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

GB/T 20805-2025

Replacing GB/T 20805-2006

Determination of acid detergent lignin(ADL)in feeds

饲料中酸性洗涤木质素（ADL）的测定

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and Definitions
4 Crucible method
4.1 Principle
4.2 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.

This document replaces GB/T 20805-2006 "Determination of acid detergent lignin (ADL) in feeds" and is consistent with GB/T 20805-2006.

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2006 edition);
- b) Changed the requirements for reflux digestion equipment and sand core crucibles (see 4.3, Chapter 5 of the 2006 edition);
- c) The sample preparation requirements have been changed (see 4.4, 7.2 of the 2006 edition);
- d) The pre-degreasing method has been changed (see 4.5.3, 7.3 of the 2006 edition);
- e) Added filter aid (see 4.5.5);
- f) The ashing temperature has been changed (see 4.5.6, 7.5 of the 2006 edition);
- g) The test data processing has been changed (see 4.6, 8.1 of the 2006 edition);
- h) The precision requirements have been changed (see 4.7, 8.2 of the 2006 edition);
- i) Added filter bag method (see Chapter 5).

This document is modified to adopt ISO 13906:2008 "Acid detergent fiber (ADF) and acid

detergent lignin (ADL) content of animal feeding stuffs" Determination of.

This document has the following structural adjustments compared to ISO 13906:2008.

---4.1 corresponds to Chapter 4 of ISO 13906:2008;

---4.2 corresponds to Chapter 5 of ISO 13906:2008;

---4.3 corresponds to Chapter 6 of ISO 13906:2008;

---4.4 corresponds to Chapter 8 of ISO 13906:2008;

---4.5 corresponds to 9.2.1 of ISO 13906:2008;

---4.6 corresponds to 10.2 of ISO 13906:2008;

---4.7 corresponds to 11.2 of ISO 13906:2008.

The technical differences between this document and ISO 13906:2008 and their reasons are as follows.

--- Changed the scope of application (see Chapter 1, Chapter 1 of ISO 13906:2008) to meet the requirements of my country's feed classification and meet my country's Testing needs;

--- Changed the preparation and calibration method of sulfuric acid solution for acid detergent (see 4.2.3, 5.1 of ISO 13906:2008) to Meet the testing needs of our country;

--- Change the defoaming agent to silicone oil (see 4.2.5, 5.5 of ISO 13906:2008) to meet the testing needs of my country;

---Change the filter aid to quartz sand (particle size 125μm~150μm) (see 4.2.7, see 5.3 of ISO 13906:2008) to meet our National testing needs;

--- Deleted "sampling" (see Chapter 7 of ISO 13906:2008) to conform to the actual testing situation in my country;

--- Deleted "acid detergent fiber" (see 9.1 of ISO 13906:2008) because this document does not involve the determination of acid detergent fiber;

--- Deleted "Fibertec type instrument" (see 9.2.2 of ISO 13906:2008) to conform to the actual testing situation in my country;

--- Deleted "quality assurance" (see 9.3 of ISO 13906:2008) to conform to the actual testing situation in my country;

--- Deleted "acid detergent fiber" (see 10.1 of ISO 13906:2008) because this document does not involve the determination of acid detergent fiber;

--- Deleted "inter-laboratory test", "reproducibility", "critical value difference" and "measurement uncertainty" (see 11.1, 11.3, 11.4, 11.5) to meet the actual testing situation

in my country;

--- Changed the precision requirements (see 4.7, 11.2 of ISO 13906:2008) to comply with my country's testing technology level;

--- Deleted "test report" (see Chapter 12 of ISO 13906:2008) to conform to the actual testing situation in my country;

--- Added the filter bag method (see Chapter 5) to meet the testing needs of my country.

The following editorial changes have been made to this document.

--- To coordinate with the existing standard, the name of the standard is changed to "Determination of Acid Detergent Lignin (ADL) in Feeds";

--- Deleted ISO 13906:2008 5.3 footnote 1), 6.5 footnote 2);

--- Added a note on the use of fiber analyzers;

--- Deleted Annex A and Annex B of ISO 13906:2008.

1 Scope

This document describes the crucible and filter bag methods for the determination of acid detergent lignin (ADL) in feeds.

This document applies to the determination of acid detergent lignin (ADL) in compound feed, concentrate feed, concentrate supplement and plant feed ingredients.

Determination.

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 601 Preparation of standard titration solutions for chemical reagents GB/T 6682 Specifications and test methods for water used in analytical laboratories (GB/T 6682-2008, ISO 3696:1987, MOD) GB/T 20195 Preparation of Animal Feed Samples (GB/T 20195-2024, ISO 6498:2012, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

Acid detergent lignin; ADL After being treated with acid detergent and 72% sulfuric acid solution to remove starch, protein, fat, sugar and cellulose in the sample, Machine drying residue.

4.1 Principle

The sample was boiled with acidic detergent and washed with water to remove acid-sensitive carbohydrates, proteins and fats that did not undergo Maillard reaction.

The residue was digested with 72% sulfuric acid solution, and the residue was dried and ashed. The percentage of the residue mass after deducting the ash content to the sample mass was Acid washing lignin content.

4.2 Reagents or materials

Warning. Hexadecyltrimethylammonium bromide is irritating to mucous membranes, so wear a protective mask when handling it; petroleum ether is a highly volatile and flammable reagent.

Before drying in an electric drying oven, ensure that it is completely evaporated.

Unless otherwise specified, only analytical grade reagents were used.

4.2.1

Water. GB/T 6682, Grade 3.

4.2.2

Petroleum ether (boiling range 30°C~60°C).

4.2.3

Sulfuric acid solution (0.50 mol/L $\pm$ 0.025 mol/L H₂SO₄). prepared and calibrated in accordance with GB/T 601.

4.2.4

Acidic detergent. Weigh 20g of hexadecyltrimethylammonium bromide (C₁₉H₄₂NBr, CTAB), add 1000mL of 0.50mol/L