ICS 67.060
CCS B23

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 1352-2023

Replacing GB 1352-2009

Soya bean

大豆

Issued on: May 23, 2023 **Implemented on: December 1, 2023**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

Table of Contents

Foreword

This document was drafted in accordance with the provisions of 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: - MODIFY the scope of application of the standard; - MODIFY the definitions of sound kernel, high-oil soya bean, and high-protein soya bean; - MODIFY the requirements for percent of damaged kernel; - MODIFY the quality indicators of high-protein soya beans; - ADD the out-of-grade of soya beans. Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The issuing authority shall not be held responsible for identifying any or all such patent rights. The previous released versions replaced by this document are as follows: - GB 1352-1978, GB 1352-1986, GB 1352-2009. Soya beans

1 Scope

China's mandatory grading standard for soya beans - the document on which the crop is bought from the farmer, moved into and out of the state reserve, and sold to the crushers and the food processors. It defines the terms and definitions for soya beans and sets their classification, quality requirements, inspection methods, inspection rules, and the requirements on packaging, transport and storage, and it applies to the soya beans purchased, stored, transported, processed and sold as a commodity. The classification

separates the beans by the colour of the seed coat and by the shape - yellow, green, black, other coloured and bicoloured soya beans - because those categories go to different markets: the yellow bean to crushing and to soy foods, the others largely to food uses where appearance is part of the product. The quality requirements are the grading table proper: the proportion of whole and sound beans that sets the grade, the damaged, heat-damaged and mouldy kernels, the impurities, the moisture content, and the colour and odour, with the limits tightening grade by grade. Soya is more perishable than the cereals it is stored beside - the oil in it goes rancid and the protein denatures if the bean is stored warm or wet - which is why the moisture limit and the storage clause carry more weight here than in a wheat or maize standard, and why heat damage has a line of its own in the table. The inspection methods and the rules for grading a lot follow, and they are what settles a delivery dispute. Issued on 23 May 2023 and in force since 1 December 2023, it replaces GB 1352-2009.

This document specifies the terms and definitions, categories, quality requirements, inspection methods, inspection rules, labeling, packaging, storage, and transportation requirements for soya beans. This document applies to the acquisition, storage, transportation, processing, and sale of commercial soya beans.

2 Normative references

The following referenced documents are indispensable for the application 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/T 191 Packaging - Pictorial marking for handling of goods

GB 5009.3 National food safety standard - Determination of moisture in food

GB 5009.5 National food safety standard - Determination of protein in food

GB 5009.6-2016 National food safety standard - Determination of fat in food

GB/T 5490 Inspection of grain and oils - General rules

GB/T 5491 Inspection of grain and oilseeds - Methods for sampling and sample reduction

GB/T 5492 Inspection of grain and oils - Identification of colour, odour and taste of grain and oilseeds

GB/T 5493 Inspection of grain and oils - Determination of type purity and their mixture

GB/T 5494 Inspection of grain and oils - Determination of foreign matter and unsound kernels of grain and oilseeds

3 Terms and definitions

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

3.1 sound kernel Kernels of which the color is normal and the kernel is intact.

3.2 immature kernel Kernels of which the kernel is not full, shriveled to one-half or more of the kernel surface, or the green part of the cotyledons is one-half or more of the whole (except green-cotyledon soya beans), and are significantly different from normal kernels.

3.3 splits; broken kernel Kernels of which the cotyledons are broken up to a quarter or more of the kernel volume.

3.4 damaged kernel Soya bean kernels that are insect-bored, bacterial-damaged, moldy, sprouted, frost- damaged, heat-damaged or damaged by other reasons.

3.5 impurities; useless material Non-soya-bean materials that remain in the sample after passing through the specified sieve layer and sieving.

3.6 percent of sound kernel The mass fraction of sound kernels in the sample.

3.7 percent of damaged kernel The mass fraction of damaged kernels in the sample.

3.8 percent of heat-damaged kernel The mass fraction of heat-damaged kernels in the sample.

3.9 high-oil soya bean Soya beans of which the fat content is not less than 20.0 % (on a dry basis).

3.10 high-protein soya bean Soya beans of which the protein content is not less than 40.0 % (on a dry basis).

4 Categories

Soya beans can be divided into the following categories according to the color of seed coat.

a) Yellow soya beans. soya beans of which the seed coat is yellow or light yellow, the hilum color is yellowish brown, light brown, or dark brown, and the kernel content is not less than 95 %.

b) Green soya beans. soya beans of which the seed coat is green and the kernel content is not less than 95 %. According to the color of its cotyledons, it is divided into two types. green-coat green-cotyledon soya beans and green-coat yellow- cotyledon soya beans.

c) Black soya beans. soya beans of which the seed coat is black and the kernel content is not less than 95 %. According to the color of its cotyledons, it is divided into two types. black-coat green-cotyledon soya beans and black-coat yellow- cotyledon soya beans.

5 Quality requirements

5.1 The quality indicators of soya beans shall comply with the requirements in Table 1.

5.2 The quality indicators of high-oil soya beans shall comply with the requirements in Table 2.

5.3 The quality indicators of high-protein soya beans shall comply with the requirements in Table 3.

6 Inspection methods

6.1 Sample cutting and dividing. implement in accordance with the requirements of GB/T 5491.

6.2 Inspection of percent of sound kernel. implement in accordance with Annex A.

6.3 Inspection of percent of damaged kernel. implement in accordance with Annex A.

6.4 Inspection of percent of heat-damaged kernel. implement in accordance with Annex A.

6.5 Inspection of impurities. implement in accordance with GB/T 5494.

6.9 Determination of protein content. implement in accordance with GB 5009.5.The coefficient (F) for converting nitrogen into protein is calculated as 6.25.The test results are calculated according to formula (1).

6.10 Determination of fat content. implement in accordance with the first method specified in GB 5009.6-2016.The test results are calculated according to formula (2).

7 Inspection rules

7.1 The general rules for inspection shall be implemented in accordance with GB/T 5490.

7.2 The inspection batch shall be soya beans of the same category, origin, harvest year, transportation unit and storage unit.

7.5 High-protein soya beans are graded according to protein content. If the protein content is lower than the minimum grade, they are not classified as high-protein soya beans. Other indicators are implemented in accordance with relevant national regulations.

8 Labeling

8.1 It shall indicate the name, category, grade, origin, and harvest year of the product on the packaging or accompanying documents.

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

8.3 The packaging, storage, and transportation markings of the outer packaging shall comply with the requirements of GB/T 191. Xo, dry basis

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