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**Report Highlights:**

On October 28, 2024, the State Administration for Market Regulation (SAMR) published a revised “National Standard for Seed of Food Crops – Part 1: Cereals”, which will come into effect on October 1, 2025. The new standard incorporates quality requirements for genetically engineered (GE) corn varieties with herbicide tolerance and insect resistance and modified quality indicators for hybrid rice seeds and conventional corn, wheat, and sorghum seeds. This report provides an unofficial translation of the revised standard which was previously notified to the World Trade Organization (WTO) on February 12, 2024 as G/TBT/N/CHN/1817.

## Summary

On October 28, 2024, SAMR published the revised [GB4404.1-2024 National Standard for Seed of Food Crops - Part 1: Cereals](#) (link in Chinese), which will come into effect on October 1, 2025. The mandatory national standard specifies quality requirements, inspection rules, and production methods which apply to cereal seeds including rice, corn, wheat, barley, buckwheat, oats, sorghum, and millet. This standard will replace [GB4404.1-2008 Seed of Food Crops - Part 1: Cereals](#), [GB4404.3-2010 Seed of Food Crops - Part 3: Buckwheat](#) and [GB4404.4-2010 Seed of Food Crops - Part 4: Oats](#) (links in Chinese).

China's international trade of cereal seeds is relatively minor compared to production and utilization. In recent years, some oat seed and a small amount of corn seed have been imported. As to exports, some rice seed and a small amount of corn seed were exported.

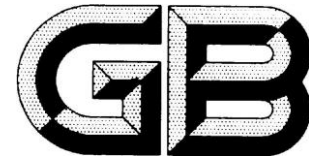
On January 4, 2024, MARA published a draft version of the standard for public comment. On February 12, 2024, the draft version was notified to the World Trade Organization (WTO) as [G/TBT/N/CHN/1817](#). There are no major changes in the final version compared to the draft version. For an unofficial translation of the draft directive, please see [GAIN Report CH2024-0004](#).

Notable changes in the revised standard include:

- Added definitions for authenticity and purity for GE varieties, and quality requirements for GE corn seeds;
- Modified quality indicators for rice, maize, wheat, and sorghum seeds;
- Added quality indicators for hybrid millet seed (see 4.7);

This report provides an UNOFFICIAL translation of the revised standard. Post has added current standard levels in the text, marked in **RED**, for comparison purposes. For example, in Table 1, below, the “physical purity” for conventional rice seeds was 98 percent and the new standard will be 99 percent.

BEGIN UNOFFICIAL TRANSLATION



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## National Standards of People's Republic of China

GB 4404.1—2024

Replace GB 4404.1-2008 GB4404.3-2010、GB4404.4-2010

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### Seed of Food Crops——Part 1: Cereals

Issued on October 28, 2024    Implemented on October 1, 2025

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Released by the State Administration for Market Regulation and China's National Standardization Administration Committee

## Foreword

This document is drafted in accordance with the provisions of GB/T1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

This document is the first part of GB 4404 "Seed of Food Crops". GB4404 has released the following parts:

- Part 1: Cereals;
- Part 2: Beans;

This document replaces GB4404.1-2008 "Seed of Food Crops Part 1: Cereals", GB4404.3-2010 "Seed of Food Crops Part 3: Oats", and GB4404.4-2010 "Seed of Food Crops Part 4: Buckwheat". Compared with GB 4404.1-2008, GB4404.3-2010, and GB4404.4-2010, In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- Added the definitions of terms of genuineness of GM variety and purity of GM variety (see 3.7 and 3.8);
- Modified some quality indicators rice seeds (see 4.1, and 4.2.1 of GB4404.1-2008);
- Modified some quality indicators of maize seeds (see 4.2, and 4.2.2 of GB4404.1-2008), and added requirements for genetically modified of variety genuine, and purity requirements for genetically modified varieties with herbicide tolerance and insect resistance (see 4.2.2);
- Modified the quality indicator for germination rate of wheat conventional seeds (see 4.3 and 4.2.3 of GB4404.1-2008);
- Modified the seed moisture quality indicators for sorghum seeds (see 4.6 and 4.2.4 of GB4404.1-2008);
- Added quality indicators for millet hybrid seed (see 4.7);
- Modified test method (see Chapter 5, and Chapter 5 of GB4404.1-2008).

