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Inspection of grain and oils - Determination of test weight

粮油检验 容重测定

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Inspection of grain and oils - Determination of test weight

1 Scope

This Standard specifies the terms and definitions, principle, instruments and utensils, sample preparation, operation steps and result presentation for the determination of test weight of grain and oils.

This Standard applies to the determination of test weight of grain and oils.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB 5491, Inspection of grain and oilseeds - Methods for sampling and sample reduction

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 Test weight

The mass of grains and oil seeds per unit volume, expressed in grams per liter (g/L).

4 Principle

Use a specific test-weight device to measure the mass of grain and oil seeds that can be contained in a fixed container (1 L) according to the prescribed method.

5 Instruments and utensils

5.1 Grain test-weight device: HGT-1000 or GHCS-1000. For the names of components of the test-weight device, refer to Figure A.1 and Figure A.2. Among them, the diameter of the funnel mouth of the grain cylinder is: 40 mm for the measuring the test weight of corn, and 30 mm or according to relevant standards for measuring the test weight of other grains.

5.2 Grain sieve: It has a sieve layer with a pore size diameter of 1.5 mm ~ 12 mm, and has a sieve bottom and a sieve cover. Both electric and manual are available.

5.3 Sample divider or sample-reduction plate.

6 Sample preparation

According to the requirements of GB 5491, take two parts of about 1 000 g separately from the average sample. According to the sieve layer stipulated in Appendix B, carry out 4 times of sieving, the amount of which is about 250 g; sort out the large impurities on the upper sieve and discard the undersize of the lower sieve; combine the grain grains on the upper and lower sieves; mix them as samples for measuring test weight.

7 Operation steps

7.1 HGT-1000 grain test-weight device

7.1.1 Installation of the test-weight device: Open the cover; take out all parts; close the cover. Install the supporting column on the socket of the cover (or a separate socket); install the beam bracket on the column, and fix it with screws; then, install the unequal arm beam on the bracket. Refer to Figure A.1, Figure A.2.

7.1.2 Zero adjustment: Hang the capacity cylinder with the exhaust weight on the hook; move the large and small riders on the beam to the zero scale; check the balance point at no load. If the pointer on the beam does not point to the zero position, adjust the position of the balance weight so that the pointer on the beam points to the zero position.

7.1.3 Measurement: Remove the capacity cylinder; pour out the exhaust weight; install the capacity cylinder on the iron plate seat; insert the insertion piece; put the exhaust weight on the insert piece; put on the middle cylinder. Close the funnel switch at the lower part of the grain cylinder; pour the prepared sample into the grain cylinder; use a board to scrape it flat after filling. Then put the grain cylinder on the middle cylinder; turn on the funnel switch; close the funnel switch after all the samples fall into the middle cylinder. Hold the joint between the grain cylinder and the middle cylinder; pull out the insertion piece smoothly and quickly, so that the sample and the exhaust weight fall into the capacity cylinder together; then insert the insertion piece into the gap groove of the capacity cylinder accurately and quickly; remove the grain cylinder in sequence; pick up the middle cylinder and the capacity cylinder; pour out the excess sample on the insert; remove the middle cylinder; pull out the insert on the capacity cylinder.

7.1.4 Weighing: Hang the capacity cylinder (including the sample in the cylinder) on the hook of the test-weight device and weigh it. The weighed mass is the test weight of the sample (g/L).

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