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# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

# GB/T 29370-2026

Replacing GB/T 29370-2012

## Lemons

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**Standardization Administration of the PRC**

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## Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 29370-2012 "Lemons". Compared with GB/T 29370-2012, the main differences are structural adjustments and editorial changes. In addition, the main technological changes are as follows:

---Terminology and definitions have been changed (see Chapter 3, Chapter 3 of the.2012 edition);

---The basic requirements have been changed (see 4.1,.2012 version 4.1);

---The requirements for grading have been changed (see 4.2,

4.2.1 in the.2012 version);

---The requirements for sensory indicators have been changed (see 4.2,

4.2.2 in the.2012 edition);

---The requirements for physicochemical indicators have been changed (see 4.3,

4.2.3 in the.2012 edition);

---The requirements for the physicochemical indicator of vitamin C have been increased (see Table 3);

---The specification requirements have been changed (see 4.4,

4.3 in the.2012 version);

---The requirements for hygiene indicators have been removed (see

## 4 Requirements

4.1 Basic Requirements The following basic conditions should be met.

---The fruit possesses the inherent flavor of the variety and a maturity suitable for market or storage requirements;

---Intact, well-preserved, fresh, and clean;

---No rot, spoilage, off-odor, cracked fruit, or frost damage;

---No abnormal external moisture.

4.2 Level Under the premise of meeting basic requirements, lemons are divided into Grade 1, Grade 2, and Grade 3 fruits according to sensory indicators. The sensory indicators of each grade should be as follows: It meets the requirements of Table 1.

4.3 Physicochemical Indicators It should meet the requirements of Table 2.

4.4 Specifications Except for fruits weighing >285g or < 75g, lemons are divided into 11 sizes according to their single fruit weight. The single fruit weight of each size should conform to Table 3. Requirements. Based on the corresponding single fruit weight range, each package should contain 15kg net weight, and the number of fresh lemons in that package constitutes one model. Specification.

### 4.5 Tolerance

4.5.1 Grade Tolerance For Grade 1 fruit, 5% of the fruit may not meet the sensory requirements for this grade, but must meet the requirements for Grade 2 fruit; for Grade 2 fruit, the sensory indicators... Up to 10% of the fruit may not meet the requirements of this grade, but must meet the requirements of grade three fruit; for grade three fruit, up to 10% of the fruit may not meet the sensory evaluation criteria. It does not meet the requirements of this level, but should meet the basic requirements.

4.5.2 Specification tolerances Mixing different fruit types is not allowed; the weight of adjacent fruit types should be greater than or equal to 5% of the total weight; the net weight of each package should be greater than or equal to... It equals the indicated weight.

### 5.1 Appearance quality inspection

5.1.1 Appearance Quality Ten fresh lemons were randomly selected from the batch of products. The samples were placed in a clean white container and observed with the naked eye under natural light. The basic requirements for lemons include fruit shape, color, surface defects, and the uniformity and cleanliness of the appearance.

### 5.1.2 Spot diameter

5.1.2.1 Method I - Sampling Measurement. Fresh lemons were randomly selected from the batch of products, and those with a significant difference in appearance from the surrounding normal peel were measured. The measurement object was a complex of spots with different shapes or edges not exceeding

1.0 mm. A vernier caliper was used to measure the spots on the lemon peel surface. The length of the longest axis.

5.1.2.2 Method II - Visual Comparison Method. Under natural light, using a standard defect comparison chart, compare the fruit spots with the diameter of the corresponding chart. A 1.5mm reference circle was used for coverage comparison.



### 5.1.3.1 Method I

--- Circular Approximation. Treat the spot as a circle, calculate the area according to formula (1), and round the result to one decimal place. S=pix(d/2)2 (1) In the formula. S

---Spot area, in square centimeters (cm2); pi

--- Pi, usually taken as 3.14; d

--- The diameter of the spot, measured in centimeters (cm).

5.1.3.2 Method II - Comparison Method. Use standard area ratios printed with solid circles of different sizes (diameters of 1.0mm, 1.5mm, and 2.0mm). For the card, directly compare and read the approximate area value.

5.1.4 Spot density A 1cm^2 transparent grid was applied to the area with the most concentrated spots on the lemon's surface. The grid was statistically analyzed using the principle of including both the upper and left boundaries. Number of spots within a grid.

5.1.5 Total number of spots Slowly rotate the lemon 360° and use a counter to count all the spots one by one. Alternatively, observe the entire lemon with the naked eye under natural light. The fruit surface was counted visually.

5.1.6 Endoplasmic characteristics The aroma is fresh, rich, and natural. The acidity, texture, and off-flavors are detected by a combination of tasting and olfactory methods.

5.2 Soluble solids Perform in accordance with NY/T 2637.

5.3 Titratable Acids Comply with GB/T 8210.

5.4 Juice yield Comply with GB/T 8210.

5.5 Vitamin C Implement in accordance with GB/T 5009.86.

5.6 Specifications and Models Samples should be taken according to GB/T 8855, using an electronic scale or dynamic electronic weight sorting machine with an accuracy of 0.01g to separate the same single fruit. Weigh the fruit within the weight range and count the number of fruits required to fill a 15kg net weight package; this is the batch model value.

## 6 Inspection Rules

6.1 Batch Rules Lemons from the same production base, of the same variety, of the same grade, under the same storage and transportation conditions, and with the same packaging date are considered as one inspection batch.

6.2 Sampling Method Comply with GB/T 8855.

6.3 Type Testing Type testing is a comprehensive evaluation of a product, that is, testing against all the requirements specified in this document. If any of the following conditions exist, type testing should be conducted. Type testing.

---When the results of two tests differ significantly;

---When the production or storage environment undergoes significant changes due to human or natural factors;

---When both parties to the transaction request type testing;

---When the national quality supervision agency or competent authority puts forward a type test requirement.

6.4 Delivery Inspection Before each batch of products is delivered, the production unit should conduct a delivery inspection, which includes packaging and labeling, defect rate, sensory evaluation, and fruit specifications. Inspection is required. Inspection must be conducted within 24 hours prior to shipment; only products that pass inspection and are accompanied by a certificate of conformity can be delivered.

### 6.5 Judgment Rules

6.5.1 If all inspected items meet the requirements, the batch of products is deemed to comply with this document.

6.5.2 The measured diameter of the spots on the fruit surface, the number of spots in the densest 1cm^2 area, and the total number of spots on the entire fruit shall not exceed those of Grade 1, Grade 2, and Grade 3 fruits. If the upper limit value defined by the fruit is met, the fresh lemon is deemed to be of acceptable quality; otherwise, it is deemed