



BSI Standards Publication

Agricultural and forestry machinery — Unmanned aerial spraying systems

Part 1: Environmental requirements

National foreword

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The UK participation in its preparation was entrusted to Technical Committee AGE/15, Equipment for crop protection and application of liquid fertilizer.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Part 1: Environmental requirements

*Matériel agricole et forestier — Systèmes de pulvérisation aériens
sans pilote —*

Partie 1: Exigences environnementales



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Foreword

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This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 6, *Equipment for crop protection*.

A list of all parts in the ISO 23117 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The increased popularity of unmanned aircraft systems (UAS), also known as unmanned aerial vehicles (UAV) or drones, and the continued advances in flight control, flight duration, and payload potential are improving the utility of UAS for agricultural purposes. UAS use in agriculture is a rapidly changing field, with unmanned aerial spraying systems (UASS) already in use in East-Asian applications, for example in rice, bush and tree crops. UASS has the potential to provide an aerial spray system when handheld/portable, terrestrial vehicles, or manned aircraft would be hazardous. However, spraying from UASS can impact the surrounding environment in various ways such as misapplication, accidents during the application, improper design, inadequate weather condition, etc. It is important to consider biological and ecological considerations in plant protection. This document gives the minimum requirements for UASS with particular emphasis on minimizing the potential risk of environmental contamination. This document does not cover UAS safety and design, requirements for registration of UAS or requirements for the remote pilot: these are specified by individual countries or regions. However, where UAS design is closely related to the environment protection, limited technical information is included.

This document is a type C-standard as stated in ISO 12100.

The structure of safety standards in the field of machinery is as follows:

- type-A standards (basis safety standards) giving basic concepts, principle for design, and general aspects that can be applied to machinery;
- type-B standards (generic safety standards) dealing with one safety aspect or one type of safeguards that can be used across a wide range of machinery:
 - type-B1 standards on particular safety aspects (e.g. safety distances, surface temperature, noise);
 - type-B2 standards on safeguards (e.g. two-hands controls, interlocking devices, pressure sensitive devices, guards);
- type-C standards (machinery safety standards) dealing with detailed safety requirements for a particular machine or group of machines.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards for machines that have been designed and built according to the provisions of this type C standard.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.