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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 18633-2018

Replacing GB/T 18633-2002

Determination of potassium in feeds - Flame photometry

饲料中钾的测定 火焰光度法

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Foreword

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA ICS

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Determination of Potassium in Feeds -Flame Photometry

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1 Scope

GB/T 18633-2018 is the Chinese national standard on determination of potassium in feeds - flame photometry, 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 14 May 2018 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 December 2018. 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 using flame photometry to determine the potassium in the feeds. This Standard is applicable to determine the potassium in the feed ingredients, formula feed, concentrated feed, concentrate supplement, and additive premix. This Standard method's detection limit is 2.00mg/kg; quantitative limit is 200mg/kg.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 6682 Water for Laboratory Use - Specifications

GB/T 14699.1 Feeding Stuffs - Sampling

GB/T 20195 Animal Feeding Stuffs - Preparation of Test Samples

3 Principles

5.6 Centrifuge: with speed greater than 5000r/min.

5.7 Magnetic stirrer.

6 Sampling and Specimen Preparation

According to the provisions of GB/T 14699.1, take a representative feed sample; use quadruple method to reduce the sample; then prepare the specimen according to GB/T 20195. Smash it till totally pass the 0.45mm sieve (4.7); mix evenly; store into the sealed container for later-use.

7 Analytical Procedures 7.1 Extraction 7.1.1 Specimen treatment of feed ingredients, formula feed, concentrated feed and concentrate supplement

Take about 1g~2g of specimen (accurate to 0.0001g); place into 50mL porcelain crucible (5.3); carbonize with small fire on the temperature control electric furnace (5.4); ash for 2h in 500°C high-temperature furnace (5.2); if there is still small amount of carbon particles, drop nitric acid solution (4.2) to wet the residue; continue to ash in the 500°C high-temperature furnace (5.2) till there is no carbon particles; take out and cool off; drop small amount of water into the residue; wet it; then add 10mL of hydrochloric acid solution (4.3); add water to 15mL; boil for 2min~3min, then cool off; transfer into the appropriate volume of volumetric flask to make constant volume; filter it; obtain the specimen solution for later-use. Meanwhile, prepare the blank solution of specimen.

7.1.2 Additive premix specimen treatment Take 1g~3g of specimen (accurate to 0.0001g);

place into 250mL conical flask with stopper; add 100.0mL of hydrochloric acid solution (4.4); stir and extract with magnetic stirrer (5.7) for 30min; then use centrifuge (5.6) to perform centrifugal separation for 5min at the speed of 5000r/min; take the supernatant liquid as the specimen solution; or after stirring and extraction, take the solution obtained by dry filtration as the specimen solution; meanwhile, prepare the blank solution of the specimen.

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