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

**GB/T 17980.31-2026**

Replacing GB/T 17980.31-2000

**Pesticides - Guidelines for field efficacy trials - Part 31:  
Fungicides against early and late blight of tomato**

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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 is Part 31 of GB/T 17980, "Guidelines for Field Efficacy Tests of Pesticides". GB/T 17980 has published the following... part.

- 1. Insecticide control of lepidopteran borers in rice;
- 2. Insecticide Control of Rice Leaf Roller;
- 3. Pesticide Control of Rice Leafhoppers;
- 31. Fungicides for the Control of Early Blight and Late Blight in Tomatoes;

---Part 149: Insecticides for the Control of Red Imported Fire Ants. This document replaces GB/T 17980.31-2000 "Guidelines for Field Efficacy Testing of Pesticides (I) Control of Early Blight and Late Blight in Tomatoes with Fungicides". Compared with GB/T 17980.31-2000, the main technical changes in "Epidemic Diseases" are as follows, except for structural adjustments and editorial modifications.

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2000 edition);

- b) The test conditions were changed (see Chapter 4, Chapter 2 of the.2000 edition);
- c) Added requirements for experimental treatments and blank controls (see 5.1);
- d) The requirements for test and control reagents have been changed (see 5.2, 3.1 of the.2000 edition);
- e) Changes were made to cell arrangement, cell size, and duplication requirements (see 5.3, 3.2 of the.2000 edition);

## 1 Scope

GB/T 17980.31-2026 is the Chinese national standard covering the trial protocol against tomato blights - late blight above all, which can destroy a crop within days of the weather turning and which is the reason preventive spray programmes exist at all. The GB/T 17980 series is what a pesticide registration in China rests on: it fixes the plot design and replication, the application rate and timing, the assessment of the pest or weed and of the crop, and the analysis of the result. It replaces GB/T 17980.31-2000 and has been in force since 1 September 2026, one of the parts of the series revised together. It was issued on 27 February 2026 and has been in force since 1 September 2026, replacing GB/T 17980.31-2000. 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.

Methods for small-area drug efficacy trials. This document applies to field efficacy plot trials and efficacy evaluations of fungicides for the control of early blight and late blight in tomatoes, for registration purposes. Other field trials... The efficacy test was conducted in accordance with the guidelines.

## 4 Test conditions

4.1 Selection of test subjects, crops and varieties The subjects of the experiment were early and late epidemic diseases. The experimental crop was tomato, using either a susceptible variety or a locally grown variety. The variety name was recorded.

4.2 Environmental Conditions Field trials should be conducted in disease-prone areas. Cultivation conditions (soil type, fertilization, sowing/planting date, growth stage) should be considered for all experimental plots. The spacing between plants and rows should be uniform and consistent with local scientific agricultural practices. If irrigation is used, record the method, time, and amount of water used. When applying fumigants, smoke agents, powders (spraying), or fogging agents in greenhouses, each treatment should be performed in a single greenhouse or the greenhouse should be tightly isolated. It is divided into several

communities.

## 5 Experimental Design and Arrangement

5.1 Test Treatment The following treatments should be set up. test reagent, control reagent, and blank control.

### 5.2 Reagents

5.2.1 Test reagents The test reagent should be applied at least three times; in special cases, the dosage should be set according to experimental requirements. Specify the Chinese/English common name or code of the reagent. Dosage form, active ingredient content, manufacturer, production date or batch number, expiration date, etc.

5.2.2 Control reagent The control agent should be a registered, locally used product with good efficacy and safety in actual use. The type and function of the control agent should be clearly defined. The method should be the same as or similar to that of the test drug, and the registered dosage should be used. If the test drug is a compound formulation, a single dose of each active ingredient should also be included as a control. Control drug. Special cases may vary depending on the purpose of the experiment. Record the Chinese/English common name, dosage form, active ingredient content, and manufacturer of the control drug. The product name, registration number, production date or batch number, and dosage are required.

### 5.3 Community Arrangement

5.3.1 Layout of the community The experimental, control, and blank control plots were randomly assigned using a block design, and the plot diagram was recorded. Special circumstances should be noted. illustrate.

5.3.2 Area of the community and duplication Area of the residential area. 15m<sup>2</sup>–50m<sup>2</sup> (for sheds, the area should be no less than 8m<sup>2</sup>). Number of repetitions. at least 4 repetitions.

## 6 Applying pesticides

6.1 Application Method Follow the test requirements and label instructions. Application methods should be adapted to local scientific agricultural practices. Record the application methods and procedures. process.

6.2 Application equipment Select commonly used equipment in production, or choose equipment according to experimental requirements. Record the type of equipment used and its operating conditions (e.g., working pressure, etc.). All information regarding nozzle type and nozzle diameter.

6.3 Application time and frequency Conduct the experiment according to the test

requirements and label instructions. Record the number of applications, the date of each application, and the crop growth stage. The first application should be made at the site of the disease. Before or at the initial stage of an outbreak, the decision to apply pesticide again depends on the development of the disease during crop growth.

6.4 Dosage Administer the medication according to the test requirements and the dosage specified on the label, and record the prepared dosage and the amount of active ingredient. The prepared dosage is usually expressed in mL/667m<sup>2</sup> (milliliters). The dosage is expressed as per 667 square meters (g/667m<sup>2</sup>) or g/667m<sup>2</sup> (grams per 667 square meters), while the effective ingredient dosage is expressed as g/hm<sup>2</sup> (grams per hectare). Spray application. When applying pesticides, record the amount of pesticide solution used per hectare, expressed in L/hm<sup>2</sup> (liters per hectare); for fumigants, smoke agents, powders (spraying), and fogging agents. At the same time, record the volume of the greenhouse and the cultivated area, and record the dosage of pesticide per square meter or per cubic meter, in g/m<sup>2</sup> (grams per square meter) or The dosage is expressed in g/m<sup>3</sup> (grams per cubic meter). The pesticide application rate should be evenly distributed, and the deviation should not exceed  $\pm 10\%$ . If the deviation exceeds  $\pm 10\%$ , it should be recorded and... Assess its impact.

6.5 Chemical requirements for controlling other diseases, pests, and weeds If other agents are used, those that have no effect on the test agent and test subjects should be selected, and all plots should be treated uniformly. Use separately from test and control agents to minimize interference from these agents. Record accurate data on the application of these agents. Information such as the generic name of the drug, dosage form, content of active ingredient, manufacturer, dosage, application method, application time, and target pests.

## 7.1 Drug efficacy assessment

7.1.1 Investigation Method Five random sampling points were taken from each community, with two plants selected at each point. Ten compound leaves were examined on each plant from top to bottom, and the number of diseased leaves was recorded. The analysis was based on the number of diseased leaves on each leaf. The percentage of leaf area affected by lesions is used for classification. Simultaneously, the number of diseased fruits (including fallen fruits) per plant is investigated, and the disease severity is calculated. Fruit yield. The classification of leaf diseases is as follows (based on the leaf). Grade

0.No lesions;

1.The area of lesions is less than 5% of the total leaf area;

3.The area of lesions accounts for more than or equal to 5% but less than 10% of the total leaf area;

5.The area of lesions accounts for more than or equal to 10% but less than 20% of the total leaf area;