ICS 65.020.01
CCS B 15

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 45211.7-2025

Technical code of practice for evaluation of resistance to diseases and insect pests in wheat - Part 7: Aphid

小麦抗病虫性评价技术规程 第7部分：蚜虫

Issued on: January 24, 2025 **Implemented on: August 1, 2025**

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

Table of Contents

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 7 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.

This document was drafted by: Institute of Plant Protection, Chinese Academy of Agricultural Sciences.

The main drafters of this document. Chen Wanquan, Liu Taiguo, Chen Julian, Cheng Dengfa and Cao Yazhong.

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 7: Aphids

1 Scope

This document defines the terms and definitions of wheat aphid resistance evaluation technology, establishes the evaluation procedures, and stipulates the content of field aphid resistance identification.

The verification method is described.

This document applies to the field characterization and evaluation of aphid resistance in wheat plants.

Note. The wheat aphids referred to in this document are a mixed population, mainly including Sitobionavenae (Sitobion miscanthi),

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 aphid resistance

Plants have heritable traits that make them resistant to insect infestation.

3.2

A test area set up in the field to identify the insect resistance of plants.

3.3

After years of multi-point insect resistance identification in the field, host varieties or strains with relatively stable resistance are selected as references for insect resistance identification.

3.4

A numerical description of the level or extent of aphid damage to plant material.

3.5

The process of using technical criteria to determine the degree of response and level of resistance of host plants to specific pests.

4 Evaluation Procedure

The evaluation procedure of wheat resistance to aphids includes site selection and setting of identification nurseries, survey methods, classification of aphid resistance levels and resistance evaluation methods.

The insect evaluation procedure is shown in Figure 1.