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

GB/T 17980.46-2026

Replacing GB/T 17980.46-2000

**Pesticides - Guidelines for field efficacy trials - Part 46:
Herbicides against weeds in outdoor fruit vegetables**

农药 田间药效试验准则 第46部分：除草剂防治露地果菜类蔬菜田杂草

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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 46 of GB/T 17980, "Guidelines for Field Efficacy Testing of Pesticides". GB/T 17980 has published the following... part.

- 1. Insecticide Control of Lepidoptera Boring Pests in Rice;
- 2. Insecticide Control of Rice Leaf Roller;
- 3. Pesticide Control of Rice Leafhoppers;
- 46. Herbicide Control of Weeds in Open-Field Fruit and Vegetable Fields;

---Part 149: Insecticides for the Control of Red Imported Fire Ants. This document replaces GB/T 17980.46-2000 "Guidelines for Field Efficacy Testing of Pesticides (I) Herbicide Control of Open-Field Fruit and Vegetable Crops". Compared with GB/T 17980.46-2000, the main technical changes in "Weeds in the Field" 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 criteria for the test weeds were changed (see 4.2, 2.2 of the 2000 edition);
- c) Added provisions for test treatment (see 5.1);
- d) The requirements for test and control reagents have been changed (see 5.2, 3.1 of the 2000 edition);
- e) The requirements for dosage and water consumption have been changed (see 6.4,

1 Scope

GB/T 17980.46-2026 is the Chinese national standard covering the trial protocol for herbicides in outdoor tomatoes, peppers and their relatives - crops with a short interval to harvest, which makes the residue and the crop safety assessment as important as the weed control. 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 and of the crop, and the analysis of the result, so that trials run by different institutes can be compared. It replaces GB/T 17980.46-2000 and has been in force since 1 September 2026, one of six 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 17980.46-2000. 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 method for field plot trials of herbicides for controlling weeds in open-field fruit and vegetable fields. This document applies to herbicide control of open-field solanaceous, cucurbit, and legume crops, such as tomatoes, eggplants, cucumbers, winter melons, loofahs, okra, and cowpeas. Field efficacy plot trials and safety evaluations of weeds in vegetable fields where the main edible part is the plant fruit.

4 Test conditions

4.1 Selection of Crops and Cultivars Use locally common cultivation methods and select widely planted varieties. Seed quality should meet GB 16715.1-2010 and Requirements for fruit and vegetable varieties in GB 16715.3-2010. Record the fruit and vegetable species (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, soil moisture, fertility) and tillage practices should be uniform and consistent across all experimental plots, and should meet the requirements of the current regulations. Agricultural practices based on geosciences. Cultivation measures for fruit and vegetable crops, such as sowing rate, sowing method, sowing depth, plant spacing, and row spacing, should be adapted to local production conditions. actual. Record the previous crop and the herbicides used in the previous crop, and avoid selecting plots that may affect the growth of fruit and vegetable crops 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 test reagent treatment includes four dosages. high, medium, low, and twice the medium dose. Additional dosages may be set according to experimental requirements in special cases. Specify the reagent dosage. 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 Different treatment plots in the experiment were arranged in a randomized block design. In special cases, comparative, in-between, or irregular arrangements may be used. Please provide an explanation.

5.3.2 Area of the community and duplication The area of a planting plot depends on the spacing between plants, rows, and the number of plants for fruit and vegetable crops. The net area of a plot is 15m² to 20m², and the plot must include at least... Four rows of crops. The plot is rectangular in shape. Number of repetitions. no less than 4 repetitions.

6 Applying pesticides

6.1 Application Method Perform the application according to the agreement requirements and label instructions. Application should be adapted to local scientific agricultural practices. Record the application methods and procedures.

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 sprayer is used to apply the pesticide, ensuring that the pesticide is evenly distributed throughout the entire test plot or accurately and directionally distributed to the target area. Record the amount used. Information such as equipment type and operating conditions (working pressure, nozzle type, nozzle diameter, flow rate, etc.).

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 pesticides according to their specific effects. Application times are categorized based on the emergence time of weeds and fruiting vegetables.

- a) Before sowing or transplanting crops;
- b) Post-sowing and pre-emergence stages of crop growth;
- c) After the crop emerges or after transplanting. Record the date and frequency of pesticide application, as well as the growth status of weeds and fruit and vegetable crops at the time of application (growth stage and the proportion of each type of weed, etc.).

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). The volume is expressed in liters per hectare ($\text{L}/667\text{m}^2$) and liters per 667 square meters ($\text{L}/667\text{m}^2$). When the water volume is not specified in the experiment, it can be determined based on the mode of action of the test agent and the type of sprayer. The water consumption should be determined based on the type of pesticide and 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 Data 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 tested fruits and vegetables should be selected, and all plots should be treated accordingly. Perform homogenization treatment. It should be used separately from