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

GB/T 17980.53-2026

Replacing GB/T 17980.53-2000

**Pesticides - Guidelines for field efficacy trials - Part 53:
Herbicides against weeds in rotational cropping**

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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 53 of GB/T 17980, "Guidelines for Field Efficacy Testing 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;

53. Herbicide control of weeds in crop rotation;

---Part 149: Insecticides for the Control of Red Imported Fire Ants. This document replaces GB/T 17980.53-2000 "Guidelines for Field Efficacy Testing of Pesticides (I) - Control of Herbicides in Intercropping of Crop Rotations". Compared with GB/T 17980.53-2000, the main technical changes in the draft 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 selection of weeds used in the experiment was changed (see 4.2, 2.1 of the.2000 edition);
- c) Increased the selection of crops and cultivars (see 4.1);
- d) Added provisions for test treatment (see 5.1);
- e) The requirements for test and control reagents have been changed (see 5.2, 3.1 of the.2000 edition);

1 Scope

GB/T 17980.53-2026 is the Chinese national standard covering the trial protocol for herbicides in a rotation - where what matters as much as the weed control is what the residue does to the crop planted next, which is a question that takes more than one season to answer. 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 17980.53-2000 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 17980.53-2000. 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.

This document describes the methods for field plot trials of herbicides for controlling weeds in crop rotation. This document applies to the registration of herbicides used for weed control before sowing of crop rotation, fallow land, and arable land with low field efficacy for pre-planting herbicides used in crop rotation, fallow land, and arable land with the previous crop. District testing and safety evaluation.

4 Test conditions

4.1 Selection of Crops and Cultivars The next crop in crop rotation should be a locally common cultivation type, and widely planted varieties should be selected. Seed quality should meet the requirements for field use. Please record the type of crop to be planted next (including Chinese and Latin scientific names), cultivation type, and variety name.

4.2 Selection of weeds as test subjects The weeds in the test site should be representative, the weed density should meet the experimental requirements, and the weeds should be evenly distributed. The weed community composition should be the same as that of the test herbicide. The herbicide spectrum is consistent. Record the Chinese and Latin scientific names of various weeds.

4.3 Cultivation conditions Soil conditions (soil type, organic matter content, pH, moisture, fertility) and tillage practices for the next crop rotation should be consistent across all experimental plots. The planting should be uniform and consistent, and conform to local scientific agricultural practices. Cultivation measures such as seeding rate, sowing depth, and density (plant spacing, row spacing) for the next crop in crop rotation should be... It conforms to local production realities. Record the previous crop and the herbicides used in the previous crop, and avoid selecting plots that may affect the growth of the next crop or the effectiveness of the tested herbicides.

5 Experimental Design and Arrangement

5.1 Test Treatment Treatments such as experimental agents, control agents, manual weeding, and blank control should be set up.

5.2 Reagents

5.2.1 Test reagents The experimental reagent treatment included four dosages. high, medium, low, and twice the medium dose. Additional dosages may be determined based on experimental requirements in special cases. The dosage of the reagent should be specified. The text includes the generic name or code in English, dosage form, active ingredient content, manufacturer, production date or batch number, etc.

5.2.2 Control reagent The control agent should be a registered, locally commonly used product with good efficacy and safety in actual use. The type and action of the control agent should be specified. The formulation and herbicidal spectrum should be the same as or similar to the test agent, and the registered dosage and application method should be used. If the test agent is a mixture, it should also be... Each active ingredient, in single-dose form, serves as a control. Specific measures may be taken depending on the purpose of the experiment. Record the Chinese/English generic name, dosage form, active ingredient content, manufacturer, registration number, production date or batch number, and application information of the control drug. Dosage, etc.

5.3 Community Arrangement

5.3.1 Layout of the community The test plots were arranged using a randomized block design. In special cases, comparative, inter-comparison, or irregular arrangements may be used, and these will be explained.

5.3.2 Area of the community and duplication The area of the residential area ranges from 15m² to 50m², and the shape of the residential area is rectangular. Number of repetitions. no less than 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 Use commonly used equipment, or select equipment according to the test requirements. When using the spray method for pesticide application, choose a sprayer with stable pressure and a fan-shaped nozzle. The pesticide was applied using a nebulizer, ensuring even distribution throughout the entire test plot. The type of equipment used and operating conditions (working pressure, spray speed, etc.) were recorded. All information including head type, nozzle diameter, and flow rate.

6.3 Application time and frequency Follow the test requirements and label instructions. If the application time is not specifically specified on the label, it should be determined based on the test objective and the test reagent. Apply the pesticide according to its therapeutic properties. Application time.

---To control weeds among crop rotation crops (in rotation fields, fallow fields, and arable land before the sowing of the next crop), the application time is always after the weeds emerge in the rotation field. Before sowing the next crop; Record the date and time of pesticide application, and the growth status of the weeds at the time of application (growth stage and proportion of each type of weed, etc.). Record the application site. The interval between the sowing or transplanting of the next crop in the crop rotation.

6.4 Dosage and Water Consumption Apply the pesticide according to the test requirements and the dosage and water usage specified on the label. The dosage of the pesticide is expressed in g/hm^2 (grams per hectare) of active ingredient. Dosage is expressed in $\text{mL}/667\text{m}^2$ (milliliters per 667 square meters) or $\text{g}/667\text{m}^2$ (grams per 667 square meters), and water consumption is expressed in L/hm^2 (liters per hectare). It is expressed in $\text{L}/667\text{m}^2$ (liters per 667 square meters). When the water volume is not specified in the test, it can be determined based on the mode of action of the test agent and the type of sprayer. The water usage should be determined based on local production conditions. Accurate dosage should be ensured during pesticide application; the dosage deviation between replicates of the same treatment should not exceed [a certain value]. $\pm 5\%$. Record factors affecting efficacy, duration of action, and selectivity.

6.5 Requirements for pesticides used to control pests, diseases, and non-target weeds If other pesticides are used during the trial, those that have no effect on the test pesticide, target weeds, and test crops should be selected, and all plots should be treated. Perform homogenization treatment. It should be used separately from the test and control agents, and the name of the agent, application time, application method, and dosage should be recorded. Quantity, target of action, etc.

7.1 Weed Survey