

ICS 67.050
CCS X 04



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

GB/T 18525.3-2026

Replacing GB/T 18525.3-2001

**Irradiation processing practice for agricultural products - Part
3: Dried fruit**

农产品辐照工艺 第3部分：干果

Issued on: May 25, 2026

Implemented on: December 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

- 3 Dried Fruit
- 4 Irradiation device
- 5 Requirements before irradiation
 - 5.1 Packaging and Storage
 - 5.2 Process Determination
- 6 Irradiation process
- 7 Post-irradiation management
 - 7.2 Release

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 is Part 3 of GB/T 18525 "Irradiation Processes for Agricultural Products". GB/T 18525 has already published the following parts.

1. Legumes and their products;

2. Cereals and their products;

---Irradiation process for insect control and mold prevention in dried shiitake mushrooms (GB/T 18525.5);

6. Dehydrated Vegetables;

7. Spices and Seasonings;

8. Cooked Meat Products;

11. Dried Longan;

12. Pollen. This document supersedes GB/T 18525.3-2001 "Irradiation Pesticide Process for Jujubes" and GB/T 18525.4-2001 "Irradiation of Dried Goji Berries and Raisins".

"Insecticide Application Process". This document is based on GB/T 18525.3-2001, and integrates the content of GB/T 18525.4-2001. Compared with GB/T 18525.3-2001, apart from structural adjustments and editorial changes, the main technical changes are as follows:

a) The scope has been changed (see Chapter 1, Chapter 1 of the 2001 edition);

b) The terms "dried fruit," "process dosage," "dosage non-uniformity," and "dosage distribution test" were added; the term "red dates" was deleted; and the procedure was modified. Definitions of "minimum effective dose" and "maximum tolerated dose" (see Chapter 3,.2001 edition);

c) The term "irradiation device" has been changed (see Chapter 4, 5.1 of the.2001 edition);

3 Dried Fruit

1.Scope This document specifies the requirements for irradiation equipment, pre-irradiation procedures, irradiation process, post-irradiation procedures, record keeping, and document management for dried fruit irradiation processing. This document applies to dried fruits made from fresh fruits (such as red dates, goji berries, grapes, etc.) through dehydration processes such as sun-drying and drying. Irradiation of fruits and food products for insect and bacteria control.

4 Irradiation device

4.1 Irradiation devices shall comply with the relevant provisions of GB/T 17568 and GB/T 25306.

4.2 The irradiation device shall be a gamma-ray device that produces ^{60}Co or ^{137}Cs radionuclides, or an accelerator with an electron beam energy not exceeding 10 MeV. The device is an X-ray device that meets the relevant standards.

5.1 Packaging and Storage

5.1.1 Packaging specifications shall meet the requirements of irradiation processing, and the packaging materials shall not cause secondary pollution to the product after irradiation.

5.1.2 The storage environment shall meet the temperature, humidity and ventilation requirements of the product.

5.1.3 Irradiation should be carried out as soon as possible after the dried fruit products are packaged to prevent microbial contamination and the development and reproduction of pests.

5.2 Process Determination

5.2.1 Dosage distribution tests should be conducted based on the characteristics of the dried fruit, such as its type, packaging, and intended use, to determine the location of the monitoring dosimeter.

5.2.2 The minimum effective dose for killing insect eggs and larvae in dried fruits is

generally

0.3 kGy to

1.0 kGy; the minimum effective dose for fungicide treatment in dried fruits can be determined based on... The maximum tolerated dose should be determined based on the initial microbial load level of the actual product and the purpose of irradiation. The maximum tolerated dose should be determined according to the impact of absorbed dose on the quality of different dried fruits. Configure the settings, with a maximum limit of

5.2.3 The loading mode should be determined according to the specifications of the dried fruit packaging, the irradiation device, and the form of the irradiation container. Different types of dried fruit should have separate loading modes. Furthermore, the product dosage non-uniformity under loading mode should meet the process dosage requirements.

5.2.4 Equipment operating parameters should be set according to process dosage and loading mode.

5.2.5 Irradiation process documentation shall be developed, including but not limited to process dose, loading mode, equipment operating parameters, and dose measurement system. Systematically monitor the location of the dosimeter.

6 Irradiation process

6.1 Irradiation Operation Irradiation processing is organized according to the requirements of the irradiation process documents. The process includes setting parameters, loading products, irradiation implementation, and dose monitoring. It also monitors and records the irradiation equipment, related parameters, and online product flow process.

6.2 Dose Monitoring According to the irradiation process documentation, monitoring dosimeters are deployed for measurement and recording. The dosimeter measurement system is selected according to GB/T 16640. Select and regularly trace back to the national absorbed dose standard.

6.3 Irradiation Interruption If the irradiation process is interrupted, its impact on the absorbed dose of the product should be assessed, and subsequent processing and recording should be carried out.

6.4 Repeated irradiation Dried fruits can be repeatedly irradiated to control pests. The cumulative dose should not exceed the maximum tolerable dose for the dried fruit.

7 Post-irradiation management

7.1 Storage Irradiated and unirradiated products should be stored separately. The storage environment should meet the requirements of 5.1.2.

7.2 Release

7.2.1 The irradiated product can only be released after confirming that the absorbed dose meets the process dose requirements and that there are no other abnormalities in the irradiation process.

7.2.2 When non-compliance with process dosage requirements or other non-conforming situations occur, they shall be handled in accordance with the non-conforming product management procedure.

8. Record and File Management All records and documents should be properly kept. For food products with an expiration date, they should be retained for at least six months after the expiration date; for food products without a clearly stated expiration date, at least... Retained for 2 years.