
**Equipment for crop protection —
Vocabulary**

Matériel de protection des cultures — Vocabulaire

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

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

This third edition cancels and replaces the second edition (ISO 5681:1992), which has been technically revised.

The main changes compared to the previous edition are as follows:

- review and addition of new terms and definitions, in line with new International Standards published and developed by ISO/TC 23/SC 6.

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.

Equipment for crop protection — Vocabulary

1 Scope

This document defines terms commonly used in relation to equipment for applying plant protection products for crop protection.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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 <http://www.electropedia.org/>

3.1 General terms

3.1.1

plant protection product **PPP**

any substance or micro-organism, including a virus, or a mixture or solution composed of two or more of them, prepared in the form in which it is supplied to the user intended: to protect plants or plant products against harmful organisms or prevent the action of such organisms, influence the life processes of plants other than as a nutrient, preserve plant products, destroy undesired plants or parts of plants, or check or prevent the undesired growth of plants

3.1.2

plant protection product container

collective name for *plant protection product* (3.1.1) packaging such as cans, bottles, bags, sacks or boxes

3.1.3

formulated product

plant protection product (3.1.1) as purchased by users

3.1.4

ready-to-use formulated product

RTU formulated product

formulated product (3.1.3) that does not require dilution

3.1.5

active ingredient

substance with primary biological activity for specified uses

3.1.6

carrier

diluent

substance used to dilute the *active ingredient* (3.1.5) to aid in metering and delivery

3.1.7

treatment

operation of applying *plant protection products* (3.1.1) to produce a biological effect

3.1.8

overall treatment

treatment (3.1.7) carried out over the entire area of a crop or field

3.1.9

localised treatment

treatment (3.1.7) carried out over part of a crop or field, generally in bands or spots

3.1.10

treated area

sprayed area

area to which the *treatment* (3.1.7) is intended

3.1.11

spray target

specific pest, part of the plant, or surface to which the *treatment* (3.1.7) is intended

3.1.12

liquid flow

liquid flow rate

volume of liquid flowing through an appliance or device per unit of time

3.1.13

liquid output

volume of liquid discharged by an appliance or device per unit of time

3.1.14

air flow

air flow rate

volume of air flowing through an appliance or device per unit of time

3.1.15

air output

volume of air discharged by an appliance or device per unit of time

3.1.16

application equipment

device or assembly of components to mix and apply *plant protection products* (3.1.1) and other compatible chemicals, including fertilisers, to the target

3.2 Equipment for spraying

3.2.1 Basic definitions

3.2.1.1

spraying

division and emission into the air of a *spray liquid* (3.2.1.4) by atomisation into the form of droplets

3.2.1.2

spray

droplets produced by a *nozzle/atomiser* (3.2.3.1)

3.2.1.3

sprayer

spray system

machines/appliances for application of *plant protection products* (3.1.1) and liquid fertiliser

3.2.1.4**spray liquid****spray mixture**

liquid containing the *formulated product* (3.1.3) ready for *spraying* (3.2.1.1)

3.2.1.5**droplet**

substantially spherical liquid particle, generally with a diameter less than 1500 µm

3.2.1.6**droplet size**

diameter of the *droplet* (3.2.1.5) in micrometre (µm)

3.2.1.7**droplet size spectrum**

cumulative distribution of *droplet sizes* (3.2.1.6) by volume or number

3.2.1.8**volume median diameter****vmd** **$D_{v0,5}$**

droplet size (3.2.1.6) where half the volume of the spray is in larger droplet sizes and half in smaller droplet sizes

