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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 22294-2025

Replacing GB/T 22294-2008

Inspection of grain and oils - Determination of gel consistency of rice and other grain kernels

粮油检验 米类胶稠度的测定

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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 replaces GB/T 22294-2008 "Grain and Oil Inspection. Determination of Rice Gelatin Consistency". Compared with GB/T 22294-2008, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

---The scope of application has been changed (see Chapter 1, Chapter 1 of the.2008 edition);

---Added requirements for standard stock solutions of potassium hydroxide (see 5.4);

---The requirement for carbon dioxide-free water has been added (see 5.5);

---Added requirements for potassium hydroxide standard working solution (see 5.6);

---The instrument and equipment requirements have been changed (see Chapter 6, Chapter 6 of the.2008 edition);

---The sample preparation requirements have been changed (see 7.1,

7.2 in the.2008 edition);

---A standard for moisture determination method has been added (see 7.2);

---A formula for converting sample weight has been added (see 7.3);

---A table of potassium hydroxide solution volumes added for different rice samples has been added (see Table 1);

---The operation of the rubber cooling and regeneration stage has been changed (see 7.4,

7.5 in the.2008 version);

1 Scope

GB/T 22294-2025 is the Chinese national standard on inspection of grain and oils -

determination of gel consistency of rice and other grain kernels, in the field of food technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 67.060, CCS B20. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document defines the terminology and definitions for the determination of rice gum consistency, and describes the principles, reagents, instruments and equipment for determining rice gum consistency. Define the steps, present the results, and ensure precision. This document applies to the determination of the gel consistency of paddy rice, brown rice, white rice, millet, sorghum, and foxtail millet.

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/T 601 Preparation of Standard Titration Solutions for Chemical Reagents GB/T 1354 Rice

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

GB/T 5491 Sampling and Divided Sampling Methods for the Inspection of Grains and Oils

GB/T 5497 Grain and Oilseed Inspection - Determination of Moisture Content

GB/T 6682 Specifications and test methods for water used in analytical laboratories

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 gel consistency Under specified conditions, the length of a certain amount of rice flour colloid after gelatinization and retrogradation flowing horizontally.

Note. The unit for gel consistency is millimeters (mm).

4.Principles Rice starch is gelatinized and retrograded with dilute alkali to form rice glue. The difference in the flowability of rice glue reflects the consistency of rice glue.

5.Reagents Unless otherwise specified, all reagents are of analytical grade, and the water used in the experiment shall meet the specifications of Grade III water in GB/T 6682.

5.1 Thymol Blue. 5.2 95% (volume fraction) ethanol. 5.3 0.025% thymol blue ethanol solution. Weigh 125 mg of thymol blue and dissolve it in 500 mL of 95% ethanol. 5.4

1.0 mol/L potassium hydroxide standard stock solution. Prepared and standardized according to the method specified in GB/T 601, or commercially available solutions may be purchased. Standard solution.