ICS 67.060
CCS B20

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14490-2008

Replacing GB/T 14490-1993

Inspection of grain and oil - Determination gelatinization properties in cereal and starch by viscograph

粮油检验 谷物及淀粉糊化特性测定 粘度仪法

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Standardization Administration of China

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Foreword

This standard is GB/T 14490-1993 "cereal and starch gelatinization properties Determination viscometer Law" amendment. This standard and GB/T 14490-1993 compared to major changes are as follows:

--- Part of the contents of this standard reference to the ISO 7973.1992 "crushed cereal and cereal products, flour viscometer viscometer Law "(in English) about the content;

--- Sample suspension mode of preparation has been modified. From the date of implementation of this standard instead of GB/T 14490-1993. Appendix A of this standard is an informative annex. The standard proposed by the National Food Authority. This standard by the National Standardization Technical Committee OILS. This standard was drafted. Ministry of Agriculture, Grain Products Quality Supervision and Testing Center (Harbin). The main drafters of this standard. Lan Jing, Dai Changjun, Li, Zhao is new, Cheng Aihua, Wang Yuekai. This standard replaces the standards previously issued as follows:

--- GB/T 14490-1993. Inspection of grain and cereal starch pasting properties measurement Viscometer method

1 Scope

GB/T 14490-2008 is the Chinese national standard on inspection of grain and oil - determination gelatinization properties in cereal and starch by viscograph, 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 4 August 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 December 2008. 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 standard specifies the use viscometer cereal starch pasting properties and principles, apparatus and appliances, procedures, results are shown, as well as Repeatability requirements. This standard applies to the determination of cereal and starch pasting properties.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB 5491 grain and oilseeds testing for sampling, and sample method

GB/T 5497 grain and oilseeds - Determination of water test Principle 3 A certain concentration of a cereal flour or starch-water suspension, is heated by a certain heating rate, the starch gelatinization. After pasting the start, since the lake Powder swelling the suspension gradually turned into a paste, the viscosity increased with increasing temperature, fully gelatinized starch, produced the highest viscosity. Then rupture the starch granules, the viscosity decreased. When the paste material at a certain cooling rate of cooling, pasting was gelling, viscosity values \u200b\u200bare further increased, cold But to viscosity at 50 °C shall be final viscosity values. Resistance to change by viscometer sensors, sensor shaft, measuring coil spring, said the whole process of pasting viscosity changes arising reflect To the automatic recorder, depicting the viscosity curve, read and evaluate the cereal starch pasting properties of the indicators, including the start pasting temperature, the maximum Viscosity, viscosity is the highest temperature, minimum viscosity and final viscosity after gelation and the like.

4 apparatus and appliances

4.1 Viscometer 1). Brabender type viscometer consists of measuring the force of the coil spring, sensing the vertical axis, the sensor (blender), measuring bowl, radiation, electric stove, cold Cooling water, drive turbines, speed, timer, contact thermometer, temperature adjustment and automatic control system, automatic control system cooling, automatic recorder And other components. Sensors and measuring bowl metal rod should be vertical, smooth insertion "Targeting Board". The main technical parameters are as follows:

--- Measuring bowl speed. (75 ± 1) r/min;

--- Ramp rate. (1.50 ± 0.03) °C/min;

--- Heating and cooling range. room temperature to 97 °C;

--- Contact thermometer. scale 1.0 °C;

--- Recorder paper speed. (0.50 ± 0.01) cm/min;

--- Recording paper Range. 0A. U. ~ 1000A. U. (A.U. viscosity units);

--- Load coil spring torsional moment. (34.32 ± 0.69) mN · m/A. U. [(350 ± 7) gf · cm/A. U.] (68.65 ± 1.47) mN · m/A. U. [(700 ± 15) gf · cm/A. U.];

--- Load coil spring effective deflection angle. 62 °. 1) This standard can also achieve the same results using other types of viscometer.

4.2 Balance. a sense of the amount of 0.1g.