3.2.1.9**number median diameter****nmd** **$D_{n0,5}$**

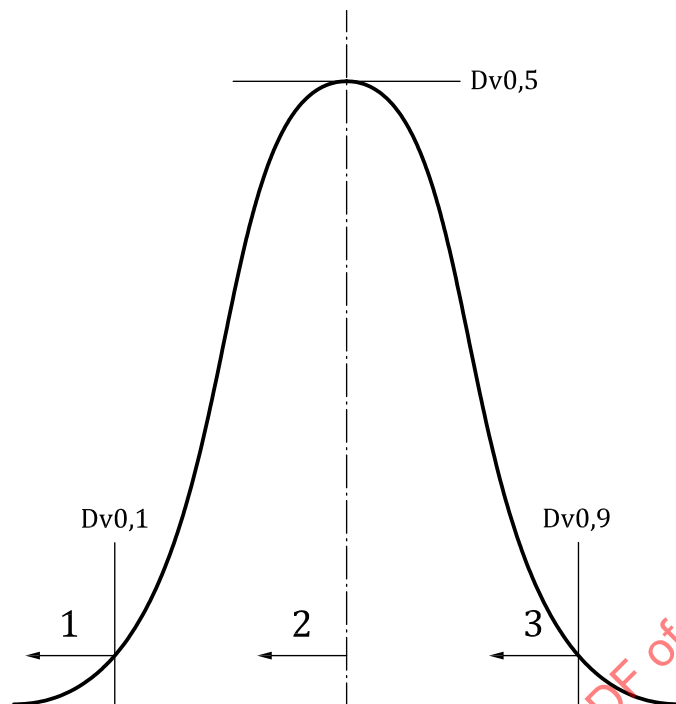
droplet size (3.2.1.6) where half the number of droplets in a spray are in larger droplet sizes and half in smaller droplet sizes

Note 1 to entry: The vmd/nmd ratio is used to characterise the uniformity of droplet sizes in a spray.

3.2.1.10**span**

measure of range of *droplet sizes* (3.2.1.6) in a spray

Note 1 to entry: Span is expressed as $\frac{D_{v0,9} - D_{v0,1}}{D_{v0,5}}$ (see Figure 1).



Key

- 1 10 % of spray volume below this size
- 2 50 % of spray volume below this size
- 3 90 % of spray volume below this size

Figure 1 — Droplet spectrum parameters for calculation of span

**3.2.1.11
droplet volume fraction**

$D_{v0,x}$
droplet size (3.2.1.6) where the fraction 0,x of the spray volume (3.2.2.14) is in smaller droplet sizes

Note 1 to entry: See also Figure 1.

**3.2.1.12
sauter mean diameter
SMD**

$D_{3:2}$
diameter of a droplet having the same volume/surface area ratio as the entire spray

**3.2.1.13
mist**
spray with volume median diameter (3.2.1.8) between 50 µm and 100 µm

**3.2.1.14
fog
aerosol**
spray with volume median diameter (3.2.1.8) under 50 µm where the droplets are effectively suspended in air with little or no settling by gravity

**3.2.1.15
controlled droplet application
cda**

spray with a narrow droplet size spectrum (3.2.1.7), designed for a specific target, defined by limits of vmd/nmd ratio or span (3.2.1.10)

3.2.1.16**flat spray**

spray with a flat shape

3.2.1.17**flat fan spray**

spray with a thin flat ellipsoid shape

3.2.1.18**conical spray**

spray with a conical shape

3.2.1.19**solid stream spray**

spray with a cylindrical shape

3.2.1.20**sprayer liquid delivery system**

system for delivery of *spray liquid* ([3.2.1.4](#)) from the *spray tank* ([3.2.9.1](#)) to the *nozzle/atomiser* ([3.2.3.1](#))

3.2.1.21**sprayer set up**

combination of nozzle and boom parameters and sprayer adjustment on a specific sprayer model

3.2.1.22**spray quality**

classification of *droplet size spectrum* ([3.2.1.7](#)) against a reference

3.2.1.23**spray volume fraction**

V_y

fraction of the *spray volume* ([3.2.2.14](#)) in droplets smaller than y micron

3.2.2 Types of spraying**3.2.2.1****hydraulic energy spraying****hydraulic pressure spraying**

spraying ([3.2.1.1](#)) obtained by using only the hydraulic energy of the *spray liquid* ([3.2.1.4](#))

3.2.2.2**centrifugal spraying**

spraying ([3.2.1.1](#)) obtained by the use of centrifugal force imparted to the *spray liquid* ([3.2.1.4](#)), generally by mechanical rotational energy from a spinning disc, cup or gauze

3.2.2.3**pneumatic spraying**

spraying ([3.2.1.1](#)) obtained by the action of a high velocity air stream on the *spray liquid* ([3.2.1.4](#)), generally after the nozzle outlet and using a distributor/plate

3.2.2.4**air-assisted spraying**

spraying ([3.2.1.1](#)) in which the droplets are carried wholly or partly by a flow of artificially created air

3.2.2.5**electrostatic spraying**

spraying ([3.2.1.1](#)) obtained by the use of electrostatic forces or where electrostatic forces are used to aid *spray deposition* ([3.7.2.9](#))

3.2.2.6

ultra-sonic spraying

spraying (3.2.1.1) obtained either partly or wholly by (ultra-)sonic energy

3.2.2.7

thermal spraying

spraying (3.2.1.1) obtained either partly or wholly by thermal energy

3.2.2.8

twin fluid spraying

spraying (3.2.1.1) obtained by the action of a pressurised air stream mixed with the *spray liquid* (3.2.1.4) before the nozzle outlet

3.2.2.9

precision spraying

directed and/or *localised application* (3.6.2.6) to improve spray targeting

EXAMPLE Using sensors, maps, etc.

