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

GB/T 23244-2026

Replacing GB/T 23244-2009

**Fruits and vegetables - Technical specification for controlled
atmosphere storage**

水果和蔬菜 气调贮藏技术规范

(English Translation)

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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 23244-2009 "Technical Specification for Controlled Atmosphere Storage of Fruits and Vegetables". Compared with GB/T 23244-2009, Apart from structural adjustments and editorial changes, the main technical changes are as follows.

- a) Added terms and definitions (see Chapter 3);
- b) The controlled atmosphere storage method was changed (see Chapter 4, Chapter 3 of the 2009 edition);
- c) The airtightness testing method has been changed, and an airtightness qualification standard has been added (see 5.3.2, 4.4 in the 2009 version);
- d) A pre-storage preparation step has been added (see 5.4);
- e) The oxygen regulation method has been changed (see 5.5.4.1, 5.2.1 in the 2009 version);
- f) Added technical requirements for spontaneous controlled atmosphere storage (see Chapter 6);
- g) Added archival records (see Chapter 7).

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.

1 Scope

This document specifies the technical requirements for controlled atmosphere storage methods, mechanical controlled atmosphere storage, and spontaneous controlled atmosphere storage for fruits and vegetables, and describes archival records.

Methods for verifying the recording.

This document applies to the controlled atmosphere storage of fruits and vegetables, and is especially suitable for fruits and vegetables with climacteric respiration or non-climacteric respiration with high respiration intensity.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below.

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 34344 General Technical Requirements for Packaging Materials for Agricultural Products Logistics
GH/T 1433 Management Standard for Fruit Cold Storage and Controlled Atmosphere Storage
NY/T.2000 General Rules for Controlled Atmosphere Storage of Fruits
NY/T 4168 Technical Specification for Precooling of Fruits and Vegetables
SBJ16 Design Code for Controlled Atmosphere Cold Storage

3 Terms and Definitions

The following terms and definitions apply to this document.

In a relatively enclosed environment, based on the storage characteristics of fruits and vegetables, specialized equipment is used to actively adjust and precisely control the storage environment.

The gaseous components (oxygen, carbon dioxide, and ethylene, etc.), temperature, and relative humidity in the storage environment slow down the respiration and metabolism of fruits and vegetables, thus extending their storage period.

Way.

Based on cold storage, fruits and vegetables are sealed in boxes/film bags or large tents with specific air permeability, utilizing the fruits and vegetables' own respiration.

This storage method uses a self-regulating sealed environment to regulate the oxygen and carbon dioxide content, slowing down the respiration and metabolism of fruits and

vegetables and extending their storage period.

respiratory climacteric During the post-harvest ripening and senescence process, fruits and vegetables experience a physiological transition where respiration intensity suddenly and sharply increases within a short period, reaches a peak, and then declines.

Phenomenon.

non-climacteric

During the post-harvest ripening and senescence process, the respiration intensity of fruits and vegetables does not have a significant peak, but shows a slow decline or remains relatively stable.

4 Controlled atmosphere storage method

Controlled atmosphere storage methods for fruits and vegetables are divided into mechanical controlled atmosphere storage and spontaneous controlled atmosphere storage.