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

GB/T 17980.9-2026

Replacing GB/T 17980.9-2000

**Pesticides - Guidelines for field efficacy trials - Part 9:
Insecticides against aphids in orchards**

农药 田间药效试验准则 第9部分：杀虫剂防治果树蚜虫

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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 9 of GB/T 17980, "Guidelines for Field Efficacy Tests of Pesticides". GB/T 17980 has already 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;

9.Insecticide Control of Aphids on Fruit Trees;

---Part 149: Insecticides for the Control of Red Imported Fire Ants. This document replaces GB/T 17980.9-2000 "Guidelines for Field Efficacy Tests of Pesticides (I) Insecticides for the Control of Aphids on Fruit Trees", and is consistent with... Compared with GB/T 17980.9-2000, apart from structural adjustments and editorial changes, the main technical changes are as follows:

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

- b) The requirements for test subjects and crops have been changed (see 4.1, 2.1 of the 2000 edition);
- c) The environmental conditions requirements have been changed (see 4.2, 2.2 of the 2000 edition);
- d) Added provisions for test treatment (see 5.1);
- e) The descriptions and requirements for the test and control reagents have been revised (see 5.2,

1 Scope

GB/T 17980.9-2026 is the Chinese national standard covering the trial protocol for orchard aphid control - the counts on marked shoots, the effect on the natural enemies and the timing relative to the curling of the leaves that hides the colony. 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, disease or weed and of the crop, and the analysis of the result. It replaces GB/T 17980.9-2000 and has been in force since 1 September 2026. Issued on 27 February 2026, it has been in force since 1 September 2026, replacing GB/T 17980.9-2000.

This document describes the method for field plot efficacy trials of insecticides for controlling aphids on fruit trees. This document applies to the use of insecticides to control wingless aphids on trees, shrubs, and vines, such as the peach aphid (*Myzus persicae*) and the pear aphid. Field efficacy trials for tree aphids should be conducted in accordance with this procedure.

4 Test conditions

4.1 Test subjects and crops The experimental subject was aphids. The species of aphids were recorded. The experimental crops include trees, shrubs, and vine-like fruit trees, preferably the locally cultivated varieties. Record the crop and variety names.

4.2 Environmental Conditions The experimental site should be a representative orchard with moderate to severe aphid infestation. The crop variety and cultivation conditions (soil) of all experimental plots should be consistent. The type, fertilizer and water, tree age, and spacing between trees should be uniform and consistent, and conform to local scientific agricultural practices.

5 Experimental Design and Arrangement

5.1 Test Treatment Test reagents, control reagents, and blank controls should be included.

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 commonly 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. For compound formulations, a single dose of each active ingredient should also be provided as a control drug. Special cases may be determined 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 rate of the control drug. Dosage, etc.

5.3 Community Arrangement

5.3.1 Layout of the community The experimental, control, and blank control plots were randomly assigned to block designs, with guard rows or isolation zones between plots. Records were kept. Neighborhood layout diagram. Special cases should be explained.

5.3.2 Area of the community and duplication Area of the community. 2 to 3 trees. 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, or select equipment according to the test requirements. Record the type of equipment used and the operating conditions (e.g., working pressure, nozzle type). Information such as nozzle diameter, etc.

6.3 Application time and frequency Conduct the experiment according to the test requirements and label instructions. It is advisable to apply the pesticide during the fruit tree's shoot emergence period and at the initial stage of wingless aphid infestation. Record the number of applications and the date of each application. The growing season and crop growth period.

6.4 Dosage Administer the medication according to the test requirements and the dosage specified on the label. Record the dosage of the active ingredient, usually expressed in mg/kg (milligrams per kilogram). For use When spraying, record both the dilution ratio and

the amount of pesticide solution used per hectare, expressed in L/hm² (liters per hectare). Ensure adequate ventilation during application. Ensure accurate dosage and uniform distribution of medication. Dosage deviation should not exceed $\pm 10\%$; if it exceeds $\pm 10\%$, it should be recorded and its impact assessed.

6.5 Chemical requirements for controlling other diseases, pests, and weeds If other pesticides are used to control pests, diseases, and weeds other than the test subjects during the experiment, those that have no effect on the test pesticides or test subjects should be selected. The reagents were used separately from the test and control reagents, and all plots were treated uniformly to minimize interference from these reagents. Degree. Record accurate information about the application of this type of medication (such as generic name of the medication, dosage form, content of active ingredient, dosage, method of application, and application method). (Time, target of prevention and control, etc.)

7.1 Drug Efficacy Survey

7.1.1 Survey Methodology Two plants were surveyed per plot, with five infested shoots on each plant. The number of live aphids on the top 5-10 leaves of each shoot was then counted. The aphid count for each plot was [not specified]. The base number should be no less than 500.

7.1.2 Survey Time and Frequency Before applying pesticides, survey the initial insect population. After application, conduct surveys again at 1-3 days, 7 days, and 14 days, for a total of four surveys. For pesticides with slow action or long residual effects... Agents can extend the investigation period or increase the number of investigations.

7.2 Direct impact on crops Observe whether the pesticide causes phytotoxicity to the crop. If phytotoxicity occurs, accurately describe the symptoms (such as stunting, chlorosis, deformity, etc.) and record them. The type and severity of pesticide damage should be recorded. In addition, the beneficial effects of the pesticide on the crop should also be documented. Record pesticide damage in the following ways.

- a) If pesticide damage can be counted or measured, express it in absolute values, such as leaf drop rate, yellowing rate, etc.
- b) In other cases, the severity and frequency of phytotoxicity can be estimated using the following two methods. 1) Record the pesticide damage level for each plot according to the pesticide damage grading method in Table 1, using -, , , , , ; 2) Compare the drug-treated area with the blank control area to evaluate the percentage of phytotoxicity.

7.3 Impacts on other organisms

7.3.1 Impact on other pests and diseases Observe and record the effects of the pesticide on other pests and diseases in the test area, including both beneficial and harmful effects.