3.2.2.10

sensor activated spraying

spraying (3.2.1.1) adaptation using sensors

3.2.2.11

crop adapted spraying

canopy adapted spraying

spraying (3.2.1.1) adaptation based on physical characteristics of the crop, e.g. canopy size and/or density

3.2.2.12

underleaf spraying

spraying (3.2.1.1) where the spray target (3.1.11) is the underside of the leaves

3.2.2.13

spray dose

quantity of *plant protection product* (3.1.1) applied

3.2.2.14

spray volume

quantity of *spray liquid* (3.2.1.4) applied

3.2.3 Droplet generators

3.2.3.1

nozzle

atomiser

device to form droplets from a *spray liquid* (3.2.1.4)

3.2.3.2

hydraulic energy nozzle

part or an assembly of parts with an orifice through which the *spray liquid* (3.2.1.4) is forced under hydraulic pressure to provide the energy to obtain a spray at the orifice

3.2.3.3

fan nozzle

hydraulic energy nozzle (3.2.3.2) with an orifice in the shape of a slit or elliptical orifice, producing a flat shape of spray

3.2.3.4

flat fan nozzle

fan nozzle (3.2.3.3) producing a thin flat ellipsoidal spray

3.2.3.5**double flat fan nozzle**

flat fan nozzle (3.2.3.4) having two separate orifices when mounted, intended to direct spray into and rearward of the direction of travel

3.2.3.6**centrifugal energy nozzle****rotary nozzle****rotary atomiser**

device atomising the *spray liquid* (3.2.1.4) by centrifugal energy

3.2.3.7**deflector nozzle****anvil nozzle****impact nozzle****flood(ing) nozzle**

hydraulic energy nozzle (3.2.3.2) with a deflector producing a flat shape of spray, with the shape of the spray dependent on the deflector

3.2.3.8**off-centre nozzle**

nozzle (3.2.3.1) in which the fan pattern is not symmetrical around the centerline of travel for the nozzle

EXAMPLE End nozzle.

3.2.3.9**off-centre fan nozzle**

fan nozzle (3.2.3.3) in which the angle of the spray shape and volume distribution are asymmetrical about the nozzle axis

3.2.3.10**directional nozzle**

nozzle (3.2.3.1) which enables the direction of spray to be altered

3.2.3.11**cone nozzle**

hydraulic energy nozzle (3.2.3.2) in which the *spray liquid flows* (3.1.12) rotationally, or is swirled, producing a conical sheet of spray

3.2.3.12**hollow cone nozzle****disc-core nozzle**

cone nozzle (3.2.3.11) in which most of the *spray liquid* (3.2.1.4) is in the outside of the conical spray pattern

3.2.3.13**solid cone nozzle****full cone nozzle**

cone nozzle (3.2.3.11) in which *spray liquid* (3.2.1.4) is directed throughout the conical spray pattern

3.2.3.14**solid stream nozzle**

nozzle (3.2.3.1) which produces a cylindrical spray

3.2.3.15**impinging stream nozzle**

hydraulic energy nozzle (3.2.3.2) designed so that spray is produced by the impact of two or more streams of *spray liquid* (3.2.1.4)

3.2.3.16

pneumatic nozzle

air shear nozzle

atomiser ([3.2.3.1](#)) in which the spray is produced by the action of an air stream on the *spray liquid* ([3.2.1.4](#))

3.2.3.17

twin fluid nozzle

air atomising nozzle

nozzle ([3.2.3.1](#)) in which mixing of spray liquids or the *spray liquid* ([3.2.1.4](#)) and air takes place under pressure within the nozzle with the spray discharged through a common nozzle tip

3.2.3.18

adjustable nozzle

hydraulic energy nozzle ([3.2.3.2](#)) designed so that the *spray liquid flow rate* ([3.1.12](#)) to the nozzle tip and spray droplet size can be altered without changing the components

