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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 15795-2026

Replacing GB/T 15795-2011

Technical specification for the monitoring and forecasting of wheat stripe rust (Puccinia striiformis)

小麦条锈病测报技术规范

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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 15795-2011 "Technical Specification for Monitoring and Forecasting of Wheat Stripe Rust". Compared with GB/T 15795-2011, except for the structure... Aside from adjustments and editorial changes, the main technical changes are as follows:

a) The term and definition of "disease point rate" have been added (see 3.3);

b) Added classification or calculation methods for survey items (see Chapter 4);

c) The severity rating system has been simplified from 8 levels to 5 levels (see 4.2,

2.2 of the.2011 version);

d) The relevant content of the systemic investigation of the disease condition has been revised, and the systemic investigation time has been shortened (see Chapter 5, Chapter 4 of the.2011 edition);

e) The monitoring of aerial spore capture from invasive fungal sources has been removed (see

4.2 in the.2011 edition);

f) The term "disease survey" was changed to "disease dynamic survey" and related content

was simplified, while a fixed-location survey was added (see Chapter 6,.2011). Chapter 5 of the edition);

g) The content related to the summering survey has been revised, and a survey of the alternate host barberry has been added (see

7.3 and Table B.5,

6.5 in the.2011 edition). Table A.5);

h) The severity grading criteria have been changed, and the lower limit for Level 1 occurrence has been adjusted (see Chapter 8, Chapter 3 of the.2011 edition);

1 Scope

GB/T 15795-2026 is the Chinese national standard covering tracking wheat stripe rust - a wind-borne disease that oversummers in the western highlands and sweeps east across the plain each spring, so the forecast in one province depends on the survey in another. China runs a national pest forecasting network, and standards like this one are what make a report from one county comparable with a report from another. The document fixes the survey design and timing, the sampling and counting, the records and the forecast issued from them. It replaces GB/T 15795-2011 and has been in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, replacing GB/T 15795-2011. 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 requirements for collecting and summarizing data on wheat stripe rust surveys, forecasts, and monitoring, and describes the corresponding verification methods. This document applies to the monitoring, surveying, and forecasting of wheat stripe rust.

4.1 Disease rate

4.1.1 Disease leaf rate in a single field Calculate according to formula (1).

4.1.2 Regional average disease rate Calculate according to formula (2).

4.2 Severity

4.2.1 Severity of diseased leaves Based on the percentage of diseased leaf area relative to the total leaf area, a grading system is used, with 5 levels representing 5%, 20%, 50%, and so on. 80% and 100% indicate that for conditions falling between the levels, the closest value is used. If the condition has developed but the severity is less than 5%, it is recorded as 5%.

4.2.2 Average severity of diseased leaves For the leaves of the plant population, the average severity of diseased leaves is calculated according to formula (3). The average severity can be strictly calculated by counting at the initial stage of disease outbreak; When the disease is in its peak period and there are many points to be investigated, the average severity of a certain point is given based on visual estimation.

4.3 Disease Index Calculate according to formula (4).

4.4 Disease rate Calculate according to formula (5).

4.5 Disease incidence rate Calculate according to formula (6).

5 Systematic investigation of the disease

5.1 Survey Location Select one to two fields with favorable conditions for disease development and a history of early onset of the disease as systematic survey fields, with each field having an area of not less than 333m2; the area of mountainous fields can be appropriately reduced. If disease-resistant varieties are commonly planted locally, pre-treatment should be conducted in areas with favorable disease-causing conditions and convenient observation. Plant susceptible varieties in blocks, establish observation nurseries, and systematically investigate fields or observation nurseries without using fungicides throughout the entire process.

5.2 Survey Time

5.2.1 Overwintering areas (see Appendix A for wheat stripe rust epidemic zoning), winter breeding areas, and spring breeding areas where wheat stripe rust can sustainably cause damage from autumn to spring. In wheat-growing areas, the investigation begins when the wheat seedlings have two leaves and a heart, and continues until the wheat stripe rust disease in systematically surveyed fields begins to appear in patches.

Note. Spot occurrence refers to the occurrence of disease in wheat fields with only disease centers and single diseased leaves, and the disease incidence rate should be less than 10%.

5.2.2 In non-wintering and latent overwintering areas of wheat stripe rust, surveys should begin after the wheat turns green in spring and continue until systematic surveys are conducted in the fields where wheat stripe rust is present. The process ends when the point is entered.

5.2.3 In the spring wheat area, the survey began when the wheat seedlings had two leaves and one heart, and continued until two systematically surveyed fields showed patches of wheat stripe rust.

5.3 Survey Methodology A comprehensive survey was conducted in the systematic survey field or observation nursery, every 7 days, using a slow, deliberate footstep approach

(observation span 1m) to identify diseased leaves. The method of combining squatting down for detailed inspection was used to record the number of individual diseased leaves and disease centers. The data were recorded according to Table B.1 in Appendix B.

6 Disease progression survey

6.1 Survey period When wheat stripe rust appears in the systematic survey field or observation nursery, the survey begins. If no disease is found in the systematic survey field or observation nursery, then... Surveys should begin at the jointing stage and be conducted every 7 days. During the peak of disease outbreaks, surveys can be conducted every 3-4 days. The final survey should be conducted at the waxy ripening stage. A final investigation is underway.

6.2 Survey Location Based on wheat cultivation zoning and annual disease incidence, several representative areas were selected. Within each representative area, susceptible varieties were selected for early sowing and appropriate sowing time. A survey of wheat-sown fields was conducted, covering no fewer than 20 fields in total.

6.3 Survey Methodology

6.3.1 Growth Period Dynamics Survey When the disease is in the patchy stage, five random sampling points are taken, with each point covering 10 square meters. The method involves slow, deliberate walking with the head down (observation area 1 meter) and... The method combines squatting down to examine the diseased leaves carefully, recording the number of individual diseased leaves per unit area, as well as the number of disease centers and the area of disease centers per unit area. The average number of diseased leaves within the disease center. In fields with widespread outbreaks, five random sampling points were taken, and 100 leaves were randomly examined at each point to assess the disease status. Survey data such as rate and severity should be recorded according to Table B.2.

6.3.2 Fixed-location survey Five samples were taken from each survey field, and 100 leaves (flag leaf or the leaf immediately below the flag leaf) were randomly examined at each point. The incidence of diseased leaves was recorded and calculated by variety. The severity data are recorded according to Table B.3.The overall average disease rate and severity of the variety are the weighted average of all surveyed fields for that variety.

7 Disease survey in summering areas

7.1 Survey period Depending on the summering region, the investigation is conducted in late August or during the peak disease season for summering hosts such as late-maturing spring wheat, winter wheat, and their own seedlings.

7.2 Survey Field Each year, following a fixed tour route, representative fields of disease-susceptible late-maturing spring and winter wheat varieties, as well as stubble