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Equipment for crop protection — Knapsack sprayers —

Part 3: Inspection of knapsack sprayers in use

Matériel de protection des cultures — Pulvérisateurs à dos —

Partie 3: Contrôle des pulvérisateurs portables à dos en service

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Foreword

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Introduction

There are three main reasons for inspection of the use of knapsack sprayers, which are the most widely used means worldwide of applying plant protection products (PPPs):

— less potential risk to the operator;

— less potential risk of environmental contamination by PPPs; and

— good control of the pest with the minimum possible input of PPPs.

In order to use PPPs in agricultural production safely, the requirements and test methods for knapsack sprayers in use should be defined. This is a relevant step after having standardized minimum requirements for new knapsack sprayers, in respect of safety hazards and potential risks of environmental contamination (see ISO 19932-1:— and ISO 19932-2:—).

Standardizing the requirements and methods for inspection of sprayers in use takes into consideration not only the original performance of the sprayer, but also its use, care and maintenance. This is the logical link to ensure the continued benefit arising from the supply of new sprayers of good quality.

The inspection of sprayers in use can be a mandatory requirement or adopted on a voluntary basis. In both cases, further requirements, outside the scope of this document, are necessary for the management of inspections. These include, for example, requirements for the competence of persons carrying out inspections and the frequency of inspections.

NOTE National or regional regulations can also apply concerning the qualifications and competence of inspectors.

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Equipment for crop protection — Knapsack sprayers —

Part 3:
Inspection of knapsack sprayers in use

1 Scope

This document specifies the requirements and test methods for inspection of the use of knapsack sprayers carried on the back or shoulder of the operator for use with plant protection products (PPPs).

The requirements relate mainly to the condition of the sprayer with respect to its potential risk to the operator and the environment and its performance to achieve good application.

This document is applicable to lever-operated knapsack sprayers, knapsack compression sprayers and knapsack sprayers driven by an engine or electric motor using hydraulic pressure atomisation of the spray liquid, intended for use primarily in agriculture, forestry and horticulture, with a nominal volume of more than 6,0 l.

It does not apply to

— knapsack combustion engine-driven air-blast sprayers, which are covered in ISO 28139:2019/Amd 1:2024,

— controlled droplet application equipment utilizing rotary atomisers, or

— portable application equipment for spatial application (such as foggers).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5681:2020, *Equipment for crop protection — Vocabulary*

ISO 16122-2:2024, *Agricultural and forestry machinery — Inspection of sprayers in use — Part 2: Horizontal boom sprayers*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5681:2020 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
knapsack sprayer
self-contained sprayer carried on the operator's back or shoulder by means of straps or a strap

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