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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 46665.1-2025

**Inspection of grain and oils - Checking the performance of
moisture meters - Part 1: Moisture meters for grains**

粮油检验 水分测定仪性能评价 第1部分：粮食水分测定仪

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 1 of GB/T 46665 "Performance Evaluation of Moisture Analyzers for Grain and Oil Testing". GB/T 46665 has been published.

The following section.

---Part 1: Grain Moisture Analyzer this document is modified to adopt ISO 7700-1:2008 "Performance calibration of moisture analyzers in use in food products - Part 1: Moisture content of grains".

Measuring instrument.

Compared with ISO 7700-1:2008, this document has undergone the following structural adjustments.

---Chapter 6 corresponds to Chapters 6 and 7 of ISO 7700-1:2008, with 6.1 corresponding to 6.1 in ISO 7700-1:2008.

6.2.1 and 6.3 correspond to 7.3 in ISO 7700-1:2008.

---7.1 corresponds to 7.2 in ISO 7700-1:2008, and 7.2 corresponds to 7.1 in ISO 7700-1:2008.

The technical differences between this document and ISO 7700-1:2008, and the reasons therefor, are as follows.

---ISO 712 and ISO 6540 have been replaced with the normatively referenced GB 5009.3 and GB/T 20264 (see Chapter 4, 7.2), in order to Adapt to my country's technological conditions;

---ISO 5223 (see 5.3) has been replaced with the normatively referenced GB/T 36091 to adapt to my country's technical conditions;

---The normative references LS/T 3545 (see 5.5) and GB/T 5494 (see 6.1) have been added, making this document easier to use;

---The definition of moisture content (see 3.1 of ISO 7700-1:2008) has been removed to eliminate ambiguity;

---The principles have been modified (see Chapter 4 of ISO 7700-1:2008) to make this document easier to use;

---The instruments and equipment have been modified (see Chapter 5, ISO 7700-1:2008) to better facilitate the use of this document;

---The selection of reference samples and the requirements for impurity removal have been modified (see 6.1, ISO 7700-1:2008 6.1) to adapt to my country's technical conditions;

---The preparation of the reference sample for testing has been modified (see 6.2, 6.12 of ISO 7700-1:2008) to facilitate the use of this document;

---The determination of final reference moisture content (see section 7.4 of ISO 7700-1:2008) has been removed to facilitate the use of this document;

---The method for determining the reference value for moisture content of the reference sample has been changed [see 8.1, Chapter 8a) of ISO 7700-1:2008], which is more conducive to...

Use of this document;

---The evaluation report has been revised (see Chapter 10, ISO 7700-1:2008) to better facilitate the use of this document.

The following editorial changes have been made to this document.

---To align with existing standards, the document name has been changed to "Performance Evaluation of Grain and Oil Inspection Moisture Analyzers Part 1: Grain Moisture".

"Analytical Instrument";

---The wording of the test error and maximum permissible error of the grain moisture analyzer has been changed (see 8.2, Chapter 9);

---Note 1 in Chapter 1 of ISO 7700-1:2008 and note 1 in 7.3 have been deleted;

---The example in Table 2 has been changed to a note;

---The appendix flowchart has been removed;

--- An informative Appendix A, "Evaluation Report Form," has been added.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

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

This document is under the jurisdiction of the National Technical Committee on Standardization of Grain and Oil (SAC/TC270).

Introduction

GB/T 46665 "Performance Evaluation of Moisture Analyzers for Grain and Oil Testing" is proposed to consist of two parts.

---Part 1: Grain Moisture Analyzer. The purpose is to evaluate the performance of a grain moisture analyzer and describe its function in measuring grain moisture.

Methods for evaluating the performance of a measuring instrument during use.

---Part 2: Oilseed Moisture Analyzer. The purpose is to evaluate the performance of an oilseed moisture analyzer and describe the method for testing oilseed moisture content.

Methods for evaluating the performance of a measuring instrument during use.

Performance evaluation of grain and oil moisture analyzer Part 1: Grain Moisture Analyzer

1 Scope

This document describes the evaluation method for testing the performance of grain moisture analyzers during use.

This document applies to the performance evaluation of grain moisture analyzers.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB 5009.3 National Food Safety Standard - Determination of Moisture in Food GB/T 5494 Grain and Oil Inspection. Inspection of Impurities and Defective Grains in Grains and Oilseeds GB/T 20264 Determination of Moisture Content in Grains and Oilseeds by

Two-Step Drying Process GB/T 36091 Grain sieves for grain and oil machinery inspection
LS/T 3545 Sample divider for inspection of grain and oil machinery

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4 Principles

Within the measurement range of the grain moisture analyzer, the data detected by the moisture analyzer shall conform to the standards specified in GB 5009.3 or GB/T 20264.

The measured data are compared, and the maximum permissible error is compared to draw an evaluation conclusion.

5 Instruments and Equipment

5.1

Grain moisture analyzer.

5.2

Sealed bottle. capacity not less than 2.0L.

5.3

Grain screening. meets the requirements of GB/T 36091.

5.4

Thermometer.

5.5

Sample divider. conforms to the requirements of LS/T 3545.

6.1 Selection and Removal of Reference Samples

Select the appropriate grain reference sample according to the type of grain to be tested by the grain moisture analyzer. The reference sample should be free from mold, sprouting, etc.