

ICS 65.120

CCS B46



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

GB/T 13088-2006

Replacing GB/T 13088-1991

Determination of chromium in feeds

饲料中铬的测定

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Foreword

This Standard is a revision to GB/T 13088-1991 "Method for determination of chromium in feeds". Compared with GB/T 13088-1991, the main technical differences in this Standard are as follows: the atomic absorption spectrometry method for the determination of chromium in feed is added and determined as the arbitration method. At the same time, the original spectrophotometry is remained. This Standard replaces GB/T 13088-1991 from the date of implementation. This Standard was proposed by and shall be under the jurisdiction of National Technical Committee on Feed Industry of Standardization Administration of China. The drafting organizations of this Standard. Chinese Academy of Agricultural Sciences Animal Husbandry Research Institute, Chinese Academy of Agricultural Sciences Feed Research Institute. Main drafters of this Standard. Gu Xianhong, Li Wenying, Zhang Ping. Version of standard substituted by this Standard is. - GB/T 13088-1991. Determination of chromium in feeds

1 Scope

GB/T 13088-2006 is the Chinese national standard on determination of chromium in feeds, 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 9 June 2006 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 September 2006. 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 two methods for the determination of chromium content in feed by atomic absorption spectrometer and spectrophotometer. Method 1 of this Standard is atomic absorption spectrometry. It is applicable to feed raw materials (including leather powder for feed, hydrolyzed leather powder), trace element premixes, compound premixes, concentrates and compound feeds. The minimum detection limit of graphite furnace atomic absorption spectrometry is 0.005 µg/kg. The minimum detection limit of flame atomic absorption spectrometry is 150 µg/kg. Method 2 of this Standard is spectrophotometric method. It is applicable to the determination of chromium in feed raw materials (including hydrolyzed leather powder) and compound feed.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 6682, Water for analytical laboratory use - Specification and test methods (neq ISO 3696)

GB/T 14699.1, Feeding stuffs - Sampling

3.5.1 Preparation of specimen solution Weigh

0.1 g ~

10.0 g of specimen (accurate to 0.0001 g). Place in the 60 mL porcelain crucible. Perform complete carbonization on the electric furnace. Place in the muffle furnace. Starting from room temperature, gradually increase the temperature to 600°C for 5 h, until the specimen is white or off-white without carbon particles.

3.5.2.2 Standard curve drawing 3.5.2.2.1 Flame method Pipette

0.00 mL,

20.00 mL of chromium standard solution 1 (3.2.4.2). Respectively place them in 20 mL volumetric flasks. Add nitric acid solution (3.2.2) to dilute to the scale. Mix well. Make them

standard working solutions. Each milliliter of solution in the volumetric flask is equivalent to 0.00 µg, 1.25 µg, 2.50 µg, 5.00 µg, 10.00 µg, and 20.00 µg of chromium, respectively.

3.6 Result calculation

3.6.1 Flame method The content X_1 of chromium in feed, expressed in mass fraction micrograms per gram (µg/g), is calculated according to formula (1).

3.7 Repeatability The same analyst performs two measurements on the same specimen simultaneously or in rapid succession. The relative deviation of the obtained results.

4.3 Instruments and equipment

4.3.1 Analytical balance. the resolution is 0.0001 g.

4.3.2 High temperature electric furnace (muffle furnace).

4.3.3 Experimental sample grinder or mortar.

4.3.4 Temperature-controlled electric hob. 600 W.

4.3.5 Volumetric flasks. 50 mL, 100 mL, 200 mL, 1000 mL.

0.5 mL,

4.3.7 Transfer pipettes. 5 mL, 10 mL, 25 mL.

4.3.8 Erlenmeyer flask. 150 mL.

4.3.9 Short-necked funnel. 6 cm in diameter.

4.5.1 Specimen processing Weigh

1.5 g of specimen (accurate to 0.0001 g). Place in a 60 mL porcelain crucible. After the carbonization in the temperature-controlled electric furnace is complete, place it in the muffle furnace. Starting from room temperature, gradually increase the temperature to 600°C for 5 h until the specimen is white or off-white without carbon particles.

4.6 Determination result The chromium content in feeds, expressed as mass fraction milligrams per kilogram (mg/kg), is calculated according to formula (3).

GB/T 13088-2026")| ## PDF Preview |

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