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

GB/T 47156-2026

Controlled atmosphere storage technology for apples

苹果气调贮藏技术

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Table of Contents

1	Scope
2	Normative references
3	Terms and Definitions
4	Harvesting and Quality Requirements
4.1	Harvesting Requirements
16	Design Code for Controlled Atmosphere Cold Storage

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. 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 by the All China Federation of Supply and Marketing Cooperatives. This document is under the jurisdiction of the National Technical Committee on Standardization of Fruit Products (SAC/TC501). 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, and Shijiazhuang Railway University. The main drafters of this document are: Wei Wenwen, Jia Lianwen, Yang Xiangzheng, Wang Da, An Ronghui, Lian Huan, Chen Lei, Wu Maoyu, Zhang Zhenxing, and Zhe Xiaohui. Sun Chongde, Gao Junde, Deng Xiuli, Chen Lijin, Wu Di, Zhao Yan, Ren Ziyang, Ma Yanping, Song Di, Wang Chunyan. Apple controlled atmosphere storage technology

1 Scope

GB/T 47156-2026 is the Chinese national standard covering storing apples in a controlled atmosphere - the oxygen lowered and the carbon dioxide raised until the fruit almost stops respiring, which is what lets an apple picked in October be sold the following summer. First edition, in force since 1 September 2026, with the ordinary cold storage standard GB/T 8559-2026. It was issued on 27 February 2026 and has been in force since 1 September 2026, as a first edition. 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 technical requirements for apple controlled atmosphere storage, including harvesting and quality requirements, precooling, packaging, storage, and delivery. This document applies to the controlled atmosphere storage of fresh apples.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document. GB/T 10651 Fresh Apples

GB/T 33129 General Operating Procedures for Packaging and Cold Chain Transportation of Fresh Fruits and Vegetables

GB/T 40960 Technical Specification for Cold Chain Distribution of Apples

NY/T 983 Technical Specifications for Apple Harvesting and Storage SBJ

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Building upon refrigeration, gas conditioning equipment is added to control the concentrations of gases such as oxygen, carbon dioxide, and ethylene in the storage environment, thereby inhibiting... Apple physiological metabolism and storage methods to extend shelf life.

4.1 Harvesting Requirements

4.1.1 Harvesting is best done on sunny mornings or evenings when temperatures are lower. Harvesting should not be done on rainy, foggy, or dewy days. Harvest 2-3 weeks before harvesting. Stop fertilizing and watering.

4.1.2 Manual harvesting is recommended. Harvested fruits should be placed in a cool, well-ventilated area and pre-cooled, stored, and transported as soon as possible. Specific requirements are as follows: NY/T 983 shall be implemented.

4.1.3 For varieties with inconsistent maturity periods, harvesting should be carried out in batches at appropriate times. The appropriate maturity index for harvesting apples of different varieties is given in Appendix A.

4.2 Quality Requirements Fresh and clean, possessing the inherent fruit shape, color, and flavor of this variety, free from mechanical damage, sunburn, hail damage, pesticide damage, fruit cracking, pests, or other surface defects. The product meets the requirements for superior and first-class products as specified in GB/T 10651.