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

**GB/T 19557.3-2026**

Replacing GB/T 19557.3-2004

**Guidelines for the conduct of tests for distinctness, uniformity  
and stability - Durum wheat (*Triticum turgidum* subsp. *durum*)**

植物品种特异性、一致性和稳定性测试指南 硬粒小麦

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### Foreword

The following symbols apply to this document. MG. Group Measurement MS. Individual Measurement PQ. Pseudo-quality property QL. Quality Properties QN. quantitative traits VG. Group visual inspection \*. Important traits required for the unification of variety descriptions by the International Union for the Protection of New Varieties of Plants (UPOV) are excluded unless limited by environmental conditions. The expression status of these traits cannot be tested; all UPOV members need to use these traits. \_ . Special

Note. Scope of Application for Test Traits

### 5 Requirements for breeding materials

- 5.1 Propagation material is provided in the form of seeds.
- 5.2 The number of seeds submitted shall not be less than 2000g, and if necessary, a single ear from 100 individual plants shall be submitted.
- 5.3 Submitted seeds must be healthy in appearance and free from pests and diseases. Seed quality must meet the following requirements. purity  $\geq 98\%$ , germination rate  $\geq 85\%$ , and moisture content  $\leq 13\%$ . Require.
- 5.4 Submitted seeds should not have undergone any treatment that affects the normal expression of varietal traits (such as seed coating). If treatment has been performed, it must be provided. Detailed instructions for the process.
- 5.5 The seeds submitted must comply with the relevant regulations of China's plant quarantine.

### 6 Testing Methods

- 6.1 Test Cycle The testing cycle is typically two independent growth cycles.

6.2 Test Location Testing is typically conducted at one location. If certain traits are not normally expressed at that location, it is advisable to conduct them at other suitable locations. Conduct observations.

### 6.3 Field Trials

6.3.1 Experimental Design Planting is done by row sowing. Each plot should contain no fewer than 1,000 plants, with appropriate spacing between plants and rows, and two replicates. When identifying panicle rows, each panicle is planted in one panicle row, with no fewer than 100 panicle rows. When necessary, the variety to be tested and similar varieties should be planted adjacent to each other.

6.3.2 Field Management The production management practices are carried out in accordance with local regulations. Field management measures are strictly consistent across all plots, and the same management measures are completed on the same day.

### 6.4 Trait Observation

6.4.1 Observation Period Trait observations should be conducted according to the reproductive stages listed in Tables A.1 and A.2 of Appendix A. Descriptions of reproductive stages should conform to those in Appendix B. Table B.1.

6.4.2 Observation Methods Trait observations should be conducted according to the observation methods (VG, MG, MS) specified in Tables A.1 and A.2. Some trait observation methods should conform to... B.2 and B.3.

6.4.3 Number of observations Unless otherwise stated, the sample size for individual measured traits (MS) is 20 plants, and each plant is sampled when observing organs or parts of the plant. The sampling quantity is

1. Population observation traits (VG, MG) are observed in the entire plot or a population of a specified size.

6.5 Additional Tests If necessary, additional tests should be performed according to the properties in Table A.2 or properties not listed in this document.

## 7 Determination of specificity, consistency, and stability of results

7.1 General Principles The determination of specificity, consistency and stability results shall be carried out in accordance with the principles defined in GB/T 19557.1.

7.2 Determination of Specificity The variety to be tested must be clearly distinguishable from all known varieties. In the test, the variety must be similar to the most closely related variety in at least one trait. When the varieties exhibit obvious and reproducible differences, the variety being tested is deemed to possess specificity.

**7.3 Consistency Determination** When determining community consistency, a population criterion of 0.3% and an acceptance probability of at least 95% were used, with a sample size of 873 plants. When the sample size is 1096 plants, a maximum of 6 heteromorphic plants are allowed; when the sample size is 1811 to 2058 plants, a maximum of 10 heteromorphic plants are allowed. When determining the uniformity of panicle rows or individual plants, a 1% population standard and a 95% acceptance probability are used. With a sample size of 100, the maximum... Three heteromorphic plants are allowed. When identifying panicle rows, if there is one or more heteromorphic plants in a panicle row, the panicle row is determined to be a heteromorphic panicle row.

**7.4 Stability Determination** If a variety exhibits consistency, it can be considered stable. Stability testing is generally not performed. If necessary, it is advisable to plant the next generation of seeds of this variety or another batch of seeds, if there is no significant difference in phenotypic expression compared with the previously provided propagation material. If significant changes are observed, it can be determined that the variety possesses stability.

## 8 Characteristic Table

**8.1 Overview** Based on testing requirements, traits are divided into basic traits and optional traits. Basic traits are those required for testing, while optional traits are those used for further testing. Traits that can be selected when conducting additional tests. Table A.1 lists the basic traits of durum wheat, and Table A.2 lists the optional traits of durum wheat. The trait table lists the trait name, expression type, expression status, corresponding code, standard variety, observation period, and method.

**8.2 Expression Types** Based on the way traits are expressed, traits are classified into three types. qualitative traits, pseudo-qualitative traits, and quantitative traits.

**8.3 Expressing Status and Corresponding Code** Each trait is divided into a series of expression states to facilitate the definition of the trait and the specification of its description; each expression state is assigned a corresponding number. Codes are used to facilitate the recording, processing, and establishment and exchange of variety descriptions.

**8.4 Standard Varieties** The trait table lists standard varieties for reference regarding the expression status of some traits, to help determine the different expression statuses of related traits. Correct for differences caused by environmental factors.

**9. Grouping traits** The varietal grouping traits are as follows:

- a) \*Heading stage (Table A.1, Neutral trait 4);
- b) \*Plant height (Table A.1 Neutral trait 13);
- c) \*Applicable only to awned varieties. awn. color (Table A.1 Neutral trait 24);

d) \*Winter and spring characteristics (Typology 37 in Table A.1).

10. Technical Questionnaire Applicants should complete the questionnaire on testing techniques for variety specificity, uniformity and stability of durum wheat in accordance with Appendix C.

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