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

GB/T 36859-2018

Determination of urea content in feed

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the redrafting method to modify the use of ISO 6654.1991 "Determination of urea content in animal feed."

There are technical differences between this standard and ISO 6654.1991, and the terms involved in these differences have been passed on the outer margins of the margins.

The vertical single line (|) is marked, and a list of the corresponding technical differences and their causes is given in Appendix A.

This standard has more structural adjustments than ISO 6654.1991. Appendix B lists the chapter numbers with ISO 6654.1991.

Check the list.

This standard is proposed and managed by the National Feed Industry Standardization Technical Committee (SAC/TC76).

This standard was drafted. Institute of Agricultural Quality Standards and Testing Technology, Chinese Academy of Agricultural Sciences [National Feed Quality Supervision and Inspection Center

(Beijing)], Institute of Agricultural Quality Standards and Testing Technology, Xinjiang Academy of Agricultural Sciences.

1 Scope

This standard specifies the method for determining the urea content in feed.

This standard is applicable to the determination of urea in feed ingredients, concentrate supplements, compound feeds, and concentrated feeds.

The limit of quantification of this method is 0.20%.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 6682 Analytical laboratory water specifications and test methods (GB/T 6682-2008, ISO 3696.1987, MOD)

GB/T 14699.1 Feed sampling (GB/T 14699.1-2005, ISO 6497.2002, IDT)

Preparation of GB/T 20195 animal feed samples (GB/T 20195-2006, ISO 6498.1998, IDT)

3 Principle

The urea in the sample is extracted with water, decolorized and precipitated, and then reacted with p-dimethylaminobenzaldehyde (DMAB) to form a yellow composite.

The absorbance was measured at a wavelength of 420 nm. The absorbance is linear with the urea concentration, and the urea in the sample is calculated from the standard curve.

The content.

4 reagents or materials

Unless otherwise specified, the reagents used in this standard are analytical grade and secondary water in accordance with GB/T 6682.

4.1 Activated carbon.

4.2 p-Dimethylaminobenzaldehyde solution (DMAB). 1.6 g of DMAB was dissolved in 100 mL of absolute ethanol, and 10 mL of hydrochloric acid was added.

Mix well. Stored in a brown reagent bottle and valid for 2 weeks at room temperature.

4.3 Zinc acetate solution. Dissolve 22.0 g of zinc acetate dihydrate in water, add 3 mL of glacial acetic acid, dilute to 100 mL, and mix.

4.4 Potassium ferrocyanide solution. Dissolve 10.6 g of potassium ferrocyanide trihydrate in water, dilute to 100 mL, and mix.

4.5 Phosphate buffer (pH=7.0). Dissolve 3.403 g of anhydrous potassium dihydrogen phosphate and 4.355 g of anhydrous dibasic potassium phosphate, respectively.

100 mL of distilled and cooled distilled water was combined and diluted with water to 1000 mL.

4.6 Urea standard stock solution. Weigh 5g urea (excellent grade, accurate to 0.1mg) in a beaker, add water to dissolve, quantitatively transfer to 500mL

In a volumetric flask, dilute to the mark with water. The solution concentration was 10 mg/mL. It is valid for 2 months in a refrigerator at 4 °C.

4.7 Urea standard working fluid. Accurately absorb 10.0mL urea standard stock solution (4.6) in a 100mL volumetric flask before use, and dilute to volume with water.

Scale. The solution concentration was 1.0 mg/mL.