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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 18525.10-2026

Replacing GB/T 18527.2-2001

Irradiation processing practice for agricultural products - Part 10: Garlic

农产品辐照工艺 第10部分：大蒜

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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 is Part 10 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 replaces GB/T 18527.2-2001 "Garlic Irradiation Inhibition Process". Compared with GB/T 18527.2-2001, except for the structure... Aside from 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 "Terminology and Definitions" have been changed (see Chapter 3, Chapter 3 of the.2001 edition);

c) The term "irradiation device" has been changed (see Chapter 4,

5.1 of the.2001 edition);

4 Irradiation device

4.1 Irradiation devices shall comply with the relevant provisions of GB/T 17568, GB/T 25306 and GB/T 40590.

4.2 The irradiation device shall be a gamma-ray device producing radioactive nuclides of 60Co or 137Cs, and an electron beam with an energy not exceeding

10 MeV. Accelerator device, X-ray device that meets the relevant national standards.

5.1 Packaging and Storage

5.1.1 Packaging materials and specifications shall meet the requirements of irradiation processing and shall also comply with the provisions of GB/T 34343.

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

5.2 Irradiation Period Irradiation should be performed before the young shoots sprout. Garlic stored at room temperature should be irradiated during its dormancy period of 2 to 3 months after harvest and drying; refrigerated garlic (such as garlic stored at room temperature) should be irradiated during this period. Garlic should be irradiated promptly after being taken out of storage (2.5°C±0.5°C).

5.3 Process Determination

5.3.1 Dose distribution testing should be conducted based on the garlic packaging to determine the location of the monitoring dosimeter.

5.3.2 The minimum effective dose is

50 Gy, and the maximum tolerated dose is 1000 Gy. The process dosage should be within the range of the minimum effective dose and the maximum tolerated dose. Between quantities.

5.3.3 The loading mode should be determined based on the packaging form and specifications of the garlic, the type of irradiation device and irradiation container, and the product under the loading mode... The dose non-uniformity should meet the dose requirements of the irradiation process.

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

5.3.5 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 processing includes setting parameters, product loading and unloading, 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 Interruption Assessment If the irradiation process is interrupted, the impact on the absorbed dose of the product should be assessed, and subsequent processing and recording should be carried out.

7 Post-irradiation management

7.1 Storage Garlic that has been irradiated and garlic that have not been irradiated should be temporarily stored separately, with other storage requirements the same as before irradiation.

7.2 Product Release

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

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 and retained for at least one year.

10 Garlic

1.Scope This document specifies the requirements for irradiation devices for inhibiting garlic sprouting, as well as the pre-irradiation, pre-irradiation, irradiation process, post-irradiation, record keeping, and document management. This document applies to the irradiation inhibition of sprouting in garlic with dry skin (including white-skinned garlic, purple-skinned garlic, etc.).