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

GB/T 32250.5-2025

**Agricultural and forestry machines - Inspection of sprayers in
use - Part 5: Aerial spray systems**

农林机械 在用喷雾机的检测 第5部分：航空喷雾系统

(English Translation)

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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 for standardization documents" Drafting.

This document is part 5 of GB/T 32250 "Testing of sprayers in use for agricultural and forestry machinery". GB/T 32250 has been published as follows.

Lower part.

- Part 1: General;
- Part 2: Horizontal boom sprayers;
- Part 3: Sprayers for shrub and tree crops;
- Part 4: Stationary and semi-mobile sprayers;
- Part 5: Aviation spray systems.

This document is equivalent to ISO 16122-5:2020 "Testing of in-use sprayers for agricultural and forestry machinery - Part 5: Aerial spray systems".

Introduction

In order to control the serious harm caused by insect pests to agriculture and forestry, fixed-wing aircraft and rotary-wing aircraft are used to spray pesticides in many parts of the world.

Aerial spraying in areas with complex terrain or crops (forests) to ensure timely and large-scale spraying, maximize the efficient use of pesticides, and Minimize environmental impact.

The sprayer sprays the plant protection product onto the target. Its goal is to spray only the amount of product required for the target and minimize the risk of contamination to the

operator and off-target flow.

Under normal use and regular maintenance, a properly designed and well-made sprayer should be able to Normal continuous operation. However, after the sprayer is put into use in the field, it often suffers from severe abrasion and damage, even if the agricultural production technology level is relatively high.

Therefore, it is helpful to clarify the use requirements and testing methods of the sprayers in use.

Testing of spray equipment can extend the normal continuous operation time of the sprayers in use, reduce the use of pesticides, and improve safety and work efficiency.

At present, my country has GB/T 39515 "Environmental requirements for agricultural and forestry sprayers" in terms of potential risks of environmental pollution caused by plant protection machinery.

The series of standards such as the "Recommendations for the Design and Manufacturing of Sprayers" stipulate the design and manufacturing requirements and performance test methods for sprayers.

The summation method not only needs to consider the initial performance of the sprayer, but also factors such as use, maintenance and repair to ensure that the sprayer continues to maintain Good condition.

GB/T 32250 "Testing of sprayers in use for agricultural and forestry machinery" is planned to consist of five parts.

--- Part 1: General. The purpose is to describe the general requirements for testing sprayers in use.

--- Part 2: Horizontal boom sprayers. The purpose is to describe the specific requirements for testing horizontal boom sprayers in use.

--- Part 3: Sprayers for shrub and tree crops. The purpose is to describe the inspection of sprayers for shrub and tree crops in use.

Specific requirements for testing.

--- Part 4: Stationary and semi-mobile sprayers. The purpose is to describe the inspection and testing of stationary and semi-mobile sprayers in use.

Specific requirements for testing.

--- Part 5: Aviation spray systems. The purpose is to describe the specific requirements for the detection of aviation spray systems in use.

This document is used together with GB/T 32250.1.

Inspection of sprayers in use for agricultural and forestry machinery Part 5: Aerial spray

systems

1 Scope

This document specifies fixed-wing and rotary-wing aircraft used in agriculture, forestry, turfgrass, and transportation pipelines covered with vegetation (such as natural gas and power lines).

Inspection requirements, test methods and validation of aircraft aviation spray systems to minimize the potential risk of environmental contamination during use.

This document applies only to manned aircraft. It does not cover aircraft safety and airworthiness design standards, aircraft registration, pilots, or operators.

All the above contents shall comply with national or local regulations.

This document is primarily concerned with the condition of equipment, potential environmental risks and achieving good application performance.

The general principles of ISO 16122-1 apply where appropriate, including the protection of inspectors during testing.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 20183.1-2024 Mechanical spray equipment for plant protection Part 1: Test methods for sprayer nozzles (ISO 5682-1.

2017, IDT)

GB/T 20183.2-2024 Mechanical spray equipment for plant protection Part 2: Test method for evaluating the horizontal lateral distribution of hydraulic sprayers Test method (ISO 5682-2:2017, IDT) GB/T 32250.2-2022 Testing of sprayers in use for agricultural and forestry machinery Part 2: Horizontal boom sprayers (ISO 16122-2:2015, IDT) Note. GB/T 20085-2024 Vocabulary of plant protection machinery (ISO 5681:2020, MOD) ISO 5682-2 Mechanical spray equipment for crop protection - Part 2: Test methods for hydraulic sprayers Note. GB/T 32250.1-2022 Inspection of in-use sprayers for agricultural and forestry machinery Part 1: General (ISO 16122-1:2015, IDT)

3 Terms and definitions

For the purpose of this document, the terms and definitions defined in ISO 5681 and the following apply.

Fixed wing aircraft

An aircraft with fixed wings that generates lift and is used for spraying pesticides and fertilizers on agricultural and forestry crops, approved by local or national authorities.