3.2.3.19

vibratory nozzle

nozzle ([3.2.3.1](#)) in which an oscillating solid surface is the primary source of energy used to produce the spray

3.2.3.20

ultra-sonic nozzle

pneumatic ([3.2.3.16](#)) or *vibratory nozzle* ([3.2.3.19](#)) in which energy is imparted to the spray by (ultra-) sonic waves

3.2.3.21

fog nozzle

nozzle ([3.2.3.1](#)) for producing a fog

3.2.3.22

pre-orifice nozzle

nozzle ([3.2.3.1](#)) with an internal orifice that meters the *spray liquid* ([3.2.1.4](#)) prior to producing spray at the nozzle tip

3.2.3.23

variable orifice nozzle

nozzle ([3.2.3.1](#)) with an adjustable opening to vary *spray liquid flow rate* ([3.1.12](#)) and/or droplet size

3.2.3.24

air induction nozzle

venturi nozzle

pre-orifice nozzle ([3.2.3.22](#)) with a hole in the chamber between the two orifices to suck external (generally atmospheric) air into a reduced pressure chamber to mix with the *spray liquid* ([3.2.1.4](#))

3.2.3.25

pulse width modulation nozzle

PWM nozzle

nozzle ([3.2.3.1](#)) using a controlled solenoid valve to determine the volume of *spray liquid* ([3.2.1.4](#)) sprayed from the nozzle, thereby allowing independent variation of *spray liquid flow rate* ([3.1.12](#)) and *spraying* ([3.2.1.1](#)) pressure

3.2.3.26

vibrating reed nozzle

vibratory nozzle ([3.2.3.19](#)) in which individual droplets are formed from a needle point attached to an oscillating reed

3.2.3.27**vibrating needle nozzle**

vibratory nozzle (3.2.3.19) in which *spray liquid* (3.2.1.4) under pressure is passed through a vibrating needle to form a liquid jet which disintegrates into droplets

3.2.3.28**piezoelectric vibratory nozzle****Bergland-Liu nozzle**

vibratory nozzle (3.2.3.19) in which a piezoelectric transducer transmits high frequency oscillations to a liquid jet to create droplets

3.2.3.29**electromagnetic vibratory nozzle**

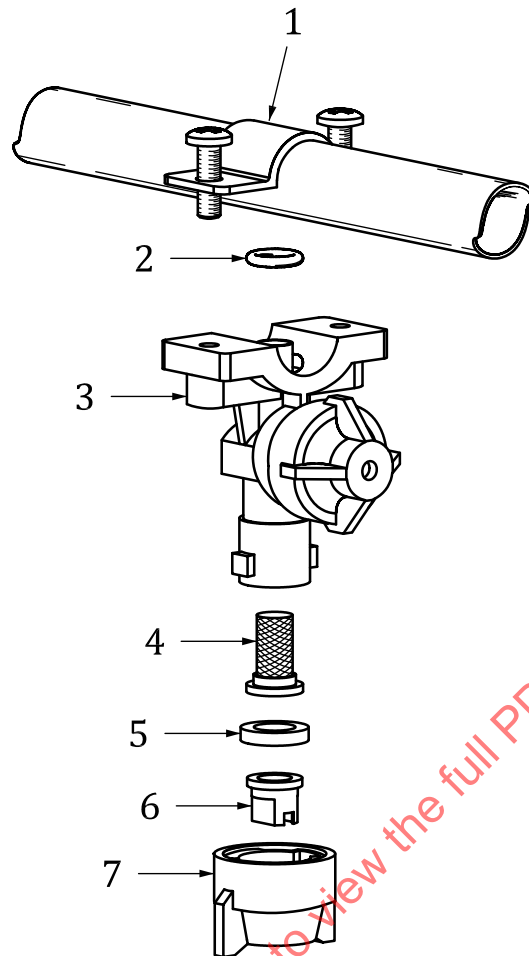
vibratory nozzle (3.2.3.19) in which an electromagnetic transducer transmits high frequency oscillations to a liquid jet to create droplets

3.2.3.30**nozzle body****nozzle holder**

main component into or on which other components of a nozzle are fitted, generally mounted on the *spray boom* (3.2.7.4), *nozzle bar* (3.2.7.5) or *spray lance* (3.2.7.1)

Note 1 to entry: See key 3 in [Figure 2](#).

Note 2 to entry: In some designs, the *nozzle boss* (3.2.3.32) performs the function of the body and the *cap nut* (3.2.3.31) screws directly on to the boss.



