

ICS 65.020.01

CCS B 15



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

GB/T 45211.2-2025

**Technical code of practice for evaluation of resistance to
diseases and insect pests in wheat - Part 2: Leaf (brown) rust**

小麦抗病虫性评价技术规程 第2部分：叶锈病

Issued on: January 24, 2025

Implemented on: August 1, 2025

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

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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 2 of GB/T 45211 Technical Specification for Evaluation of Disease and Pest Resistance of Wheat. GB/T 45211 has been published as follows part.

- Part 1: Stripe rust;
- Part 2: Leaf rust;
- Part 3: Stem rust;
- Part 4: Fusarium fusarium;
- Part 5: Sheath blight;
- Part 6: Yellow dwarf disease;
- Part 7: Aphids;
- Part 8: Midges.

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 is proposed and coordinated by the Ministry of Agriculture and Rural Affairs of the People's Republic of China.

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Introduction

GB/T 45211 "Technical Procedures for Evaluation of Wheat Disease and Insect Resistance" aims to standardize the technical methods, operating procedures and identification of wheat disease and insect resistance.

Evaluation principles provide standardized technical methods for breeding material screening, hybrid offspring selection, disease resistance gene discovery and variety evaluation and approval.

The method plays an important role in guiding and promoting disease-resistant breeding, variety layout and plant quarantine of wheat in China.

GB/T 45211 is divided into the following 8 parts.

- Part 1: Stripe rust;
- Part 2: Leaf rust;
- Part 3: Stem rust;
- Part 4: Fusarium fusarium;
- Part 5: Sheath blight;
- Part 6: Yellow dwarf disease;
- Part 7: Aphids;
- Part 8: Midges.

Technical regulations for evaluating wheat disease and insect resistance Part 2: Leaf rust

1 Scope

This document defines the terms and definitions of wheat leaf rust resistance evaluation technology, establishes the evaluation procedures, and specifies the preparation of inoculum, field resistance It includes contents such as disease identification and seedling disease resistance identification, and describes the verification methods.

This document applies to the field and laboratory characterization and evaluation of

resistance to leaf rust in *Triticum* spp.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 wheat leaf rust wheatleafrust; wheatbrownrust

A wheat disease caused by the fungus *Puccinia triticina* that produces rust-like symptoms on the leaves.

3.2 disease resistance

A heritable trait in plants that can reduce or overcome the pathogenic effects of pathogens.

3.3 Infection type

The classification is based on the severity of the necrosis reaction at the infection point, the size, shape and color of the lesions, and the degree of fruiting body development on the lesions.

Indicates the degree of resistance of wheat varieties to leaf rust.

Note. There are 6 types. 0, 1, 2, 3 and 4. Each type is added with a " " or "-" sign to indicate that it is heavier or lighter.

3.4 slowrusting

Under environmental conditions suitable for leaf rust, the infection type is type 3 to type 4, but the disease progresses relatively slowly in the field.

Features with a count below 30.

3.5 Pathogenicity

The ability of pathogens to interfere with host growth and cause disease.

3.6

The process of placing the inoculum into the diseased part of the plant through artificial manipulation and causing it to become diseased.

3.7 Diseaserating scale

A numerical description of the degree of disease in individual plants or populations.

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