

ICS 65.020.20

CCS B 00



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

GB/T 3543.3-2025

Replacing GB/T 3543.3-1995

**Rules for agricultural seed testing - Part 3: Sowing quality -
Purity analysis**

农作物种子检验规程 第3部分：播种质量 净度分析

Issued on: February 28, 2025

Implemented on: September 1, 2025

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

Table of Contents

Preface	III
Introduction	V
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
3.1 Clarity Analysis	1
3.2 Determination of seed number of other plants	2
3.3 Seed unit and accessory organs	2
4 General Principles	5
5 Instruments and Equipment	5
6 Clarity Analysis Procedure	5
6.1 Uncoated seeds	5
6.2 Coated seeds	8
7 Other plant seed number determination procedures	9
7.1 Uncoated seeds	9
7.2 Coated seeds	10
8 Results Report	11
8.1 Clarity Analysis	11
8.2 Determination of seed number of other plants	11
Appendix A (Normative) Clean Seed Determination Rules	12
A.1 Rules for distinguishing clean seeds, other plant seeds and impurities12 A.2 Net Seed Characteristics (PSD)	13
A.3 Net seed feature number index	16
A.4 Rules for distinguishing clean pelleted seeds, unpelleted seeds and impurities in coated seeds	20
Appendix B (Normative) Tolerance Table.....	21
B.1 Clarity Analysis	21
B.2 Determination of seed number of other plants	25

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 3 of GB/T 3543 "Inspection Procedure for 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 replaces GB/T 3543.3-1995 "Crop Seed Inspection Procedure Purity Analysis" and is consistent with GB/T 3543.3-1995.

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Changed the terms and definitions of clarity analysis (see Chapter 3, Chapter 3 of the 1995 edition);
- Added general principles for clarity analysis (see Chapter 4);
- Added instrument tweezers and brushes (Chapter 5);
- Changed the clarity analysis procedure (see Chapter 6, Chapter 5 of the 1995 edition);
- Added the analysis of the purity of coated seeds and the number of other plant seeds and clarified the relevant determination contents (see 6.2, Chapter 7);
- Added simplified limited test for the number of seeds of other plants (see 7.1.1.2) and determination of species of Orobanche species (see 7.1.3);
- Changed the rules for distinguishing clean seeds, other plant seeds and impurities, and expanded the scope of types applicable to clean seeds (see Appendix

Appendix A of the 1995 edition), the structure and types of seeds with husks (see Appendix B of the 1995 edition) and cotton seeds were deleted.

Determination of seed-bearing rate (see Appendix C of the 1995 edition);

- Changed the tolerance table (see Appendix B, Tables 2 to 7 of the 1995 edition).

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).

This document was drafted by: National Agricultural Technology Extension Service Center, Hunan Seed Quality Inspection Center, Gansu Seed Station, Inner Mongolia Autonomous Region Agricultural and Animal Husbandry Technology Promotion Center, Hebei Province Seed Station, Shenzhen Agricultural Science and Technology Promotion Center, Beijing Seed Management Station, Ningxia Hui...

Autonomous Region Seed Station, Xinjiang Uygur Autonomous Region Seed Industry Development Center.

The main drafters of this document are: Jin Shiqiao, Zhang Like, Zhang Jiaqing, Liu Guohua, Deng Shu, Zheng Jingyi, Liu Jin, Song Ge, Peng Ruidi, Chang Caihong, Li Man, Lian Yingjie, Zhao Jianzong, Jin Fang, Ren Xuezhen, Jing Qi, and Zhou Zeyu.

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 3543.3-1995;
- This is the second revision.

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 germination. Seed variety quality (varietal quality) is also called genetic quality (genetic quality), which mainly reflects the characteristics of agricultural The genetic background characteristics of crop seeds and the degree of consistency of genetic background. At present, the indicators for measuring seed variety quality include variety authenticity, Variety purity, authenticity of transgenic traits and purity of traits, etc. Health quality mainly reflects the health status of seeds, whether there are pathogenic organisms, organisms, such as fungi, bacteria and viruses, and animal pests, including nematodes and insects, and 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. It consists of general principles, sampling, sowing quality, variety quality. It is composed of the following 12 parts. 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.