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

GB/T 32250.2-2022

**Agricultural and forestry machinery - Inspection of sprayers in
use - Part 2: Horizontal boom sprayers**

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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" drafted.

This document is the second part of GB/T 32250 "Detection of Agricultural and Forestry Machinery Sprayers in Use". GB/T 32250 has been released to the next part.

--- Part 1. General;

--- Part 2. Horizontal boom sprayers;

--- Part 3. Sprayers for shrub and tree crops;

--- Part 4. Stationary and semi-mobile sprayers.

This document replaces GB/T 32250.2-2015 "Detection of Sprayers in Use - Part 2. Sprayers for Field Crops", and

Compared with GB/T 32250.2-2015, in addition to structural adjustment and editorial changes, the main technical changes are as follows.

- a) The requirements for transmission components are deleted (see 4.1 of the 2015 edition);
- b) Added the requirements for leakage (see 4.1);
- c) Deleted the relevant requirements for the safety valve and leakage at the pressure end of the liquid pump (see 4.2.3 and 4.2.4 of the 2015 edition);
- d) The requirements for the liquid pump air chamber (see 4.2.3) and hydraulic stirring (see 4.3.1) have been added;

- e) Changed the requirements for the liquid tank cover (see 4.4.1, 4.4.1 of the.2015 edition);
- f) Changed the requirements for inhalation dosing devices (see 4.4.3, 4.4.3 and 4.4.8 of the.2015 edition);
- g) Changed the requirements for adding water to the liquid tank (see 4.4.7, 4.4.7 of the.2015 edition);
- h) Deleted the requirement that "the pointer of the pressure gauge should remain stable" (see 4.5.6 of the.2015 edition);
- i) Changed the requirements for the diameter of the pressure gauge (see 4.5.2.4, 4.5.5 of the.2015 edition);
- j) The relevant requirements for pressure regulating devices are added (see 4.5.4);
- k) Deleted the content of hard pipe and hose leakage (see 4.6.1 of the.2015 edition);
- l) Removed the requirement for spray boom locking (see 4.8.3 of the.2015 edition);
- m) Changed the requirements for nozzle spacing and orientation (see 4.8.3, 4.8.4 of the.2015 edition);
- n) Changed the required value for the deformation of the vertical position of the boom, and increased the requirements for the deformation of the horizontal position of the boom (see 4.8.4, .2015 edition 4.8.5);
- o) The requirement for independent deployment and folding of a single boom is deleted (see 4.8.8 of the.2015 edition);
- p) Added requirements for boom sprayers equipped with valves only (see 4.8.8);
- q) Changed the requirements on pressure drop (see 4.8.9, 4.10.2.2 of the.2015 edition);
- r) The general requirements for the lateral distribution of fog volume are added (see 4.9.3.1);
- s) Changed the requirements for the measurement of spray volume (see 4.9.3.3, 4.10.2.1 of the.2015 edition);
- t) Added requirements for fans (see 4.10), spray guns and nozzles (see 4.11);
- u) The preparation of the sprayer was deleted (see 5.1 of the.2015 edition);
- v) Changed the requirements for test equipment (see 5.2.1.1, 5.2.1 of the.2015 edition);
- w) Added the requirements for other sprayers in the liquid pump flow test (see 5.2.1.2.3) and the requirements for the pressure pulsation of the liquid pump (see 5.2.1.2.3) 5.2.2);

- x) Deleted the requirement for the pressure gauge to be calibrated once a year (see 5.2.2.1 of the.2015 edition);
- y) The requirements for the selection of measuring points and the stability of the pressure in the calibration mode of the sprayer pressure gauge are added (see 5.3.2);
- z) The general requirements for flow meters used to control the rate of application per hectare have been changed (see 5.4.1, 5.2.3 of the.2015 edition);
- aa) Added the requirements for measuring the rate of application per hectare (see 5.4.2 and 5.4.3) and the walking speed control system (see 5.5);
- bb) The verification method of lateral distribution uniformity (see 5.6.2) and the calculation of coefficient of variation (see 5.6.3) have been added;
- cc) Changed the requirements for the measurement of the spray volume of the nozzle (see 5.7, 5.2.5 of the.2015 edition);
- dd) Changed the requirements for pressure change measurement when closing part of the boom spray (see 5.9, 5.2.7 of the.2015 edition);
- ee) The requirements for the measurement of the pressure change (see 5.10) and the measurement of the pressure distribution (see 5.11) when all sprays are turned off have been added;
- ff) Deleted the test summary table, test report and related appendices (see Chapter 6, Chapter 7, Appendix A and Appendix B of the.2015 edition).

This document is equivalent to ISO 16122-2:2015 "Testing of agricultural and forestry machinery in-use sprayers - Part 2.Horizontal boom spray machine".

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

The sprayer is mainly used for spraying insecticides, herbicides, fungicides, defoliant and other plant protection products to prevent and control crop diseases, pests and weeds, improve

High yield per unit area plays an irreplaceable and important role, and it is widely used and involves a wide variety of products.

The sprayer sprays the plant protection product on the target with the goal of spraying only the amount required by the target, contaminating operators and off-target streams

The amount of drug lost to the environment is kept to a minimum. 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 used in the field, it often produces serious abrasion and damage, even in comparison with the level of agricultural production technology.

In advanced areas, it is also difficult to achieve adequate maintenance. Therefore, clarifying the use requirements and testing methods of the sprayer in use is beneficial to the use of the sprayer.

The test of spraying equipment, prolong the normal continuous operation time of the sprayer in use, reduce the use of pesticides, improve the safety and work efficiency.

At present, in terms of the safety of plant protection machinery and the potential risks of environmental pollution, there are GB 10395.6 "Agriculture and Forestry Tractors and Machinery

Machinery Safety Technical Requirements Part 6.Plant Protection Machinery, GB/T 39515 Environmental Requirements for Agricultural and Forestry Machinery Sprayers, etc.

Standard, the design and manufacture requirements and performance test methods of sprayer products are specified. However, standardizing the testing requirements and methods for in-use sprayers does not

Only the initial performance of the sprayer needs to be considered, but also factors such as use, maintenance and repair to ensure that the sprayer continues to perform in good condition.

According to the structure and product type of international standards, GB/T 32250 "Testing of Sprayers in Use of Agricultural and Forestry Machinery" currently consists of 4 parts constitute.

--- Part 1.General;

--- Part 2.Horizontal boom sprayers;

--- Part 3.Sprayers for shrub and tree crops;

--- Part 4.Stationary and semi-mobile sprayers.

This document is Part 2 of GB/T 32250 and is used together with GB/T 32250.1.

Inspection of agricultural and forestry machinery in-use sprayers

Part 2.Horizontal boom sprayers

1 Scope

This document is used in conjunction with GB/T 32250.1-2022 to specify the technical