Please note that some content in this document may be subject to patents. The issuing authority of this document assumes no responsibility for identifying patents.

This document is proposed and administered by the Ministry of Agriculture and Rural Affairs of the People's Republic of China.

The previous versions of this document and the documents it replaces are as follows:

- The first release was GB4404-1984 and GB4405-1984 in 1984;
- The first revision was GB4404.1-1996 in 1996;
- The second revision was GB4404.1-2008 in 2008, and the No. 1 revision order was issued in 2020;

- This is the third version.

## **Introduction**

The "Seed Law of the People's Republic of China" stipulates that seeds with "quality lower than national standards" and "quality lower than label indicators" are inferior seeds. Clarifying the minimum quality requirements for important crop seeds is not only a requirement to implement national laws, but also a need to ensure seed quality, maintain seed market order, and protect the vital interests of seed users (farmers). According to convention, crop seeds can be divided into food crop seeds, oil crop seeds, cash crop seeds, melon and vegetable crop seeds, etc. Among them, food crop seeds are an important part of crop seeds. GB4404 divides food crop seeds into the following two parts:

- Part 1: Cereals;
- Part 2: Beans.

The seed quality requirements in this document are the minimum quality commitments that seed producers and operators should make and are important basis for punishing inferior seeds and handling seed quality disputes in accordance with the law.

## **Seed of Food Crops——Part 1: Cereals**

### 1. Scope

This document specifies quality requirements, inspection rules and describes inspection methods and for seeds of rice (*Oryza sativa*), corn (*Zea mays*), wheat (*Triticum aestivum*), barley (*Hordeum vulgare*), Tartary buckwheat (*Fagopyrum tataricum*(L.)Gaertn), common buckwheat (*Fagopyrum esculentum* Moench) , oats (*Avena sativa* L.), sorghum (*Sorghum bicolor*), millet (*Setaris italica*) and millet<sup>1</sup> (*Panicum miliaceum*).

This document applies to the production and sales of above-mentioned cereal crop seeds.

### 2. Normative reference documents

The contents in the following documents constitute indispensable provisions of this document through normative references in the text. For referenced documents with date, only the version corresponding to that date is applicable to this document; for referenced documents without date, the latest version (including all amendments) is applicable to this document.

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<sup>1</sup>There are many millet species, *Setaris italica* and *Panicum miliaceum* are two of them. Please refer to <https://en.wikipedia.org/wiki/Millet>

GB/T3543.2 Crop Seed Inspection Procedures Part 2: Sampling  
GB/T3543.3 Crop Seed Inspection Procedures Part 3: Sowing Quality: Clarity Analysis  
GB/T3543.4 Crop Seed Inspection Procedures Part 4: Sowing Quality: Germination Test  
GB/T3543.5 Crop Seed Inspection Procedures Part 5: Variety Quality: Variety Purity Identification  
GB/T3543.6 GB/T3543.2 Crop Seed Inspection Procedures Part 6: Sowing Quality: Moisture Determination  
GB/T3543.12 GB/T3543.2 Crop Seed Inspection Procedures Part 12: Variety Quality Determination of Genetically Modified Seeds  
GB 20464 General Directive for Labeling of Agricultural Seeds

### 3. Terms and Definitions

The following terms and definitions apply to this document.

#### 3.1 Basic seed

Seeds from the first to third generation propagated from breeder's seed and confirmed to meet the specified quality requirements.

#### 3.2 Qualified seeds

Seeds from the first to third generation or hybrids propagated from basic seeds and confirmed to meet the specified quality requirements.

#### 3.3 Single cross

The first generation of hybrid seeds from two inbred lines.

#### 3.4 Double cross

The first generation of hybrid seeds from two single crosses.

#### 3.5 Three-way cross

The first generation of hybrid seeds from an inbred line and a single cross.

#### 3.6 Single kernel planting seed

Seeds whose net seed content is labeled by the number of kernels for the purpose of single kernel planting.

#### 3.7 Genuineness of genetically modified variety

Event authenticity, containing and only containing labeled events.

