

ICS 65.120

CCS B46



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

**GB/T 17777-2009**

Replacing GB/T 17777-1999

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**Determination of molybdenum in feeds - Spectrophotometry**

饲料中钼的测定 分光光度法

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### Foreword

This standard replaces GB/T 17777-1999 "Determination of molybdenum in the feed spectrophotometry." This standard compared with GB/T 17777-1999, the main changes are as follows:

- Increased single feed, concentrate and concentrate supplement feed measurement;
- Increasing the limit of quantification;
- Added "if the sample test solution iron content of less than 100 $\mu$ g, iron is added 1mL solution" in the text 7.1. This standard by the National Standardization Technical Committee Feed Industry and focal points. This standard was drafted. National Feed Quality Supervision and Inspection Center (Wuhan). The main drafters of this standard. Gregory red, Zhang Yong, Liu Xiaomin, Yang Lin, Liu Xiang, Huang Ting, Wan Wen-sheng. This standard replaces the standards previously issued as follows:
  - GB/T 17777-1999. Determination of Molybdenum in feed spectrophotometry

### 1 Scope

GB/T 17777-2009 is the Chinese national standard on determination of molybdenum in feeds - spectrophotometry, in the field of agriculture. 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 26 May 2009 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 October 2009. Classification: ICS 65.120, CCS B46. 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 method for spectrophotometric determination of molybdenum by spectrophotometry feed. This standard applies to single feed, feed, concentrate supplementary feed and feed Determination of Molybdenum in concentrate. Quantitative

limit 0.2mg/kg.

## 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. Laboratory use specifications and test methods GB/T 6682 Analysis

GB/T 14699.1 feed samples

GB/T 20195 Animal feed sample preparation Principle

3 Under acidic conditions, sulfur, potassium and dietary molybdenum complex, complex formation with isoamyl alcohol extraction, centrifugation with a spectrophotometer At a wavelength of 465nm to isoamyl alcohol as the reference absorbance was measured after calibration blank, demand from the standard curve molybdenum content in the sample.

## 4 Reagents and solutions

Unless otherwise indicated in the analysis using only recognized as analytical reagent water should meet GB/T 6682 in three water requirements.

4.1 isoamyl alcohol. 3-methyl-1-butanol.

4.3 sulfuric acid.

4.4 perchloric acid.

4.6 hydrochloric acid.

4.7 hydrochloric acid solution I. 1 + 1.85.

4.8 hydrochloric acid solution II. 1 + 1.

4.9 methyl orange solution. 5g/L.

4.10 NaF saturated solution. 10g of sodium fluoride added 200mL of water, and stirred to dissolve to form a saturated solution, filter back.

4.11 stannous chloride solution (200g/L). Weigh 10g of stannous chloride ( $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$ ) in a beaker, hydrochloric acid solution was added 10mL Liquid I (4.7), heated until completely dissolved, after cooling, a few grains of metallic tin, diluted to 50mL with water stored in a glass bottle.

4.12 solution of stannous chloride (8g/L). Take 4mL solution of stannous chloride (4.11) was diluted with water to 100mL. Now with the current.

4.13 thiocyanate solution (200g/L). Weigh 50g KSCN dissolved in water and dilute to 250mL.

4.14 iron solution. Weigh 0.7022g ferrous ammonium sulfate  $[\text{Fe}(\text{NH}_4)_2(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}]$ , dissolved in water, sulfuric acid is added 1mL (4.3), and diluted with water to 1000mL, iron solution was 100 $\mu\text{g}/\text{mL}$ .

4.15 Mo standard stock solution. Weigh 0.1840g ammonium molybdate  $[(\text{NH}_4)_6\text{Mo}_7\text{O}_{24} \cdot 4\text{H}_2\text{O}]$ , dissolved in water and diluted with water to 1000mL, molybdenum solution containing 100 $\mu\text{g}/\text{mL}$ .