Voluntary Report – Voluntary - Public Distribution **Date:** March 23, 2021

Report Number: CH2021-0031

Report Name: China Notified Draft National Standard for Soybeans

Country: China - People's Republic of

Post: Beijing

Report Category: FAIRS Subject Report, Sanitary/Phytosanitary/Food Safety

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Report Highlights:

The draft Chinese soybean standard contains changes on quality requirements and adds an additional grade for soybeans. This standard, once implemented, will replace the current National Standard for Soybeans, GB 1352-2009 of September 1, 2009. Unlike the current standard, in which only clauses 5.1, 7.1 and 8 are mandatory, the entirety of the proposed new standard is mandatory. The standard specifies the terms and definitions, classification, quality requirements, test methods, inspection rules, labeling, packaging, storage, and transportation requirements for soybeans. The standard is applicable to the purchase, storage, transportation, processing, and sale of commercial soybeans. China notified the new standard to the WTO on February 8, 2021 and requests comments by April 9, 2021. Comments can be sent to tbt@customs.gov.cn. This report contains an unofficial translation of the draft standard.

TRANSLATION BEGINS

National Food Safety standard of the People's Republic of China

GB 1352 — XXXX

Substitute for GB1352-2009

Soya bean

(Draft for Comments)

Issued date: XX-XX-XXXX Implementation date: XX-XX-XXXX

Published by the National Administration for Market Regulation and the Standardization Administration of P.R.A

Foreword

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

This document replaces GB 1352-2009 Soya bean.

Compared with GB 1352-2009, the main technical changes are as follows:

-Mandatory clauses have been modified, from clauses mandatory to full-text mandatory.

-The applicable scope of the standard has been modified.

-The definitions of sound kernel, high-oil soya bean and high-protein soya bean have been modified.

-The requirement for the rate of damaged kernel has been modified.

-The quality index of high protein soya bean has been modified.

-The off-grade of soya bean has been added.

This document was proposed and centrally managed by the National Food and Strategic Administration.

Previous versions of standards replaced by this document are released as follows:

-GB1352-1978, GB1352-1986, GB 1352-2009.

Soya bean

1. Scope

This document specifies the terms and definitions, classification, quality requirements, test methods, test rules, labels and signs, packaging, storage and transportation requirements of soya bean.

This document applies to commercial soya bean purchased, stored, transported, processed and sold.

2 Normative references

The contents in the following documents constitute the essential clauses of this document through normative reference in the text. For all dated references, only the version corresponding to the date is applicable to this document; For undated references, the latest version (including all modifications) is applicable to this document.

GB/T 191 Packaging - Pictorial marking for handling of goods

GB 5009.3 National Standard for Food Safety-Determination of Moisture in Food

GB 5009.5 National Standard for Food Safety-Determination of Protein in Food

GB -2016 National Standard for Food Safety-Determination of Fat in Food

GB/T 5490 General Rules for Grains and Oilseeds Inspection

GB/T 5491 Inspection of Grains and Oilseeds - Methods for Sampling and Sample Reduction

GB/T 5492 Inspection of Grains and Oilseeds - Identification of Color, Odor and Taste of Grain and Oilseeds

GB/T 5493 Inspection of Grains and Oilseeds - Determination of Type Purity and Their Mixture

GB/T 5494 Inspection of Grains and Oilseeds - Inspection of Impurities and Unsound Kernels of Grain and Oilseeds

3 Terms and definitions

The terms and definitions below are applicable to this document.

3. 1 Sound kernel

Kernels with normal color and intact seeds.

3.2 Immature kernel

Kernels with seeds that are not full, and the shrunken part accounts for half or more of the kernel surface or the green part of the seed leaf accounts for half or more (except green kernel soybean), which are significantly different from normal kernels.

3.3 Splits; broken kernel

The broken part of the seed leaf accounts for a quarter of the kernel itself.

3.4 Damaged kernel

Soya bean kernels damaged by insects, bacteria, mold, sprout, frostbite, heat or due to other reasons.

3.4.1 Insect-bored kernel; weevilled kernel

Kernels that are bored by insects, which damages the seed leaf.

3.4.2 Diseased kernel; mottled kernel

Kernels with disease spots on the surface, which damages the seed leaf.

3.4.3 Moldy kernel

Kernels with moldy seeds.

3.4.4 Sprouted kernel

Kernels whose sprouts or young roots break through seed coats or kernels that have enlarged by absorbing moisture and have not restored.

3.4.5 Frost-damaged kernel

Kernels damaged by freezing, with transparent seeds or stiff and dark green seed leaf.

3.4.6 Heat-damaged kernel

Kernels with seed leaf significant discolored and damaged by heating.

3.5 Impurities; useless material

Non-soybean materials remaining in the sample after passing the specified screen layer and screening.

Note: It includes screenings, inorganic impurities and organic impurities.

3.5.1 Screenings; fines

Materials passing through a round-hole screen with a diameter of 3.0mm.

