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

GB/T 8381-2008

Replacing GB/T 8381-1987

**Determination of aflatoxin B1 in animal feeding stuffs --
Semi-quantitative thin layer chromatographic methods**

饲料中黄曲霉毒素B1的测定 半定量薄层色谱法

(English Translation)

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Foreword

This standard is equivalent to international standards ISO 6651:2001 "Feed aflatoxin B1 semi-quantitative determination of TLC" (English Chinese Version).

This standard is equivalent translation ISO 6651:2001, for ease of use, do the following editorial changes.

- Standard Chinese name was changed to "feed aflatoxin B1 semi-quantitative determination of TLC";
- Deleted international standards foreword;
- The "this International Standard" by "this standard";
- Use the decimal symbol instead of decimal symbol ",", ".", ";";
- In the reference file, use the "preparation GB/T 20195 Animal feed sample" instead of "ISO 6498";
- In the reference file, add "GB/T 14699.1 feed sampling";
- Fig. 2 Expand direction symbol has been corrected, the "I" to "II", "II" to "I".

This standard replaces GB/T 8381-1987 "Determination of aflatoxin B1 in feed." this standard compared with GB/T 8381-1987, the main changes are as follows.

--- In terms of reagents, instrument calibration delete the contents of the preparation of standard solution of aflatoxin B1 toxin, and aflatoxin B1 increase trichloro Methane concentration in the solution was measured with a standard preparation;

--- Choose the type of chromatography when the agent increased from two five kinds;

Method A --- --- unidirectional thin-layer chromatography, add the standard solution and sample solution spot spotting different volumes;

Method B --- --- bidirectional thin-layer chromatography, to reduce the number of the auxiliary plate, and are distributed in different points of the sample;

--- Increased TLC scanner detected fluorescence;

--- Confirmatory test in sulfuric acid increased speculation test.

Appendix A of this standard is the data appendix.

This standard by the National Standardization Technical Committee Feed Industry and focal points.

This standard was drafted. Jiangsu Provincial Institute of Microbial limited liability company.

1 Scope

This standard specifies two methods for determining aflatoxin B1 in feed, and can only be used for semi-quantitative determination.

A method of this standard apply to oilseeds and oilseed meal, groundnut, copra, linseed, soya, palm kernel, tapioca starch, corn meal, Cereals and cereal products, pea meal, potato and potato powder residue single feed products. A determination of when to use one of these single feed by when the noise, we recommend the use of B.

Method B of this standard applies to a single compound feed and feed not mentioned above. This method is not applicable to containing citrus pulp feed.

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.

GB/T 14699.1 feed sampling (GB/T 14699.1-2005, ISO 6497:2002, IDT) GB/T 20195 preparation of animal feed samples (GB/T 20195-2006, ISO 6498:1998, IDT) Principle 3 Sample aflatoxin B1 by chloroform extraction, filtration, silica gel column and concentrated, with a volume of chloroform or benzene - acetonitrile mixture the residue was dissolved

together. Conduct test solution was separated by a one-way or two-way TLC thin-layer chromatography. Check chromatography with fluorescence under UV light spot Point in the same panel, the test solution with a known amount of aflatoxin B1 standard comparison, the determination of aflatoxin were visually or TLC scanner Fluorescence Spectrometry B1 content. To form a hemiacetal derivative was confirmed aflatoxin B1.

4 Reagents

Used in the analysis confirmed analytically pure reagents and distilled or deionized water or equivalent purity.

Chloroform 4.1. 0.5 to 1.0% of 95% ethanol stabilizer.

4.2

n-hexane.

4.3

anhydrous ether. no peroxide.

4.4

benzene - acetonitrile (98 + 2) mixture. 98mL 2mL acetonitrile mixed with benzene.

4.5

chloroform - methanol (97 + 3) a mixture of. 97mL 3mL methanol mixed with chloroform.

4.6

Expand. Use tank lid expand, tank wall lined with absorbent paper, so that expansion slots are developing solvent saturated.

4.6.1

Chloroform - acetone (90 + 10) mixture. In the expansion tank is not saturated, 90mL chloroform and 10mL acetone.

4.6.2

ether - methanol - water (96 + 3 + 1) mixture. In the unsaturated expand tank, 96mL ether, 3mL methanol and 1mL water.

4.6.3

ether - methanol - water (94 + 4.5 + 1.5) mixture. saturated Expand tank, 94mL ether, 4.5mL methanol and 1.5mL water mixing.

4.6.4

chloroform - methanol (94 + 6) a mixture of. saturated expansion slot, 94mL 6mL chloroform and methanol mixed in.

4.6.5

chloroform - methanol (97 + 3) a mixture of. saturated expansion slot, 97mL 3mL of chloroform and methanol mixed in.

4.7

silica gel. column chromatography, 0.05mm ~ 0.20mm diameter.

4.8

silica gel G. thin-layer chromatography.

GB/T 8381-2008/ISO 6651:2001