#### 3.8 Purity of genetically modified variety

The percentage of the samples containing and only containing the target traits of labeled events in the samples tested.

Note: Events with different traits must be indicated separately.

### 4. Quality requirements

#### 4.1 Rice

4.1.1 The quality of rice seed shall conform to the requirements of Table 1.

Table 1 Rice Seed Quality Requirements

Crop	Type of Seeds		Variety genetic purity/% not lower than	Physical purity/% not lower than	germination rate/% not lower than	Moisture <sup>a</sup> /% not higher than
Rice	Conventional Seeds	Basic seed	99.9	99.0/98.0 <sup>2</sup>	85	13.0(indica)
		Quality Seed	99.0			14.5(Japonica)
	Sterile line, restorer line, maintainer line	Basic seed	99.9	98.0	80	13.0
		Quality Seed	99.5			
	Hybrids <sup>b</sup>	Quality Seed	97.0/96.0	99.0/98.0	82/80	13 (indica)
						14.5 (Japonica)

Note: Hybrids in the table refer to three-line and two-line rice hybrid seeds.

a. The moisture content of seeds sold in north of the Great Wall and in alpine areas is allowed to be higher than 13.0% (indica) and 14.5% (japonica), but should not be higher than 15.0%/16.0%. If sold in south of the Great Wall (except alpine areas), the moisture content cannot be higher than 13.0%.

b. For indica-japonica hybrid rice seeds, if the female parent (sterile line) is japonica rice, the moisture quality requirements for japonica rice seeds shall be followed. If the female parent (sterile line) is indica rice, the moisture quality requirements for indica rice seeds shall be followed.

#### 4.2. Corn

4.2.1 The quality of corn seed shall conform to the requirements of Table 2.

Table 2 Corn Seed Quality Requirements %

Crop	Type of Seeds		Variety genetic purity/% not lower than	Physical purity/% not lower than	Germination rate/%not lower than	Moisture <sup>a</sup> /%not higher than
Corn	Conventional Seeds	Basic seed	99.9	99.0	88/85	13.0
		Quality Seed	97.0			
	Inbred	Basic seed	99.9	99.0/98	80	13.0
		Quality Seed	99.0			
	Single Cross	Quality Seed (not for single kernel)	96.0	99.0/98	88/85	13.0

<sup>2</sup> The current standard for physical purity is 98%.

		planting)				
		Quality Seed (single kernel planting)	97.0		93	
	Double Cross	Quality Seed	95.0	99.0/98	85	13.0
	Three-way Cross	Quality Seed	95.0			
<p>a. The moisture content of seeds sold in north of the Great Wall and in alpine areas(except for single kernel plating seeds) is allowed to be higher than 13.0%, but should not be higher than 15.0%/16.0%. If sold in south of the Great Wall (except alpine areas), the moisture content cannot be higher than 13.0%.</p>						

4.2.2 The quality of GM corn seed shall also conform to the requirements of Table 3.

Table 3 GM Corn Seed Quality Requirements

Crop	Genuineness of genetically modified variety	Genetically modified variety purity/%	
		Herbicide tolerant trait purity not lower than	Insect resistance trait purity not lower than
Corn <sup>a</sup>	Containing and only containing labelled events	98.0	95.0
<p>The trait purity of transformants can be abbreviated as "trait purity", for example, "herbicide-tolerant transformant trait purity" can be abbreviated as "herbicide-tolerant trait purity"</p>			
<p>a. For GM corn seeds, the quality seed of single cross shall follow the requirements for single kernel plating.</p>			

#### 4.3 Wheat and Barley

The quality of wheat and barley seed shall conform to the requirements of Table 4.



Table 4 Wheat and Barly Seed Quality Requirements

Crop	Type of Seeds		Variety genetic purity/% not lower than	Physical purity/% not lower than	Germination rate/% not lower than	Moisture/% not higher than
Wheat	Conventional Seeds	Basic seed	99.9	99.0	86/85	13.0
		Quality Seed	99.0			
Barley	Conventional Seeds	Basic seed	99.9	99.0/96	85	13.0
		Quality Seed	99.0			

4.4 Buckwheat

The quality of buckwheat seed shall conform to the requirements of Table 5.

