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

GB/T 7629-2008

Replacing GB/T 7629-1987

Determination of vitamin B2 in cereals

谷物中维生素B2测定

(English Translation)

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Table of Contents

Foreword

1 Scope

2 Normative references

4 Reagents and materials

4.4 Ba solution of hydrogen peroxide (H₂O₂) = 100 m1 L/L

4.5 Vitamin B2 standard solution

Foreword

This standard reference AACCMetho86-70 "Riboflavin-FluorometricMethod" (2000, in English).

This standard is GB/T 7629-1987 "Determination of cereal vitamin B2" amendments.

This standard and GB/T 7629-1987 the main technical differences are as follows.

- Provides for sampling, and sample method;
- Hydrochloric acid extraction to extract;
- Adds a blank sample of high oxidation conditions specified;
- Cancel the dry basis measurement result of the requirements;
- Increased repeatability when measuring low levels of vitamin B2 grain requirements.

The standard proposed by the National Food Authority.

This standard by the National Standardization Technical Committee OILS.

This standard was drafted. the National Food Authority feed grain Wuhan Quality Supervision and Inspection Center.

1 Scope

This standard specifies the fluorescence spectrophotometry principle grain vitamin B2, reagents and materials, equipment, sample preparation, Step analysis, the results of calculation and repeatability.

This standard applies to the determination of grains of vitamin B2.

The standard detection limit of 0.06μg.

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 6682 analytical laboratory use specifications and test methods (GB/T 6682-1992, neq ISO 3696. 1987) Principle 3 Vitamin B2 (riboflavin) fluorescence at 445nm excitation light in a certain concentration range of fluorescence intensity and the concentration of vitamin B2 it is proportional. Vitamin B2 extracted sample with sulfuric acid, reduction with sodium dithionite vitamin B2 generate non-fluorescent substance. The reduced the ratio of the difference between the internal standard vitamin B2 standard solution before and after the fluorescence intensity of the fluorescence intensity was calculated vitamin B2 content in the sample.

4 Reagents and materials

Unless otherwise specified, the reagents were of analytical grade, test water should be consistent with GB/T 6682 in the three water specifications.

Amount of water was added 2.8mL of concentrated sulfuric acid, diluted to 1000mL.

Weigh 340g of hydrated sodium acetate ($\text{CH}_3\text{COONa} \cdot 3\text{H}_2\text{O}$) were dissolved in water and diluted to 1000mL.

Weigh 4g potassium permanganate (KMnO_4) was dissolved in water and diluted to 100mL, the preparation day use, stored in a brown reagent bottle.

4.4 Ba solution of hydrogen peroxide (H_2O_2) = 100 m1 L/L

The amount of 10mL of hydrogen peroxide (H_2O_2 ,30%) diluted with water to 100mL, using now.

4.5 Vitamin B2 standard solution

Vitamin B2 placed in a desiccator over phosphorus pentoxide desiccant placed 24h. Weigh accurately 50mg of vitamin B2 products fitted 1500mL water and 2.4mL of glacial acetic acid 2000mL flask, heating to fully dissolve, cooled and transferred to a flask with water to volume 2000mL, mix well and then transferred to a brown bottle, toluene dropping coverage, stored in a refrigerator (4 °C) in.

Imbibe 20mL vitamin B2 stock solution (I) (4.5.1) was diluted with water volume to 50mL;

stored in a refrigerator (4 °C) in.

Imbibe 10mL vitamin B2 standard stock solution (II) (4.5.2) was diluted with water volume to 100mL, now with the current, protected from light.