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GB/T 6435-2014

Replacing GB/T 6435-2006

Determination of moisture in feedstuffs

饲料中水分的测定

(ISO 6496:1999 Animal feeding stuffs –

Determination of moisture and other volatile water content, MOD)

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Foreword

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

This standard replaces GB/T 6435-2006 “Determination of moisture and other volatile matter content in feeds”.

As compared with GB/T 6435-2006, the main changes are as follows:

- CHANGE the standard name to “Determination of moisture in feedstuffs”;
- CHANGE from “Equivalent” into “Adopt through modification”;
- MODIFY the paragraph 1 and 2 of the “Scope”;
- In the “Scope”, MODIFY the “cereals, excluding corn and cereal products” into “cereals (excluding corn) and cereal products”;
- In the “Scope”, USE GB/T 9696 to replace ISO 662, and USE GB/T 21305 to replace ISO 712;
- DELETE the definition of “Moisture and other volatile matter”; ADD the definition of “Moisture”;
- ADD the specification requirements of the weighing bottle;
- MODIFY clause 8.1 ~ 8.4 to two clauses “Direct drying method” and “Depressurized drying method”;
- ADD the repeatability requirements for the samples of moisture content $\geq 15\%$ through the direct drying method;
- DELETE clause 9.2 “Pretreated samples”;
- DELETE Chapter 1, the note number of references in the appendix, AND the reference ISO 5725-1:1994 in the appendix; RE-ARRANGE the order of references.

This standard, through the redrafting method, modifies and adopts ISO 6496:1999 “Animal feeding stuffs - Determination of moisture and other volatile water content”.

As compared with ISO 6496:1999, this standard has many structural adjustments, AND in Appendix A, it provides the clause number comparison between this standard and ISO 6496:1999.

Determination of moisture in feedstuffs

1 Scope

This standard specifies the determination method of moisture in feed, feedstuffs and feed additives.

This standard applies to moisture determination in feed, feedstuffs and feed additives.

This standard does not apply to:

- a) Dairy products;
- b) Minerals;
- c) A mixture containing considerable amount of dairy products and minerals, such as milk replacer;
- d) Feedstuff containing a humectant such as propylene glycol;
- e) The following feedstuffs:
 - 1) Animal and vegetable oils and fats (determined in accordance with the method A of GB/T 9696);
 - 2) Oil (determined in accordance with the method of GB/T 14489.1);
 - 3) Oil cake (determined in accordance with the method of GB/T 10358);
 - 4) Cereals (excluding corn) and cereal products (determined in accordance with the method of GB/T 21305);
 - 5) Corn (determined in accordance with the method of GB/T 10362).

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this Standard.

GB/T 14699.1 Feeding stuff - Sampling (GB/T 14699.1-2005, ISO 6497:2002, IDT)

If the difference of the two weighing values is less than or equal to 0.1% of the sample mass, USE the mass weighed for the first time (m_3) to calculate the moisture in accordance with the equation (1); if the difference of the two weighing values is more than 0.1% of the sample mass, PLACE the weighing bottle again in the $103\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ oven to dry it for $2\text{ h} \pm 0.1\text{ h}$; MOVE it into the drier to cool it to room temperature; WEIGH its mass, accurate to 1 mg. If the difference between the value after the second drying and the second weighing value is less than or equal to 0.2% of the sample mass, USE the mass weighed for the first time (m_3) to calculate the moisture in accordance with the equation (1); if it is more than 0.2%, USE the method of clause 8.2 in this standard to determine the moisture.

8.1.2 Semi-solid, liquid or high fat-containing samples

In a clean weighing bottle (5.2.2), PLACE a thin layer of sand (5.6) and a glass rod. PLACE the weighing bottle in a $103\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ oven (5.3); TAKE off the weighing bottle cap and PLACE it aside of the weighing bottle; DRY it for $30\text{ min} \pm 1\text{ min}$. COVER the weighing bottle; TAKE the weighing bottle out; PLACE it in the drier (5.5) to cool it to room temperature. WEIGH its mass (m_1), accurate to 1 mg.

