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

GB/T 39546-2020

**Equipment for crop protection. Knapsack motorized
air-assisted sprayers. Test methods and performance limits**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1:1-2009:

The translation method used in this standard is equivalent to the ISO 10988:2011 "Test Method and Performance of Knapsack Sprayer for Plant Protection Machinery"

Energy limit":

The Chinese documents that have a consistent correspondence with the international documents cited in this standard are as follows:

---GB/T 18678-2002 Plant protection machinery, agricultural sprayer (apparatus), the rated capacity of the liquid tank and the diameter of the filling hole

(eqvISO 9357:1990)

---GB/T 20085-2006 Plant protection machinery vocabulary (ISO 5681:1992, MOD)

---GB/T 24679:1-2009 Plant protection machinery knapsack sprayer Part 1: Test requirements and methods

(ISO :19932-1:2006, IDT)

This standard was proposed by China Machinery Industry Federation:

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

Drafting organizations of this standard: Fujite Co., Ltd., Chinese Academy of Agricultural Mechanization Sciences, Shandong Yongjia Power Co., Ltd., Taizhou

Xinyi Agricultural Machinery Co., Ltd., Taizhou Product Quality and Safety Testing Research Institute:

1 Scope

This standard specifies the technical requirements and tests for knapsack air (two-phase flow) sprayers and air-assisted centrifugal sprayers (see ISO 5681 definition)

Methods and minimum performance limits:

This standard applies to knapsack power sprayers equipped with engines and carried by operators, mainly used in agriculture and gardening (hereinafter referred to as

For the sprayer):

This standard does not apply to hydraulic sprayers, thermal sprayers, and room temperature fog machines, nor does it apply to sprayers that spray dry matter:

This standard relates to the sprayer's droplet deposition potential under general technical conditions and specified conditions: This standard does not include

For the safety content and safety requirements of the fog machine, see ISO 28139:

2 Normative references

The following documents are indispensable for the application of this document: For dated reference documents, only the dated version applies to this article

Pieces: For undated references, the latest version (including all amendments) applies to this document:

ISO 5681 Plant Protection Machinery Vocabulary (Equipmentforcropprotection-Vocabulary)

ISO 9357:1990 Plant protection machinery, agricultural sprayer (apparatus), the rated capacity of the chemical tank and the diameter of the filling hole (Equipment

forcropprotection-Agriculturalsprayers-Tanknominalvolumeandfillingholediameter)

ISO :19932-1:2006 Knapsack sprayers for plant protection machinery Part 1: Test requirements and methods (Equipmentfor

cropprotection-Knapsacksprayers-Part 1:Requirementsandtestmethods)

ISO 28139:2009 Safety requirements for internal combustion engine-driven backpack mist dispersers for agricultural and forestry machinery (Agricultural and forestry

machinery-Knapsackcombustionengine-drivenmistblowers-Safetyrequirements)

3 Terms and definitions

The terms and definitions defined by ISO 5681, ISO :19932-1, and ISO 28139 apply to this document:

4 requirements

4:1 General requirements

The design of the sprayer should be able to ensure the safe use of the equipment as expected, minimize the operator's contact with pesticides, and avoid

Necessary pesticides enter the environment:

The sprayer should be designed to open and close the liquid flow in accordance with 5:6:6 of ISO 28139:2009:

The design of the sprayer should meet the requirements of ISO :19932-1 and comply with the following requirements:

The design of the sprayer should ensure that the operator lifts, carries, and releases the sprayer that has been filled to the rated capacity in accordance with the method specified in the manual:

And ensure that the sprayer has no leakage:

The spray volume of the sprayer should be adjustable and the spray volume should be uniform: