

Translated English of Chinese Standard: GB/T5490-2010

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 67.040

X 04

GB/T 5490-2010

Replacing GB/T 5490-1985

Inspection of Grain and Oils - General Rules

粮油检验 一般规则

Issued on: June 30, 2010

Implemented on: January 1, 2011

Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China;

Standardization Administration of the People's Republic of China.

Table of Contents

Foreword.....	3
1 Scope.....	4
2 Normative References.....	4
3 Terms and Definitions.....	4
4 Sample Registration.....	6
5 Sample Requirements.....	6
6 Selection of Inspection Methods.....	6
7 Reagent Requirements.....	7
8 Requirements for Instruments and Equipment.....	7
9 Inspection Requirements.....	7
10 Original Records and Inspection Sheet.....	8
11 Result Calculation and Processing.....	8
Appendix A (informative) Quality Inspection Procedures of Grain and Oils.....	10
Appendix B (normative) Calculation of Repeatability Critical Range.....	16

Inspection of Grain and Oils - General Rules

1 Scope

This Standard specifies the relevant terms and definitions, sample registration, sample requirements, selection of inspection methods, reagent requirements, requirements for instruments and equipment, inspection requirements, original records and inspection sheets, as well as result calculation and processing of the quality inspection of grain, oilseeds and products.

This Standard is applicable to the quality inspection of commodity grain, oilseeds and products.

2 Normative References

The clauses of the following documents become clauses of this Standard through the normative references in this Standard. In terms of references with a specified date, all subsequent amendments (excluding errata content) or revisions do not apply to this Standard. However, the various parties that reach an agreement in accordance with this Standard are encouraged to explore whether the latest versions of these documents are applicable. In terms of references without a date, the latest versions apply to this Standard.

GB/T 601 Chemical Reagent - Preparations of Standard Volumetric Solutions

GB/T 602 Chemical Reagent - Preparations of Standard Solutions for Impurity

GB/T 603 Chemical Reagent - Preparations of Reagent Solutions for Use in Test Methods

GB/T 8170 Rules of Rounding off for Numerical Values & Expression and Judgement of Limiting Values

3 Terms and Definitions

The following terms and definitions are applicable to this Standard.

3.1 sample

Sample refers to a small amount of real object that can represent the quality of the inspected grain and oils. It can be divided into increment, aggregate sample, submitted sample (laboratory sample) and experiment sample.

3.2 increment

Increment refers to a small amount of sample taken in accordance with the prescribed method, using the prescribed sampling tools and from a sampling point of the inspected grain and oils.

3.3 aggregate sample

Aggregate sample refers to the sample obtained by gathering and mixing all the taken increments in accordance with the prescribed quantity of representatives.

3.4 submitted sample

laboratory sample

Submitted sample / laboratory sample refers to the sample sent to the laboratory and obtained by using the sample dividing tools and fully mixing the aggregate sample and reducing it to a certain quantity in accordance with the prescribed method.

3.5 retention sample

Retention sample is the same sample as the submitted sample or experiment sample and obtained at the same time as sample division, which is used as a backup for verification, re-inspection and emergency response.

3.6 experiment sample

Experiment sample refers to the sample prepared in accordance with the prescribed method for laboratory inspection.

3.7 parallel test

Parallel test refers to the operation with identical analytical procedures, instruments and reagents, starting from the division of laboratory sample or weighing after the preparation of experiment sample, so as to obtain mutually independent test results.

3.8 blank test

Blank test refers to the operation with identical analytical procedures, instruments and reagents, except that no experiment sample is added. The obtained results are used to subtract the background in the test of experiment sample and calculate the detection limit of the inspection method.

3.9 recovery test

Add a known amount of components to be tested to the experiment sample, use identical analytical procedures, instruments and reagents as the test of the experiment sample, compare with the test results of the experiment sample, and check whether the added components are quantitatively recovered; the obtained results are expressed as a percentage, which is called recovery rate. It is used to judge whether there is a systematic error in the test process, and to verify the reliability and accuracy of the test method.

4 Sample Registration

The samples must be registered. The registration items include (but not limited to): sample No., sample name (type and variety), place of origin, quantity of representatives, production year, storage time, sampling location (vehicle, ship, warehouse and stacking), packaging or in bulk, sampling unit, personnel name and sampling date, etc.

5 Sample Requirements

5.1 The sampling shall be carried out in accordance with the relevant stipulations.

5.2 The quantity of the submitted samples shall be able to satisfy the requirements of the inspection items, and in principle, not less than 2 kg.

5.3 In accordance with the requirements of the inspection items, select appropriate containers and packages to transport and store the samples.

5.4 Appropriate measures (such as: sealing and low temperature, etc.) must be adopted during transportation and storage to prevent damage and loss of samples, and avoid possible mildew, insects, oxidation, escape of volatile components and contamination, etc.

5.5 The samples after being subject to inspection shall be properly preserved for at least one month after the end of the inspection, in case of re-inspection. Inspection items that are prone to changes will not be re-inspected. Samples that are prone to change in inspection items and samples that are prone to deterioration will not be preserved, but a statement to the party submitting the samples shall be sent in advance.

6 Selection of Inspection Methods

6.1 When there are multiple standard inspection methods for one inspection item, they can be selected in accordance with the scope of application of the inspection methods and the conditions of the laboratory.

6.2 The entrusted inspection shall be carried out in accordance with the inspection method specified by the entrusting party or the inspection method determined by both parties through negotiation.

6.3 During arbitration inspection, the arbitration method specified in the standard shall be used for inspection; when there is no arbitration method specified, and there is only one method standard for one inspection item, then, the first method indicated in the method standard shall be used as the arbitration method; when the first method is not indicated or there are multiple method standards for an inspection item, then, the arbitration method shall be determined by the relevant parties through negotiation.

9.1.3 Constant mass: under specified conditions, the mass difference after two consecutive dryings or burnings does not exceed the specified range.

9.1.4 Measure-take: the operation of taking liquid substances with a measuring cylinder or measuring cup.

9.1.5 Suck-take: the operation of taking liquid substances with a pipette or graduated pipette.

9.2 In order to reduce the impact of random errors, the parallel test shall be conducted to obtain mutually independent determination values. Reliable final test results can be obtained from mutually independent determination values.

9.3 When there is a background in the test and the detection limit of the inspection method needs to be calculated, a blank test shall be carried out.

9.4 When judging whether there is a systematic error in the analysis process and verifying the reliability and accuracy of the test method, the recovery test shall be carried out.

9.5 For the possible unsafe factors (such as: poisoning, explosion, corrosion and burning, etc.) in the inspection, there shall be protective measures.

9.6 Refer to Appendix A for the quality inspection procedures of main grains and oilseeds.

10 Original Records and Inspection Sheet

10.1 Sample inspection must have complete original records. The original records shall have originality, authenticity and traceability.

10.2 The contents of the original records include (but not limited to): sample No., sample name (type and variety), inspection basis, inspection items, inspection methods, ambient temperature, humidity, main instruments and equipment (name, model and No.), test data, calculation formula and calculation results, inspection and verification personnel, and inspection date.

10.3 The inspection personnel shall correctly fill the quality inspection sheet in accordance with the original records.

11 Result Calculation and Processing

11.1 The calculation of the determination value and the rounding-off of significant figures shall comply with the stipulations of GB/T 8170.

11.2 Final test results

11.2.1 Under repeatability conditions, compare the absolute difference of two independent test results and the allowable difference (repeatability limit $r = 2.8 \times s_r$) specified in the Standard, if the absolute difference of the two test results is not greater than the allowable difference, take

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----