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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 40331.2-2021

Crop protection equipment - Spray deposition test for field crop - Part 2: Measurement in a crop

Issued on: May 21, 2021 **Implemented on: December 1, 2021**

Issued by: State Administration for Market Regulation, China National Standardization Administration

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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 of Standardization Documents"

Drafting.

This document is the second part of GB/T 40331 "Testing the amount of spray deposition of field crops for plant protection machinery". GB/T 40331

The following parts have been released.

---Part 1.Test on level ground;

---Part 2.Testing on crops.

The translation method used in this document is equivalent to ISO 24253-2.2015 "Plant Protection Machinery Field Crop Spray Deposition Test No.

Part 2.Testing on Crop.

The Chinese documents that have consistent correspondence with the normatively cited international documents in this document are as follows.

---GB/T 40331.1-2021 Plant protection machinery field crop spray deposition test part 1.on level ground

On the test (ISO 24253-1.2015, IDT)

This document was proposed by China Machinery Industry Federation.

This document is under the jurisdiction of the National Agricultural Machinery Standardization Technical Committee (SAC/TC201).

Introduction

The effect of using plant protection products (PPP) and whether it is safe for crops and the environment is largely affected by spray efficiency.

In downward (spraying) spraying operations, such as spraying to the ground, the dosage of the active ingredient remaining on the target surface and its change should be measured accurately and accurately.

The situation.

The location, number, and sampling plan of the measuring points used to monitor spray deposition need to be defined in a standard way so that different experiments can be compared

the result of.

Tests can be used to quantify or describe field conditions or comparisons between tools.

The spray system can be compared with the benchmark system.

This document does not deal with sprays that are sprayed outside the target area, deposited on the crop canopy, or lost due to spray drift in the air. If

This document of ISO 24253 is combined with the spray drift field measurement scheme given in ISO 22866 [4], which can be used to evaluate spray volume balance

Happening. On the other hand, combined with the measurement of field boom movement (see ISO 14131 [2]) can be used to evaluate the effect of field boom movement on spraying.

The amount of fog deposition and the influence of its changes.

The deposition amount of horizontal spray rod downward spray operation will be affected by the characteristics of the nozzle, the height of the nozzle, the stability of the nozzle, the operating speed, and the meteorological conditions.

And other spray assist devices (such as pneumatic assist). These variables can be used as test elements to determine the amount of spray deposits and changes.

Different circumstances.

GB/T 40331 "Testing the amount of spray deposition of field crops for plant protection machinery" consists of two parts.

---Part 1.Test on level ground;

---Part 2.Testing on crops.

Plant protection machinery field crop spray deposits

Testing part 2.testing on crops

1 Scope

This document specifies the test method for the amount of spray deposition and its distribution on field crops when the horizontal boom sprayer sprays downwards. this

The document is also applicable to the spraying operation of the boom sprayer on seedlings and low shrub crops.

Note. When focusing on the measurement of spray deposition on crop canopy, it is recommended to use ISO 22522 [3].

This document allows appropriate flexibility in the preparation of field trials, but specifies standardized measurement procedures that can be used for comparison.

Compare different field test results, or compare with laboratory test, as described in ISO 5682-2 [1].

This document is not applicable for regulatory purposes.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated quotations

Only the version corresponding to that date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

This document.

ISO 24253-1 Plant protection machinery Field crop spray deposition test Part 1.Test on level ground

(Cropprotectionequipment-Spraydepositiontestsforfieldcrop-Part 1.Measurementinahorizontal

plane)

3 Terms and definitions

The terms and definitions defined in ISO 24253-1 apply to this document.

4.1 Principle

The spray deposition test is to instantly measure the spray deposition on all target surfaces, including the top of the crop canopy, the inside of the crop, and the plant (crop or miscellaneous

The amount of spray deposition on the target area represented by the collector on the ground covered by grass). This spray deposition measurement can use dyes or

His easy-to-measure tracer simulates pesticides.

The amount of spray deposition can be evaluated quantitatively (e.g. spray volume μL/cm2) or qualitatively (e.g. spray droplet distribution, drop/cm2, coverage

Coverage, the median size of droplets). The amount of change in spray deposition can be quantified.

The value of the spray deposition amount is used to quantify the average deposition amount and the change of the deposition amount of the sprayer sprayed by the tested sprayer, and quantify the plant structure (crop

The penetration degree inside and above the canopy can be measured by collecting collectors (artificial collectors (see Appendix A) or plantings at different heights inside and outside the crop canopy).

Objects such as leaves, ears, fruits, etc.] spray deposition assessment.

4.2 Test area

The test should be carried out in a uniformly growing crop area. The distance between the sampling point and the edge of the test area is not less than 1.5m. Because the boom is shipped

The impact caused by air turbulence (the end of the spray boom) and other interferences such as the air turbulence around the tractor and sprayer (machine center) should be measured between the sprayer and the sprayer.