Key

- 1 nozzle boss ([3.2.3.32](#))
- 2 seal
- 3 nozzle body/nozzle holder (with anti-drip diaphragm check valve)
- 4 nozzle filter ([3.2.10.2](#))
- 5 seal
- 6 nozzle tip ([3.2.3.33](#))
- 7 nozzle cap nut ([3.2.3.31](#))

Figure 2 — Nozzle assembly on boom

3.2.3.31

nozzle cap nut

component which retains the assembled parts in or on a *nozzle body* ([3.2.3.30](#))

Note 1 to entry: The *nozzle disc* ([3.2.3.35](#)) or *tip* ([3.2.3.33](#)) may be integral with the cap.

Note 2 to entry: See key 7 in [Figure 2](#).

3.2.3.32

nozzle boss

part of the *spray boom* ([3.2.7.4](#)) or *spray lance* ([3.2.7.1](#)) to which a nozzle body or cap nut is fitted

Note 1 to entry: See key 1 in [Figure 2](#).

3.2.3.33**nozzle tip**

component containing the final orifice of a nozzle, usually a *fan nozzle* ([3.2.3.3](#))

Note 1 to entry: See key 6 in [Figure 2](#).

3.2.3.34**blank nozzle disc**

device to prevent the emission of *spray liquid* ([3.2.1.4](#)) from a nozzle, usually a solid insert

3.2.3.35**nozzle disc**

component containing the final orifice of a *cone nozzle* ([3.2.3.11](#))

3.2.3.36**multi-nozzle head**

assembly containing two or more nozzles, any one (or more) of which can be *spraying* ([3.2.1.1](#))

3.2.3.37**nozzle turret**

rotating assembly containing two or more nozzles, any one of which can be brought into the *spraying* ([3.2.1.1](#)) position

3.2.3.38**nozzle deflector**

component of a nozzle which deflects the *spray liquid* ([3.2.1.4](#)) after its emission from the final nozzle orifice

3.2.3.39**swirl plate****swirl core**

component of a *cone nozzle* ([3.2.3.11](#)) which imparts rotary motion to the *spray liquid* ([3.2.1.4](#))

3.2.3.40**swirl back-plate**

component of a particular type of *cone nozzle* ([3.2.3.11](#)) which forms the rear part of the *swirl chamber* ([3.2.3.41](#)) and the tangential *spray liquid* ([3.2.1.4](#)) entry channels

3.2.3.41**swirl chamber**

cavity or chamber in a *cone nozzle* ([3.2.3.11](#)) in which the *spray liquid* ([3.2.1.4](#)) rotates or is swirled

3.2.3.42**nozzle spacing**

distance between adjacent nozzles on a *spray boom* ([3.2.7.4](#)) or sprayer lance (tip to tip)

3.2.3.43**nozzle orientation**

angle of nozzle bodies and tips to a plane, usually vertical

3.2.3.44**spray angle****top angle**

angle formed close to a nozzle by the edges of the spray sheet/shape formed at the nozzle tip

3.2.3.45**nominal spray angle**

spray angle ([3.2.3.44](#)) obtained at a reference *spraying* ([3.2.1.1](#)) pressure for a given type of *fan nozzle* ([3.2.3.3](#))

3.2.3.46

nozzle offset angle

spray angle offset

angle differential of adjacent nozzles on a *spray boom* ([3.2.7.4](#)) or *nozzle bar* ([3.2.7.5](#)) to avoid collision of spray patterns

3.2.3.47

nozzle flow control method

method for setting a constant *spray liquid output* ([3.1.13](#)) rate delivered by a *nozzle* ([3.2.3.1](#))

3.2.3.48

nozzle flow control setting

spray liquid output ([3.1.13](#)) rate set to be delivered by a nozzle

3.2.3.49

master flow control

device for switching on and off the complete *spray liquid flow* ([3.1.12](#)) to the entire *spray boom* ([3.2.7.4](#)) and/or *nozzle bar(s)* ([3.2.7.5](#))

3.2.4 Sprayers

3.2.4.1

hydraulic pressure sprayer

appliance using one or more *hydraulic energy nozzles* ([3.2.3.2](#)) for spraying

3.2.4.2

air-assisted hydraulic pressure sprayer

hydraulic energy sprayer using air assistance to carry the droplets to the *spray target* ([3.1.11](#))

