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

GB/T 21995-2025

Replacing GB/T 21995-2008

**Determination of nitroimidazoles in feeds - Liquid
chromatography-tandem mass spectrometry**

饲料中硝基咪唑类药物的测定 液相色谱-串联质谱法

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 Principles
- 5 Reagents or materials

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting is required. This document replaces GB/T 21995-2008 "Determination of nitroimidazoles in feed by liquid chromatography-tandem mass spectrometry" Compared with GB/T 21995-2008, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope of application has been expanded to include mixed feed additives and isopronidazole, and the limits of detection and quantification have been revised (see Chapter 1, 2008). Chapter 1 of the 2011 edition);
- b) The principle, reagents or materials, test procedures, and precision have been changed (see Chapters 4, 5, 8, and 10, 2008 Edition). Chapters 3, 4, 7, and 9 of the 2012 World Economic Forum). Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document is proposed and coordinated by the National Feed Industry Standardization Technical Committee (SAC/TC 76). This document was drafted by: China Agricultural University and Henan Agricultural, Animal and Aquatic Products Inspection Technology Research Institute. The main drafters of this document are. Xia Xi, Wu Ningpeng, Peng Li, Zhao Liang, Meng Lei, Huang Li, Feng Xiaoyou, Li Xiaowei, Jiang Haiyang, and Shen Jianzhong. The previous versions of this document and the documents it replaces are as follows: --First published in 2008 as GB/T 21995-2008; --This is the first revision. Determination of nitroimidazoles in feed Liquid chromatography-tandem mass spectrometry

1 Scope

GB/T 21995-2025 is the Chinese national standard on determination of nitroimidazoles in feeds - liquid chromatography-tandem mass spectrometry, 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 30 June 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 January 2026. 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 document describes a method for the determination of five nitroimidazoles in feed by liquid chromatography-tandem mass spectrometry. This document applies to the use of metronidazole in compound feeds, concentrated feeds, concentrate supplements, additive premixes and mixed feed additives. Determination of chlorpromazole, dimethicone, ronidazole, isopronidazole and tinidazole. The detection limit of this document is 5 µg/kg and the quantification limit is 10 µg/kg.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 6682 Specifications and test methods for water used in analytical laboratories

GB/T 20195 Preparation of animal feed samples

3 Terms and Definitions

There are no terms or definitions that require definition in this document.

4 Principles

The analytes in the sample were extracted with acetonitrile solution, purified by mixed cation exchange solid phase extraction column, and detected by liquid chromatography-tandem mass spectrometry. The samples were determined by matrix-matched standard solution calibration and quantified by internal standard method.

5 Reagents or materials

Unless otherwise specified, only analytical grade reagents were used.

5.1 Water. Meet the requirements of Level 1 in GB/T 6682.

5.2 Acetonitrile. chromatographic grade.

5.3 Methanol. chromatographic grade.

5.4 Acetone. chromatographic grade.

5.5 Formic acid. chromatographic grade.

5.6 Acetic acid. chromatographic grade. 5.7 5% formic acid methanol solution. Take 5 mL of formic acid (5.5), dilute to 100 mL with methanol (5.3), and mix well. 5.8 5% ammonia methanol solution. Take 5 mL of ammonia water, dilute it to 100 mL with methanol (5.3), and mix well. 5.9 0.1% Formic Acid Solution. Take 100 μ L of formic acid (5.5), dilute to 100 mL with water, and mix thoroughly. 5.10 0.2% acetic acid solution. Take 1 mL of acetic acid (5.6), dilute to 500 mL with water, and mix well.