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

GB/T 21125-2026

Replacing GB/T 21125-2007

**Technical specification for the breeding of edible mushroom
varieties**

食用菌品种选育技术规范

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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 21125-2007 "Technical Specifications for the Breeding of Edible Fungi Varieties". Compared with GB/T 21125-2007, except for the following. Aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The general technical requirements have been changed (see Chapters 4-7, Chapter 4 in the.2007 edition);
- b) The cultivation trials and demonstrations were revised (see Chapter 8, Chapter 5 of the.2007 edition);
- c) Added naming (see Chapter 9), germplasm preservation (see Chapter 10), and record management (see Chapter 11);
- d) The breeding procedures have been removed (see Appendix A, Appendix B, Appendix C, and Appendix D of the.2007 edition). 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 Ministry of Agriculture and Rural Affairs of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee on Standardization of Crop Seeds (SAC/TC37). This document was drafted by the Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences. The main drafters of this document are. Huang Chenyang, Gao Wei, Chen Qiang, Zhang Ruiying, Wu Xiangli, Chen Yanqi, Zhao Mengran, Zhang Lijiao, and Yan Jingjing. The release history of this document and the document it replaces is as follows:

---First published in.2007 as GB/T 21125-2007;

---This is the first revision. Technical Specifications for Edible Fungi Variety Breeding

1 Scope

GB/T 21125-2026 is the Chinese national standard covering breeding a mushroom - the collection and characterisation of parent strains, the crossing and single spore isolation, the trials for yield and quality and the stability testing before a strain is released. It replaces GB/T 21125-2007 and has been in force since 1 September 2026, with the spawn standards revised in the same batch. It was issued on 27 February 2026 and has been in force since 1 September 2026, replacing GB/T 21125-2007. The document is under the responsibility of the Ministry of Agriculture and Rural Affairs. 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 parent selection, method selection, breeding, screening, production performance evaluation, nomenclature, and germplasm of edible fungi varieties. preservation. This document applies to the selection and breeding of edible fungi varieties.

4. Breeding Objectives The main focus is on important agronomic and commercial traits, such as yield, quality, resistance, adaptability, and growth cycle.

5 Parent selection

5.1 Selection Principles Select parents according to breeding objectives. The origin or pedigree of the parents should be accurate and clear.

5.2 Acquisition of Parental Genes

5.2.1 Subculture During breeding, edible fungi strains need to be transferred to a new culture medium to continue growing.

5.2.2 Tissue Separation Tissue isolation is performed using fresh fruiting bodies, sclerotia, and mycelial cords. In most cases, appropriate air drying is required before use. Dried edible fungi are also used. For some species, such as black fungus and hairy fungus, a soaking process is required for tissue separation.

5.2.3 Spore isolation Spores can be collected using the spore print method or the spore ejection method; if necessary, the dried fruiting body crushing and separation method can be used. After obtaining the spores, follow aseptic procedures. According to the procedure, dilution separation or micromanipulation should be used to separate single spores; the fruiting body pulverization separation method can only be used for the separation of single spores under micromanipulation. Under suitable conditions... Cultured under suitable environmental conditions, single colonies were picked, transplanted, cultured, numbered, and subsequently identified and confirmed. For species with clamp connections, [further details can be added]. The presence or absence of clamp connections is used for

determination. For other types of edible fungi, mating-type-related molecular markers can be developed to identify whether they are monoecious. Spore isolates.

6 Method Selection

6.1 Systematic breeding It is suitable for the domestication and utilization of wild resources.

6.2 Hybrid Breeding It is applicable to the creation of new germplasm and new varieties, and is divided into single-spore hybridization, multi-spore hybridization, single-double hybridization, and protoplast fusion. When necessary, it is required... Multiple crosses can be performed, or multiple parents can be introduced.

6.3 Mutation Breeding It is suitable for the creation of new germplasm with specific traits.

6.4 Gene Editing Breeding Suitable for precise modification of target genes.

7. Breeding Based on the breeding objectives, parents should be scientifically selected, and appropriate breeding methods should be chosen. If necessary, multiple breeding methods should be combined to conduct breeding operations. They created new germplasm.

8 Screening and Production Performance Evaluation

8.1 Screening The created germplasm is screened. This can be done by combining indoor evaluation and prediction with outdoor evaluation and analysis. New technologies such as marker-assisted selection can be used. The breeding materials were used for auxiliary screening.

8.2 Production Performance Evaluation The design should be reasonable and the management standardized. The agronomic and commercial traits of new germplasm should be systematically evaluated. Its specificity, uniformity, and stability should be tested. The specificity, consistency and stability tests shall comply with the requirements of GB/T 19557.1 and the corresponding test guidelines.

9. Naming New varieties obtained through breeding shall be named, and the naming rules are detailed in the "Regulations on the Naming of Agricultural Plant Varieties". 10 kinds of quality preservation Germplasm created during the breeding process should be properly preserved. Two or more preservation methods can be selected; for long-term preservation, it is advisable to use [method name missing]. Using liquid nitrogen for cryogenic preservation.

11. Records Management Proper recording and preservation of all raw data during the breeding process is essential. Records should be complete, data comprehensive, and archived promptly. Archives should be properly stored. The interval should be no less than 20 years. GB/T 21125-2026. Technical Specifications for Breeding Edible Fungi Varieties ICS

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