3.2.4.3

centrifugal sprayer

appliance using one or more *centrifugal energy nozzles* ([3.2.3.6](#)) for spraying

3.2.4.4

air-assisted centrifugal sprayer

centrifugal sprayer ([3.2.4.3](#)) using air assistance to carry the droplets

3.2.4.5

pneumatic sprayer

appliance with one or more *pneumatic atomisers* ([3.2.3.1](#))

3.2.4.6

twin fluid sprayer

appliance with one or more *twin fluid nozzles* ([3.2.3.17](#))

3.2.4.7

fogger

aerosol generator

appliance for producing a fog or *aerosol* ([3.2.1.14](#))

3.2.4.8

thermal sprayer

appliance for *thermal spraying* ([3.2.2.7](#))

3.2.4.9

compression sprayer

appliance with *hydraulic energy nozzles* ([3.2.3.2](#)) in which the liquid pressure is produced by means of a compressed gas

3.2.4.10**knapsack sprayer**

self-contained sprayer ([3.2.4.32](#)) carried on the operator's back or shoulder by means of straps or a strap

3.2.4.11**knapsack compression sprayer**

knapsack sprayer ([3.2.4.10](#)) which uses a compressed gas to pressurize the *spray liquid* ([3.2.1.4](#)) in the tank for application through *hydraulic energy nozzle(s)* ([3.2.3.2](#))

3.2.4.12**lever-operated knapsack sprayer**

knapsack sprayer ([3.2.4.10](#)) which uses a lever-operated pump, normally a diaphragm or *piston pump* ([3.2.5.6](#)), to pressurise the *spray liquid* ([3.2.1.4](#)) in the tank for application through *hydraulic energy nozzle(s)* ([3.2.3.2](#))

3.2.4.13**knapsack combustion engine-driven air-blast sprayer****knapsack mistblower**

knapsack sprayer ([3.2.4.10](#)) which uses a backpack power unit, such as engine or motor, to generate air assistance to atomise and/or transport the spray

3.2.4.14**portable sprayer**

manually carried sprayer

3.2.4.15**pedestrian sprayer**

pedestrian operated sprayer

3.2.4.16**trolley sprayer****cart sprayer****wheelbarrow sprayer**

sprayer mounted on a trolley, cart or wheelbarrow type frame

3.2.4.17**field crop sprayer**

sprayer for applying *plant protection products* ([3.1.1](#)) on field crops such as arable crops, the application primarily being directed downwards onto/into the *spray target* ([3.1.11](#))

3.2.4.18**horizontal boom sprayer**

sprayer for applying *plant protection products* ([3.1.1](#)) along a boom or in bands, with the spray generally directed downwards onto/into the *spray target* ([3.1.11](#))

3.2.4.19**vertical boom sprayer**

sprayer for applying *plant protection products* ([3.1.1](#)) with the spray primarily directed sideways and/or upwards onto/into the target crop, generally for bush and tree crops such as vines, top fruit, hops, citrus (with oscillating booms often used in citrus)

3.2.4.20**sprayer for bush and tree crops**

sprayer for applying *plant protection products* ([3.1.1](#)) on bush and tree crops such as grapes, fruits or hops (including annual plants/crops), the application being mostly directed sideways and/or upwards to the *spray target* ([3.1.11](#))

3.2.4.21**cannon sprayer**

sprayer with air-assistance, generally of high speed/volume, for one-sided spraying

3.2.4.22

multiple outlet sprayer

sprayer with air-assistance through multiple outlets directed at the target crop

3.2.4.23

air-blast sprayer

mistblower

air assisted or pneumatic sprayer, generally used for bush and tree crops or amenity applications

3.2.4.24

direct injection sprayer

sprayer with a *direct injection system* ([3.2.8.15](#)) for formulated *plant protection products* ([3.1.1](#))

3.2.4.25

shielded sprayer

shrouded sprayer

hooded sprayer

sprayer using a mechanical shield or shroud covering the spray, generally to reduce *spray drift* ([3.7.2.10](#))

3.2.4.26

reflection shield sprayer

sprayer incorporating shields to intercept the spray should it pass through the crop and a device to recover the intercepted spray

3.2.4.27

high clearance sprayer

sprayer with a frame designed to allow *spraying* ([3.2.1.1](#)) of tall crops, such as maize

3.2.4.28

mounted sprayer

sprayer mounted on a multi-functional vehicle, where the *sprayer liquid delivery system* ([3.2.1.20](#)) is generally run from the vehicle

