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CCS X22

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 18394-2020

Permitted level of moisture in meat of livestock and poultry

畜禽肉水分限量

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Standardization Administration of China

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1 Scope

GB 18394-2020 is the Chinese national standard on permitted level of moisture in meat of livestock and poultry, in the field of food technology. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 24 December 2020 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 January 2022. Classification: ICS 67.120.10, CCS X22. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Standard specifies the indicators and test methods for permitted level of moisture in meat of livestock and poultry. This Standard is applicable to fresh (frozen) pork, beef, mutton and chicken.

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 5009.3-2016, National food safety standard -- Determination of moisture in food

GB/T 6682, Water for analytical laboratory use -- Specification and test methods

GB/T 19480, Terms of meat and meat products

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in GB/T 19480 apply.

4 Indicators for permitted level of moisture in meat of

livestock and poultry See Table 1 for the indicators for permitted level of moisture in meat of livestock and poultry. The arbitration method for determining the moisture content of livestock and poultry meat is based on the distillation method specified in GB 5009.3-2016. Table 1 -- Indicators for permitted level of moisture in meat of livestock and poultry

5.1.3.1 Weighing vessels: flat aluminum or glass weighing vessels, porcelain crucible, inner diameter not less than 25 mm.

5.1.3.2 Homogenizing equipment: chopper or meat grinder.

5.1.3.3 Thin glass rod: slightly higher than the weighing vessel.

5.1.3.4 Constant temperature drying oven.

5.1.3.5 Dryer: containing effective desiccant.

5.1.3.6 Balance: sensitivity is

0.01 g and 0.0001 g.

5.1.4 Sample preparation

5.1.4.1 Sample collection Make an incision from the sampling site, avoiding fat, sinews, and tendons. Cut about 200 g of muscle. Place in an airtight container. Cooling meat should remove any surface air-dried parts. Frozen meat should be sampled from within the sample.

5.1.4.2 Sample processing 5.1.4.2.1 Non-frozen samples Fat, sinews, and tendons should be removed from the sample before testing. Take the muscle part and homogenize it. Homogenized samples should be tested as soon as possible. If it cannot be detected in time after homogenization, it should be stored sealed and refrigerated. Sealed and refrigerated storage time should not exceed 24 h. Stored samples should be remixed during testing. 5.1.4.2.2 Frozen samples Thaw at 15°C~25°C. Record the sample mass m3 and m4 before and after thawing (accurate to

0.01 g). Thawed samples are processed according to 5.1.4.2.1.

5.1.5 Analysis steps

5.1.5.1 Constant weight of weighing vessel: Put a thin glass rod and about 10 g of sand into the weighing vessel. Place it into a constant temperature drying oven at (103±2)°C and

maintain a constant weight. Record the mass after constant weight (m0).

5.1.5.2 Weigh about 5 g of sample (accurate to 0.0001

g) and place it in a weighing vessel. Accurately record the total mass (m1) of the sample and weighing vessel. Use a fine glass rod to mix the sand and sample evenly.

5.1.5.3 Move the weighing vessel and sample to a constant temperature drying oven at (103±2)°C. After drying for 4 h, take it out and cool it in a desiccator before weighing. Dry it again in a constant temperature drying oven for 1 h, take it out, cool it and weigh it. Repeat the above steps until the mass difference between two consecutive times is less than 2 mg. Record the total mass of the final weighing vessel and contents (m2).

5.2 Infrared drying method (quick method)

5.2.1 Principle Use infrared heating to remove moisture from the sample, and then use the mass difference before and after drying to calculate the moisture content.

5.2.2 Instruments Infrared rapid moisture analyzer: the moisture measurement range is 0%~100%. The reading accuracy is 0.01%. The weighing range is 0 g~30 g. The weighing accuracy is 1 mg.

5.2.3 Determination

5.2.3.1 Turn on the power and turn on the switch. Set the drying heating temperature to 105°C and the heating time to automatic. The result is expressed in the range of 0%~100%.

5.2.3.2 Open the sample chamber cover. Take a sample pan and place it on the balance frame of the infrared moisture analyzer, and return it to zero.

5.2.3.3 Take out the sample pan. Spread approximately 5 g of the sample prepared according to

5.1.4.1 evenly on the plate. Put it back into the sample room.

5.2.3.4 Cover the sample chamber cover. Start heating. After drying is complete, read the moisture content on the digital display. When equipped with a printer, the moisture content can be automatically printed.