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

GB/T 16862-2026

Replacing GB/T 16862-2008

Cold storage technology for table grapes

鲜食葡萄冷藏技术

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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 16862-2008 "Cold Storage Technology for Fresh Grapes". Compared with GB/T 16862-2008, the main differences are structural adjustments and... Aside from editorial changes, the main technical changes are as follows:

- a) Some terms and definitions have been deleted (see 3.1-3.9, 3.11, and 3.12 in the 2008 edition), and the terminology for "sulfur dioxide damage" has been changed. (See 3.1, 3.10 in the 2008 edition);
- b) Harvesting and quality requirements have been changed (see Chapter 4, Chapter 4 of the 2008 edition);
- c) The precooling method and conditions have been changed (see Chapter 5,

4.6.2 of the.2008 edition);

d) The requirements for the use of preservatives (paper) have been changed (see 6.3.4, 4.5 of the.2008 edition);

e) The transportation technical requirements have been revised (see 8.1, 4.4.4 of the.2008 edition), and sales technical requirements have been added (see 8.2);

f) Added archival records (see Chapter 9). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the All China Federation of Supply and Marketing Cooperatives. This document was drafted by: Jinan Fruit Research Institute of All China Federation of Supply and Marketing Cooperatives, and Dehezi (Beijing) Artificial Environment Technology Co., Ltd. Shandong Lushang Binglun Architectural Design Co., Ltd., Zhejiang University, Tianjin Academy of Agricultural Sciences, Xinjiang Academy of Agricultural Sciences, Tianjin University of Science and Technology Institute of Agricultural Product Processing, Chinese Academy of Agricultural Sciences; Tianjin Luxin Low Temperature Technology Co., Ltd. The main drafters of this document are. Yang Xiangzheng, An Ronghui, Sun Chongde, Wang Da, Jia Lianwen, Wei Wenwen, Wu Maoyu, Wu Di, Li Li, and Deng Xiuli. Chen Lei, Luo Zisheng, Jia Xiaoyu, Cui Xiao, Ren Ziyang, Lian Huan, Zhu Zhiqiang, Gao Junde, Chen Cunkun, Qiao Liping, Song Di, Sheng Pinglin, Qin Shunxin, Ma Yanping, Dang Qiqi, Yao Chaoyang, Zhao Zhiyong, Pan Yanfang, Pang Lingling, Zhou Dasen. The release history of this document and the document it replaces is as follows:

---First published in.1997 as GB/T 16862-1997, and revised for the first time in.2008;

1 Scope

GB/T 16862-2026 is the Chinese national standard covering storing table grapes - the rapid cooling after picking, the temperature and humidity that keep the rachis green, the sulfur dioxide pads that control botrytis and the limits on the residue they leave. It replaces GB/T 16862-2008 and has been in force since 1 October 2026, with the apple cold storage standard GB/T 8559-2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, replacing GB/T 16862-2008. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the requirements for harvesting and quality, pre-cooling, packaging, refrigeration, transportation and sales, and record keeping for fresh table grapes under cold storage conditions. This document applies to the cold storage and preservation of fresh grapes.

4.1 Pre-mining requirements

4.1.1 It is advisable to select production areas with cool climates, low rainfall, and large diurnal temperature variations as the base. Irrigation should be stopped 10-15 days before harvest. If it rains... Rainwater should be drained promptly.

4.1.2 Apply a fungicide effective against storage diseases before and after flowering, and 10-15 days before harvest. The use of fungicides should comply with... The provisions of NY/T 4246.

4.2 Harvesting Requirements

4.2.1 Harvesting maturity Grapes should be harvested at the appropriate time, ensuring they reach the required ripeness and quality, avoiding harvesting too early or too late. For varieties with inconsistent ripening periods, harvesting should be done in batches. Harvest at the appropriate time. See Appendix A for the physicochemical indicators of suitable harvest time for different grape varieties.

4.2.2 Harvesting Time It is best to harvest on sunny, cool days, avoiding rainy, foggy days or when there is dew.

4.2.3 Harvesting Methods Grapes should be harvested manually, retaining the fruit stems, and handled gently to preserve the bloom and wax coating. After harvesting, grapes should be placed in perforated baskets and stored... Store in a cool, well-ventilated place, away from direct sunlight.

4.3 Quality Requirements

4.3.1 Grapes should be fresh, intact, and clean, possessing the inherent shape, firmness, and color of the variety. They should be free from pests, diseases, mechanical damage, and foreign substances. Moisture.

4.3.2 The fruit clusters should have appropriate spacing, and the berries should not be squeezed or deformed. The berries should be firmly connected to the stems, making them less prone to detachment during loading, unloading, and transportation.

5 Pre-cooling

5.1 Precooling Method Grapes should be pre-cooled using cold storage or differential pressure pre-cooling methods.

5.2 Palletizing Pre-cooling in cold storage should involve loose and neat stacking of goods. The arrangement and orientation of the stacks should align with the airflow direction within the storage area. The daily inbound volume should not exceed the storage capacity. 10% of capacity. Differential pressure pre-cooling stacking should be tight, with the perforated side

of the packaging box perpendicular to the air inlet duct and the openings aligned.

5.3 Pre-cooling conditions

5.3.1 Grapes should be pre-cooled immediately after harvest. If pre-cooling is not possible in time, they should be placed in a cool and ventilated place, avoiding direct sunlight.

5.3.2 The ambient temperature for cold storage pre-cooling is -1°C to 0°C , and the ambient temperature for differential pressure pre-cooling is 0°C to 1°C . It is advisable to [do something] within 12 hours after harvesting. The temperature at the center of the grape berries should be lowered to 0°C . Pre-cooling should be carried out in accordance with NY/T 4168.

6.1.1 Outer Packaging

6.1.1.1 Outer packaging can be made of thick corrugated cardboard boxes, wooden crates, plastic turnover boxes, etc. The boxes should be flat and not too tall.

6.1.1.2 The density of cardboard boxes should not exceed 8kg. The box body should be clean, dry, sturdy, pressure-resistant, and have smooth inner walls. Wooden crates and plastic turnover boxes should also have a density of... The weight should not exceed 10kg, and the inner lining should be made of flexible cushioning material.

6.1.2 Inner Packaging

6.1.2.1 The inner packaging shall have properties such as cushioning, isolation, moisture retention and anti-fogging, and the packaging materials shall comply with the provisions of GB/T 34344.

6.1.2.2 The length and width of the packaging bag should be the same as the box body, and the length should be easy to tie.

6.2 Packaging Environment After pre-cooling, grapes should be packaged at 0°C ~ 10°C , and the packaging area should be clean and hygienic.

6.3 Packaging Method

6.3.1 Grapes in the same package should be from the same place of origin, the same batch, the same variety, the same maturity, and the same grade and specification.

6.3.2 When packing, first line the inner packaging bag, and then lay absorbent paper on the top and bottom of the packaging bag.

6.3.3 Grapes should be packed neatly and tightly in boxes, with the stems facing up and the tips facing down, in a single layer at an angle, with each box having the same weight, and the bag openings should be tightly sealed.