3.2.4.29

demount(able) sprayer

skid mount(ed) sprayer

sprayer for mounting on a specific multi-functional vehicle so that it is integrated with the vehicle

3.2.4.30

trailed sprayer

sprayer trailed by a hitch from a multi-functional vehicle, where the *sprayer liquid delivery system* ([3.2.1.20](#)) is generally run behind the vehicle

3.2.4.31

self-propelled sprayer

sprayer in which the vehicle is dedicated to spraying, where the *sprayer liquid delivery system* ([3.2.1.20](#)) is generally integral to the vehicle

3.2.4.32

self-contained sprayer

sprayer mounted on, or trailing by, a multi-functional vehicle, where the *sprayer liquid delivery system* ([3.2.1.20](#)) is entirely contained within the sprayer (generally used with all terrain or utility vehicles)

3.2.4.33

fixed sprayer

sprayer primarily for application of *plant protection products* ([3.1.1](#)) in covered structures, and where the *pump/tank unit* ([3.2.5.10](#)) and/or *application unit* ([3.2.7.15](#)) do not move

3.2.4.34**semi-mobile sprayer**

sprayer primarily for application of *plant protection products* (3.1.1) on crops grown in covered structures, and where the *pump/tank unit* (3.2.5.10) and *application unit* (3.2.7.15) are separately movable

3.2.4.35**aerial spray system****aerial sprayer**

spray system (3.2.1.3) mounted on an aircraft

3.2.4.36**train sprayer**

sprayer mounted on a train

3.2.4.37**band sprayer**

sprayer for the application of *plant protection products* (3.1.1) in bands, generally over the crop or inter-row

3.2.4.38**inter-row sprayer**

band sprayer (3.2.4.37) for *spraying* (3.2.1.1) between crops grown in rows

3.2.4.39**spot sprayer**

sprayer for the application of *plant protection products* (3.1.1) to specific spots

3.2.4.40**drop leg sprayer**

sprayer using drop legs for directed *spraying* (3.2.1.1) within a crop canopy, with the spray generally directed downwards or sideways into/onto the target crop or the inter-row

3.2.4.41**multiple row sprayer**

sprayer for bush and tree crops (3.2.4.20) applying to multiple crop rows in one spray pass, generally from both sides of the crop row with the number of nozzles and air assistance adapted to the crop canopy, generally from *drop legs* (3.2.4.14) running between each crop row

3.2.4.42**tunnel sprayer**

sprayer for bush and tree crops (3.2.4.20) that uses a tunnel or series of shields to confine the spray and airflows to the crop, with the tunnels or shields of sufficient length to cover the spray, generally including a device to recover intercepted spray passing through the crop

3.2.4.43**axial sprayer**

sprayer for bush and tree crops (3.2.4.20) radiating air generally in a sideways and upward direction transverse to the direction of travel to transport the spray into the crop

3.2.4.44**cross-flow sprayer**

sprayer for bush and tree crops (3.2.4.20) directing air generally in a sideways direction transverse to the direction of travel to transport the spray into the crop

3.2.5 Pumps**3.2.5.1****volumetric pump**

pump in which the flow of the liquid is achieved by means of the positive displacement of the liquid

3.2.5.2

gear pump

volumetric pump ([3.2.5.1](#)) which achieves the flow of the liquid by gears

3.2.5.3

diaphragm pump

volumetric pump ([3.2.5.1](#)) in which the flow of the liquid is achieved by the deformation of a diaphragm

3.2.5.4

vane pump

volumetric pump ([3.2.5.1](#)) in which the flow of the liquid is achieved by the change in volume between vanes carried by a rotor and in contact with an eccentric stator

3.2.5.5

peristaltic pump

volumetric pump ([3.2.5.1](#)) in which the flow of the liquid is achieved by the continuous progression of a deformation in a flexible tube

3.2.5.6

piston pump

volumetric pump ([3.2.5.1](#)) in which the flow of the liquid is achieved by the movement of a piston in a cylinder

3.2.5.7

roller pump

volumetric pump ([3.2.5.1](#)) in which the flow of the liquid is achieved by the change in volume between rollers carried by a rotor and in contact with an eccentric stator

3.2.5.8

centrifugal pump

non-volumetric pump in which the flow of the liquid is achieved by means of one or more impellers