3.5.2 Inorganic impurities

Soil, sandstone, bricks and other inorganic materials.

3.5.3 Inorganic impurities

Useless soybean kernels, heterogeneous grains and other organic materials.

3.6 Percent of sound kernel

Mass fraction of sound kernels in the sample.

3.7 Percent of damaged kernel

Mass fraction of damaged kernels in the sample.

3.8 Percent of heat-damaged kernel

Mass fraction of heat-damaged kernels in the sample.

3.9 High-oil soya bean

Soya bean with a fat content of not less than 20.0% (in dry basis).

3.10 High-protein soya bean

Soya bean with a protein content of not less than 40.0% (in dry basis).

4 Classification

According to the skin color, the soya bean is classified into:

(a) Yellow soya bean: soya bean with yellow and light yellow seed coat and yellow brown, light brown or dark brown navel, and the kernel content is not less than 95%.

(b) Green soya bean: soya bean with green seed coat and the kernel content not less than 95%. According to the color of its seed leaf, it is classified into two types: soya bean with green husk and green kernel and soya bean with green husk and yellow kernel.

(c) Black soya bean: soya bean with black seed coat and the kernel content not less than 95%. According to the color of its seed leaf, it is classified into two types: soya bean with black husk and green kernel and soya bean with black husk and yellow kernel.

(d) Other soya beans: soya beans whose seed coat is tan, brown, red and other single colors and bicolor (the seed coat is two colors, one of which is brown or black, and it covers more than half of the kernel surface), and the kernel content is not less than 95%.

(e) Mixed soya beans: soya beans that do not meet the requirements of a), b), c) and d).

It is classified into high-oil soya bean and high-protein soya bean according to composition content.

5 Quality requirements.

5.1 The quality indicators of soya bean shall meet the requirements in Table 1.

Table 1 Soya Bean Quality Indicators

Grade	Rate of sound kernels / %	Rate of damaged kernels / %		Impurities content / %	Moisture content / %	Color and odor
		Total	Rate of heat-			
1	≥ 95.0	≤ 4.0	≤ 0.2	≤ 1.0	≤ 13.0	Normal
2	≥ 90.0	≤ 6.0	≤ 0.2			
3	≥ 85.0	≤ 8.0	≤ 0.5			
4	≥ 80.0	≤ 10.0	≤ 1.0			
5	≥ 75.0	≤ 12.0	≤ 3.0			
Off-grade	<75.0	-	-			
Note: "-" indicates that there is no requirement.						

5.2 The quality indicators of high-oil soya bean shall meet the requirements in Table 2.

Table 2 Quality Indicators of High-oil Soya Bean

Grade	Fat content / %	Rate of sound	Rate of damaged kernels /		Impurities content / %	Moisture content / %	Color and odor
			Total	Rate of heat-			
1	≥ 22.0	≥ 85.0	≤ 8.0	≤ 0.5	≤ 1.0	≤ 13.0	Normal
2	≥ 21.0						
3	≥ 20.0						

5.3 The quality indicators of high-protein soya bean shall meet the requirements in Table 3.

Table 3 Quality Indicators of High-protein Soya Bean

Grade	Protein content / %	Rate of sound	Rate of damaged		Impurities content / %	Moisture content / %	Color and odor
			Total	Rate of heat-			
1	≥ 44.0	≥ 85.0	≤ 8.0	≤ 0.5	≤ 1.0	≤ 13.0	Normal
2	≥ 42.0						
3	≥ 40.0						

6 Testing methods

6.1 Sampling and sample reduction shall be conducted according to GB/T 5491.

6.2 The rate of sound kernel shall be tested according to Appendix A

6.3 The rate of damaged kernel shall be tested according to Appendix A

6.4 The rate of heat-damaged kernel shall be tested according to Appendix A

6.5 The impurities shall be tested according to GB/T 5494.

6.69 The moisture content shall be determined according to GB 5009.3

6.7 The color and odor shall be tested according to GB/T 5492.

6.8 The soya beans of other colors shall be tested according to GB/T 5493.

6.9 Determination of protein content: according to GB 5009.5, the nitrogen is converted into the coefficient of protein (F), which is calculated according to 6.25, and the test result is calculated according to Formula (1):

$$X_{p,\text{干基}} = \frac{X_p}{(100-W)} \times 100 \quad (1)$$

In which,

$X_{p,\text{ dry basis}}$ - the content of protein in the sample, and the unit is g/100 (g/100, in dry basis)

X_p - the protein content in the sample, calculated according to GB 5009.5, and the unit is g/100

W - the moisture content in the sample, and the unit is g/100

6.10 Determination of fat content: According to the first method specified in GB 5009.6-2016, the test result is calculated according to Formula (2):

$$X_{o,\text{干基}} = \frac{X_o}{(100-W)} \times 100 \quad (2)$$

In which,

$X_{o,\text{ dry basis}}$ - the content of fat in the sample, and the unit is g/100 (g/100, in dry basis)

X_o - the fat content in the sample, calculated according to GB 5009.6, and the unit is g/100

W - the moisture content in the sample, and the unit is g/100

7 Test rules

7.1 General rules of test shall be implemented according to GB/T 5490.

7.2 Test batch: soya beans of the same kind, place of origin, harvest year, transportation unit and storage unit.

7.3 Soya beans shall be graded according to the rate of sound kernels, and other indicators shall be implemented according to relevant national provisions.

