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

GB/T 15673-2009

Replacing GB/T 15673-1995

Determination of crude protein in edible mushroom

食用菌中粗蛋白含量的测定

(English Translation)

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Foreword

This standard replaces GB/T 15673-1995 "Determination of crude protein content of edible fungus." this standard and GB/T 15673-1995 compared to the main changes are as follows.

- According to GB/T 20001.4-2001 "Rules for drafting standards - Part 4. Chemical analysis methods," the original structure of the standard modify;
- Modify the standard English name;
- Increasing the normative references a chapter, delete "GB 12530 Edible sampling method", the "GB 12531 Edible water Determination of points "with the words" GB/T 5009.3 Determination of moisture in foods, "adds" GB/T 6682 water analytical laboratory Specifications and test methods ";
- Sample preparation added to the dry kind of sample size, and the number of clear fresh sample sampling;
- 7.1 sample weighed amount increased from 0.3g ~ 0.5g to 0.5g ~ 1.0g;
- 7.2 adjusted accelerator, the amount of sulfuric acid and Digestion time;
- 7.3 adds constants distillation apparatus and distillation;
- Laboratory equipment commonly used in removing the appliance, increase the automatic azotometer;
- Modify the formula "calculation result" in;
- Original standard "allows poor" to "precision", and another from a chapter, modify the error representation.

This standard is proposed and managed by the People's Republic of China Ministry of Agriculture.

This standard was drafted. the Ministry of Agriculture edible fungus Quality Supervision and Testing Center (Shanghai), Shanghai Academy of Agricultural Sciences of edible the quality

of agricultural products Standards and Testing Technology Research Institute, Shanghai Academy of Agricultural Sciences, Kunming Institute of edible fungi, Tianjin University.

1 Scope

This standard specifies the method for the determination of the crude protein content of edible fungi.

This standard applies to the determination of the crude protein content of edible fungi.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

Preparation of GB/T 601 chemical reagent standard titration solution Determination of GB/T 5009.3 moisture in foods Laboratory use specifications and test methods GB/T 6682 Analysis Principle 3 Sulfuric acid to destroy the organic matter in the sample, so that nitrogen was converted into ammonium sulfate. Alkali distillation, absorption after boric acid, hydrochloric acid and then titrated Ammonia release, calculate its nitrogen content. Nitrogen content multiplied by the conversion factor of 6.25 to obtain a sample of the crude protein content.

4 Reagents

Unless otherwise stated, use only in the analysis confirmed analytically pure reagents and third grade water GB/T 6682 regulations.

4.1

sulfate. $\rho = 1.84\text{g/mL}$.

4.2

HCl. $\rho = 1.18\text{g/mL}$.

4.3 400g/L sodium hydroxide solution. Weigh 400g of sodium hydroxide (NaOH) was dissolved in 1000mL of distilled water.

4.4 20g/L boric acid solution. Weigh 20g of boric acid (H_3BO_4) was dissolved in 1000mL of distilled water.

4.5

Accelerator. 600g potassium sulfate (K_2SO_4) and 100g of copper sulfate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$)

and mix well after grinding through a pore size of 0.45mm sieve, sealed.

Standard 4.6 hydrochloric acid solution I. $\text{Ba (HCl)} = 0.1\text{mol/L}$, according to GB/T 601 Preparation and calibration.

4.7

standard hydrochloric acid solution II. $\text{Ba (HCl)} = 0.02\text{mol/L}$, accurate pipetting standard 10mL hydrochloric acid solution I (4.6), carbon dioxide-free distilled Distilled water volume to 50mL, now with the current.

4.8

methyl red - bromocresol green mixed indicator. 50mL of 2g/L bromocresol green ethanol solution and 10mL of 2g/L methyl red ethanol the solution was mixed.

4.9

Hydrogen peroxide.

5 Equipment

5.1

Analysis of balance. a sense of the amount of 0.001g.

5.2

Drying oven. Accuracy $\pm 2\text{ }^{\circ}\text{C}$.

5.3

adjustable electric furnace or Digestion. room temperature to $600\text{ }^{\circ}\text{C}$.

5.4

Hard Digestion Kjeldahl bottle or tube.

5.5

Constant direct distillation unit.

5.6

semi-micro steam distillation apparatus.