WEIGH 10 g of sample (m_2) and PLACE it in the weighing bottle, accurate to 1 mg; USE the glass rod to uniformly mix the sample and the sand; LEAVE the glass rod in the weighing bottle. PLACE the weighing bottle into the oven, TAKE off the weighing bottle cap and PLACE it aside the weighing bottle. It is advisable to place up to one weighing bottle per cubic meter of oven space.

When the oven temperature reaches to $103\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$; DRY it for $4\text{ h} \pm 0.1\text{ h}$. COVER the weighing bottle; TAKE the weighing bottle out; PLACE it in the drier to cool it to room temperature. WEIGH its mass (m_3), accurate to 1mg. DRY it again in the $103\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ oven for $30\text{ min} \pm 1\text{ min}$; TAKE it out from the oven; PLACE it into the drier to cool it to room temperature. WEIGH its mass, accurate to 1 mg.

If the difference of the two weighing values is less than or equal to 0.1% of the sample mass, USE the mass weighed for the first time (m_3) to calculate the moisture in accordance with the equation (1); if the difference of the two weighing values is more than 0.1% of the sample mass, PLACE the weighing bottle again in the $103\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ oven to dry it for $2\text{ h} \pm 0.1\text{ h}$; MOVE it into the drier to cool it to room temperature; WEIGH its mass, accurate to 1 mg. If the difference between the value after the second drying and the second weighing value is less than or equal to 0.2% of the sample mass, USE the mass weighed for the first time (m_3) to calculate the moisture in accordance with the equation (1); if it is more than 0.2%, USE the method of clause 8.2 in this standard to determine the moisture.

Appendix B

(Informative)

The technical differences between this standard and ISO 6496:1999 and their causes

In Table B.1, it provides the technical differences between this standard and ISO 6496:1999 and their causes.

Table B.1 Technical differences between this standard and ISO 6496:1999 and their causes

Clause number of this standard	Technical differences	Causes
Cover	CHANGE the ISO 6496:1999 standard name from "Animal feeding stuffs - Determination of moisture and other volatile water content" to "Determination of moisture in feedstuffs".	In GB/T 10647-2008 "Feed industry terms", it uses "moisture"; most feed industry standard uses "moisture", AND in Chinese feedstuff industry, it is traditionally to use "moisture" to describe this technical indicator.
Foreword	DELETE the foreword from ISO 6496:1999, REDRAFT the foreword.	To comply with the requirements of GB/T 1.1.
1	MODIFY the "feedstuff" in the Scope of ISO 6496:1999 into "feed, feedstuff and feed additive".	To adapt to the current feedstuff classifications in China.
1	USE GB/T 9696, GB/T 10358, GB/T 10362, GB/T 14489.1, and GB/T 21305 to respectively substitute ISO 662, ISO 771, ISO 6540, ISO 665, and ISO 712.	There is a consistent corresponding relationship.
2	MODIFY the quotation in the normative references of ISO 6496:1999 into "The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this Standard."	To comply with the requirements of GB/T 1.1.
2	On the normative references, this standard makes technically different adjustments, which are shown in Chapter 2 "Normative references", as follows: - ADD GB/T 14699.1 Feeding stuff - Sampling (SEE Chapter 6) - USE GB 20195 to substitute ISO 6498 (SEE Chapter 7)	This standard makes reference to GB/T 14699.1; USE Chinese standard to substitute ISO standard, to facilitate the use of corresponding standards.
3.1	DELETE the definition of "moisture and its	To facilitate the understanding of the

References

- [1] GB/T 6379.2-2004 Accuracy (trueness and precision) of measurement methods and results - Part 2: Basic methods for the determination of repeatability and reproducibility of a standard measurement method (ISO 5725-2:1994, IDT)
- [2] GB/T 9696 Animal and vegetable fats and oils - Determination of moisture and volatile matter content
- [3] GB/T 10358 Oilseed residues - Determination of moisture and volatile content
- [4] GB/T 10362 Inspection of grain and oils - Determination of moisture content of maize
- [5] GB/T 14489.1 Oilseeds - Determination of moisture and volatile matter content
- [6] GB/T 21305 Cereals and cereal products - Determination of moisture content - Routine reference method

_____ **END** _____

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