7.4 High-oil soya beans shall be graded according to the fat content, and those whose fat content is lower than the minimum grade shall not be regarded as high-oil soybeans. Other indicators shall be implemented according to relevant national provisions.

7.5 High-protein soya beans shall be graded according to the protein content, and those whose protein content is lower than the minimum grade shall not be regarded as high-protein soybeans. Other indicators shall be implemented according to relevant national provisions.

8 Labels and signs

8.1 The name, category, grade, place of origin and harvest year of the product shall be indicated in the package or accompanying documents.

8.2 The labels of prepackaged soya beans shall comply with relevant national standards

8.3 Pictorial marking for packaging, storage and transportation of outer packaging shall comply with GB/T 191.

8.4 Genetically modified soya beans shall be marked according to relevant national regulations.

9 Packaging, storage and transportation

9.1 Packaging

The packaging shall be clean and firm, without damage, with tight and firm seams, and shall not cause leakage of products, bring pollution and abnormal odor to products. Genetically modified soya beans shall be packaged separately.

9.2 Storage

It shall be stored in a clean, dry, rain-proof, moisture-proof, insect-proof, rat-proof and odor-free warehouse, and shall not be mixed with toxic and harmful substances or substances with high water content.

9.3 Transportation:

It shall use transport tools and containers meeting the hygienic requirements, and attention shall be paid to prevent water, moisture and pollution during transportation.

Appendix A

(normative)

Test methods of for the rate of sound kernels, the rate of damaged kernels and heat-damaged kernels

A.1 Instruments and appliances

A.1.1 Balance with sensitivity of 0.01g 。

A.1.2 Grain screening.

A.1.3 Sampler and sample reducer.

A.1.4 Analysis tray, small dish, tweezers, etc.

A.2 Operation method

Take 500g of samples (m_1) according to GB/T 5491, screen them twice according to the method specified in GB/T5494, and then pick out the oversize impurities on the screen and screenings and weigh them together (m_2). Weigh 100g of samples (m_3) from the sample that has tested the oversize impurity, pour them into the analysis tray, respectively pick out impurities (m_4), damaged kernels (m_5), immature kernels and broken kernels (m_6), and weigh them, among which the heat-damaged kernels are picked out separately (peel off the skin layer if necessary, and observe whether the seed leaves have changed in color), weigh (m_7).

A.3 Calculation of results

A.3.1 The rate of sound kernels is calculated according to Formula (1):

$$X_1 = \left(1 - \frac{m_2}{m_1}\right) \times \left(\frac{m_3 - m_4 - m_5 - m_6}{m_3}\right) \times 100 \quad (1)$$

In which,

X_1 - Rate of sound kernels, %

m_1 - Mass of large sample, g

m_2 - Mass of impurities in the large sample, g

m_3 - Mass of small sample, g

m_4 - Mass of impurities in the small sample, g

m_5 - Mass of damaged kernels, g

m_6 - Mass of immature kernels and broken kernels, g

The allowable difference of double test results shall not exceed 1.0%, and the average value therefrom is the test result. The test results shall be rounded to one decimal place.

A.3.2 The rate of damaged kernels is calculated according to Formula (2):

$$X_2 = \left(1 - \frac{m_2}{m_1}\right) \times \left(\frac{m_5}{m_3}\right) \times 100 \quad (2)$$

In which,

X_2 - Rate of damaged kernels, %

m_1 - Mass of large sample, g

m_2 - Mass of impurities in the large sample, g

m_3 - Mass of small sample, g

m_5 - Mass of damaged kernels, g

The allowable difference of double test results shall not exceed 0.5%, and the average value therefrom is the test result. The test results shall be rounded to one decimal place.

A.3.3 The rate of heat-damaged kernels is calculated according to Formula (3):

$$X_3 = \left(1 - \frac{m_2}{m_1}\right) \times \left(\frac{m_7}{m_3}\right) \times 100 \quad (3)$$

In which,

X_3 - Rate of heat-damaged kernels, %

m_1 - Mass of large sample, g

m_2 - Mass of impurities in the large sample, g

m_3 - Mass of small sample, g

m_7 - Mass of heat-damaged kernels, g

The allowable difference of double test results shall not exceed 0.2%, and the average value therefrom is the test result. The test results shall be rounded to one decimal place.

TRANSLATION ENDS

Attachments:

No Attachments.