（GB 1351-2023）正式发布版再次进行了修改完善，形成送审稿；

2023 年 7 月至 8 月，由国家粮食和物资储备局标准质量中心组织专家以函审方式进行标准审查；

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：

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