Table 5 Buckwheat Seed Quality Requirements

Crop	Type of Seeds	Variety genetic purity/% not lower than	Physical purity/% not lower than	Germination rate/% not lower than	Moisture/% not higher than
Tartary buckwheat	Basic seed	99.0	98.0	85	13.5
	Quality Seed	96.0			
Common buckwheat	Basic seed	95.0	98.0	85	13.5
	Quality Seed	90.0			

4.5 Oat

The quality of oat seed shall conform to the requirements of Table 6.

Table 6 Oat Seed Quality Requirements

Crop	Type of Seeds	Variety genetic purity/% not lower than	Physical purity /% not lower than	Germination rate/% not lower than	Moisture/% not higher than
Oat	Basic seed	99.0	98.0	85	13.0
	Quality Seed	97.0			

#### 4.2.6 Sorghum

The quality of sorghum seed shall conform to the requirements of Table 7.

Table 7 Rice Seed Quality Requirements

Crop	Type of Seeds		Variety genetic purity/% not lower than	Physical purity/% not lower than	Germination rate/% not lower than	Moisture <sup>a</sup> /% not higher than
Sorghum	Conventional Seeds	Basic seed	99.9	98.0	75	13.0
		Quality Seed	98.0			
	Sterile line, restorer line, maintainer line	Basic seed	99.9	98.0	75	13.0
		Quality Seed	99.0			
	Hybrids	Quality Seed	93.0	98.0	80	13.0
<p>a. The moisture content of seeds sold in north of the Great Wall and in alpine areas is allowed to be higher than 13.0%, but should not be higher than 15.0%. If sold in south of the Great Wall (except alpine areas), the moisture content cannot be higher than 13.0%.</p>						

#### 4.7 Millet (*Setaris italica*) and millet (*Panicum miliaceum*)

The quality of millet (*Setaris italica*) and millet (*Panicum miliaceum*) seed shall conform to the requirements of Table 8.

Table 8 Millet (*Setaris italica*) and Millet (*Panicum miliaceum*) Seed Quality Requirements

Crop	Type of Seeds		Variety genetic purity/% not lower than	Physical purity/% not lower than	Germination rate /% not lower than	Moisture /% not higher than
Millet <sup>a</sup> ( <i>Setaris italica</i> ) and	Conventional Seeds	Basic seed	99.8	98.0	85	13.0
		Quality Seed	98.0			
	Hybrids <sup>b</sup>	Quality Seed	96.0			
Millet ( <i>Panicum miliaceum</i> )	Conventional Seeds	Basic seed	99.8	98.0	85	13.0
		Quality Seed	98.0			

a. In agricultural production, millet (*Setaria italica*) is commonly known as “Guzi”, and millet (*Panicum miliaceum*) is commonly known as “Meizi”.

b. In the case of millet (*Setaria italica*) hybrids produced by the two-line method using male sterile lines, the variety generic purity is not subject to above quality requirements if they have not been treated with specialized herbicides, and the germination rate is not subject to the above quality requirements if they have been treated with specialized herbicides.

## 5 Testing methods

### 5.1 Variety purity

The testing methods for variety purity are implemented in accordance with the provisions of GB/T3543.5.

### 5.2 Clarity

The testing method for clarity is implemented in accordance with the provisions of GB/T3543.3.

### 5.3 Germination rate

The testing method for germination rate is implemented in accordance with the provisions of GB/T3543.4.

### 5.4 Moisture

The testing method for moisture is implemented in accordance with the provisions of GB/T3543.6.

### 5.5 Genuineness of genetically modified variety

The testing method for the genuineness of genetically modified variety is implemented in accordance with the provisions of GB/T3543.12.

### 5.6 Purity of genetically modified varieties

The testing method for the purity of genetically modified varieties is implemented in accordance with the provisions of GB/T3543.12.

## 6 Testing rules

### 6.1 Sampling

The sampling method and seed batch determination are implemented in accordance with the provisions of GB/T 3543.

### 6.2 Judgement rules

The quality judgment rules are implemented in accordance with the provisions of GB 20464.

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## **Attachments:**

No Attachments.