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

GB/T 3543.11-2025

Replacing GB/T 3543.5-1995

**Rules for agricultural seed testing - Part 11: Varietal quality -
Varietal genuineness identification testing**

农作物种子检验规程 第11部分：品种质量 品种真实性鉴定

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is part 11 of GB/T 3543 "Regulations for the inspection of crop seeds". GB/T 3543 has been published in the following parts.

- Part 1: General;
- Part 2: Sampling;
- Part 3: Seeding quality and purity analysis;
- Part 4: Seeding quality germination test;
- Part 5: Variety quality and purity identification;
- Part 6: Determination of moisture content of sowing mass;
- Other items inspection;
- Part 8: Determination of sowing quality and thousand-grain weight;
- Part 9: Determination of sowing quality and viability;
- Part 10. Determination of seeding quality and vitality;

- Part 11.Variety quality and authenticity identification;
- Part 12.Determination of variety quality of genetically modified seeds.

This document partially replaces GB/T 3543.5-1995 "Crop Seed Inspection Procedure for Authenticity and Variety Purity Identification" In the part on sexual identification, compared with GB/T 3543.5-1995, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Deleted the content of variety purity identification (see 1995 edition);
- Changed some of the terms and definitions of authenticity of varieties (see Chapter 3, Chapter 3 of the 1995 edition);
- Added general requirements for identification content (see Chapter 4), DNA molecular testing (see 5.1) and plot planting identification (see 5.2);
- Deleted the morphological identification method (see 6.2.1 of the 1995 edition), the rapid determination method (see 6.2.2 of the 1995 edition), the seedling identification method (see 6.3 of the 1995 edition);
- Changed the identification procedure (see Chapter 6, Chapter 6 of the 1995 edition);
- Changed the calculation and presentation of results (see Chapter 7, Chapter 7 of the 1995 edition);
- Changed the result report (see Chapter 8, Chapter 8 of the 1995 edition);
- Added SSR primer information for authenticity identification of major crop varieties (see Appendix A), SSR molecular marker identification procedures (see Appendix B) and SNP molecular marker identification procedures (see Appendix C).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the 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).

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The previous versions of this document and the documents it replaces are as follows.

- First issued in 1983 as GB 3543-1983;
- First revised in 1995 to GB/T 3543.5-1995;
- This is the second revision, partially replacing GB/T 3543.5-1995.

Introduction

Seed quality has many verifiable cultivation values, forming the currently recognized sowing quality, variety quality and health quality.

Among them, sowing quality mainly reflects the impact of seed appearance quality on seed sowing, and is divided into physical Quality and physiological quality. The most commonly used physical quality is cleanliness, dryness, fullness, uniformity and other characteristics, such as water Physiological quality mainly reflects the vitality of seeds, especially under suitable environmental control conditions.

The structural function and developmental capacity of seedlings under most conditions, that is, the ability to normally germinate and grow into plants under most conditions. The main indicators of physiological quality are development Seed variety quality (varietal quality) is also called genetic quality (genetic quality), which mainly reflects The characteristics of the genetic background of crop seeds and the degree of consistency of genetic background. At present, the indicators for measuring seed variety quality include variety authenticity, The seed quality mainly reflects the seed health status, whether there is Pathogenic organisms, such as fungi, bacteria and viruses, and animal pests, including nematodes and insects, may also involve physiological conditions, such as trace element deficiencies.

GB/T 3543 "Inspection Procedures for Crop Seeds" is the basic standard for seed inspection methods, which consists of general principles, sampling, sowing quality, variety quality, etc.

It is composed of the following 12 parts. quantity, health quality, etc., which are intended to provide inspection basis for the quality requirements of the above three types of seeds. part.

- Part 1: General. The purpose is to establish the general and overall requirements for each part of the inspection procedures for crop seeds and to govern the inspection procedures. Each part of the program.
- Part 2: Sampling. The purpose is to clarify the methods of sampling from seed batches, sub-sampling for testing and preservation of samples. program.
- Part 3: Seeding quality purity analysis. The purpose is to clarify the method for determining the net seed content in crop seed samples program.

- Part 4: Seeding quality germination test. The purpose is to clarify the test method and procedures for the germination of crop seed samples.
- Part 5: Variety quality and purity identification. The purpose is to determine the percentage of seeds of this variety in a seed sample. Methods and procedures.
- Part 6: Determination of moisture content in seeding mass. The purpose is to clarify the method and procedure for moisture content of crop seed samples.
- Part 7: Other items of inspection. The purpose is to clarify the method and procedures for seed sample health.
- Part 8: Determination of 1000-seed weight of sowing quality. The purpose is to clarify the method and procedure for determining the weight of 1000 seeds per seed sample.
- Part 9: Determination of sowing quality viability. The purpose is to clarify the method and procedure for determining the viability of seed samples.
- Part 10: Determination of seed quality vitality. The purpose is to clarify the method and procedure for determining the vitality of seed samples.
- Part 11: Variety quality and authenticity identification. The purpose is to clarify the identification methods and procedures for variety authenticity.
- Part 12: Determination of genetically modified seeds for variety quality. The purpose is to clarify the composition, genetic purity and gene authenticity of genetically modified seeds.

Procedure for determination of authenticity.

This document is the "Variety Authenticity Identification" part of variety quality. This document follows international common practice and is based on the marker site (primer) With consistency as the focus, molecular testing methods are standardized.

Variety authenticity is an important indicator of variety quality and is widely used in seed trade to protect the legitimate rights and interests of all parties and to protect the seed industry.

Supervision and management of production and operation activities.

Crop Seed Inspection Procedures Part 11. Variety quality and authenticity identification

1 Scope

This document specifies the content, general requirements, identification procedures, and result presentation requirements for authenticity identification of crop seed varieties.

This document applies to the inspection of crop seeds.