



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

GB/T 40346-2021

**Equipment for crop protection - Method for measurement of
potential spray drift from horizontal boom sprayers by the use
of a test bench**

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Foreword

This document is in accordance with GB/T 1.1-2020 "Guidelines for Standardization Part 1. Structure and Drafting Rules of Standardization Documents".

To be drafted.

This document uses the translation method equivalent to ISO 22401.2015 "Plant Protection Machinery Horizontal Boom Sprayer Potential Spray Drift Test

Bench Measurement Method."

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

---GB/T 20085-2006 Plant Protection Machinery Vocabulary (ISO 5681.1992, MOD)

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).

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Introduction

In recent years, spray drift control has become more and more important, and the buffer zone to reduce the potential impact of spray drift has also been widely used.

Under normal circumstances, the width of the buffer zone or other rules should be

determined by considering the type of plant protection machinery that sprays the pesticide and its spray drift.

Shift or potential spray drift.

The purpose of this document is to determine a test procedure for evaluating the potential spray drift of horizontal boom sprayers through a special test bench, so that

Make a quick and easy evaluation of the spray equipment.

This test procedure can be used as a field measurement of spray drift (GB/T 24681) or a laboratory measurement of spray nozzle spray drift (GB/T 32241)

An alternative method to obtain the spray drift assessment value.

The application of this document can provide consulting services for farmers, sprayer manufacturers, product development and certification and classification schemes.

Plant protection machinery horizontal boom sprayer

Potential spray drift test bench measurement method

1 Scope

This document specifies a measurement method for measuring spray deposits on horizontal boom sprayers using a test bench. Deposit measurement as potential spray

Drift provides a value. These measurements can be used to compare different settings of the same sprayer.

This document applies to suspended, towed and self-propelled horizontal sprayers for field crops, orchard/vineyard weed control and gardens

Horizontal boom sprayer used for art crop application.

This document applies to booms that use the same spray device. If it is used for the classification of sprayer spray drift, this document is limited to nozzles

Comparison of type, spray pressure and boom height.

Note. Further investigations and tests are underway, considering other parameters used to classify the target (e.g. airflow assist system, forward speed, nozzle spacing, and direction).

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 5681 Plant Protection Machinery Vocabulary (Equipment for crop protection-Vocabulary)

3 Terms and definitions

The following terms and definitions defined in ISO 5681 apply to this document.

3.1

Sprayer setup

The combination of nozzle and boom parameters on a given sprayer and sprayer adjustment.

Note. For example, when setting parameters, the nozzle type and model, nozzle spacing, orientation, nozzle height, forward speed, spray pressure and spray deposition auxiliary measures should be considered

(Such as adding airflow assistance or occlusion).

3.2

Potential spray drift

The percentage of the initial spray volume that is still suspended in the air after the sprayer passes, that is, during the spraying process, it is easy to drift out due to the action of the airflow

The proportion of spray liquid in the application area.

3.3

Reference spray deposition value reference spray deposit; RSD

Assuming that the spray under the boom is uniformly distributed, the expected spray deposition in the spraying area is calculated based on the measured forward speed and the spray head flow rate.

The amount of product.

Note. For example, if the application rate is 100L/hm², the corresponding reference spray deposition value is 1μL/cm².