3.2.5.9

pump output

volume of liquid discharged by a pump at a given pressure per unit of time

3.2.5.10

pump unit

tank unit

appliance comprising at least the pump and the *spray liquid* ([3.2.1.4](#)) tank

3.2.6 Fans, compressors

3.2.6.1

axial flow fan

appliance producing an *air flow* ([3.1.14](#)) parallel to the fan shaft

3.2.6.2

centrifugal fan

radial fan

appliance producing an *air flow* ([3.1.14](#)) at right angles to the fan shaft

3.2.6.3

cross-flow fan

appliance producing a linear *air flow* ([3.1.14](#)) at right angles to the fan shaft

3.2.6.4

air deflector

device which alters the direction of an *air flow* ([3.1.14](#))

3.2.6.5**air flow control**

part of an appliance to control the *air flow* (3.1.14) volume, speed or direction

3.2.6.6**air compressor**

appliance for increasing the pressure of air above that of the atmosphere

3.2.7 Nozzle supports, booms**3.2.7.1****spray lance**

hand-held *nozzle bar* (3.2.7.5) which has one or more spray nozzles fitted at one end allowing the spray to be actively controlled and directed manually

3.2.7.2**spray gun**

spray lance (3.2.7.1) with handle and quick acting shut off valve

3.2.7.3**spray lance extension**

attachable tube enabling the overall length of a *spray lance* (3.2.7.1) to be increased

3.2.7.4**spray boom**

device on which nozzles are mounted and which may form or support one or more pipelines which are supplying the *spray liquid* (3.2.1.4) to the nozzles

3.2.7.5**nozzle bar**

rigid or flexible tube supplying the nozzles with *spray liquid* (3.2.1.4)

3.2.7.6**spray boom section****nozzle bar section**

length of *spray boom* (3.2.7.4) or *nozzle bar* (3.2.7.5) which can be supplied with *spray liquid* (3.2.1.4) and controlled independently

3.2.7.7**spray boom winch**

winch used to adjust the height of a *spray boom* (3.2.7.4)

3.2.7.8**spray boom suspension system**

system by which a *spray boom* (3.2.7.4) is attached to a sprayer

3.2.7.9**spray boom damping system**

part of a *spray boom suspension system* (3.2.7.8) intended to minimize unwanted movements

3.2.7.10**spray boom height**

vertical height from the *spray boom* (3.2.7.4) to the *spray target* (3.1.11) or the ground

3.2.7.11**spray boom height control**

system to control the height of a *spray boom* (3.2.7.4)

3.2.7.12**nozzle height**

vertical height of the nozzle tip from the *spray target* (3.1.11) or the ground

3.2.7.13

ground clearance

vertical height between the ground surface and the lowest point on the machine (excluding parts which lie in the tyre path or are designed to travel between crop rows)

3.2.7.14

drop leg

auxiliary vertical *spray boom* (3.2.7.4) or *nozzle bar* (3.2.7.5), generally suspended from a horizontal spray boom to lower the nozzle position for improved targeting

3.2.7.15

application unit

device consisting of one or more nozzles/atomisers with or without air-assistance and used with a pump-tank unit to which it is connected with a pipeline

3.2.7.16

dribble bar

nozzle bar (3.2.7.5) in which the *spray liquid* (3.2.1.4) is discharged at low pressure through holes to form solid streams

3.2.8 Control valves, valves and sprayer instrumentation

3.2.8.1

spray volume per area adjustment system

device or *spraying* (3.2.1.1) system which varies the *spray volume* (3.2.2.14) output so that a set constant spray volume rate per area is maintained independent of factors such as forward speed

3.2.8.2

sprayer controller

device that actively controls the functioning of the sprayer

3.2.8.3

shut-off valve

device enabling *spray liquid* (3.2.1.4) supply to be shut off (if instantly called quick acting)

3.2.8.4

control manifold

multi-outlet control valve

device enabling the flow of the *spray liquid* (3.2.1.4) to be directed to one or more outlets

3.2.8.5

pressure regulator

device which automatically controls the *spraying* (3.2.1.1) pressure at a pre-determined value

3.2.8.6

pressure relief valve

valve which opens automatically when the *spraying* (3.2.1.1) pressure reaches a pre-determined value

3.2.8.7

pressure safety valve

pressure relief valve (3.2.8.6) which prevents the *spraying* (3.2.1.1) pressure exceeding a certain value

3.2.8.8

spray boom section pressure equalizer

nozzle bar pressure equalizer

device which maintains the *spraying* (3.2.1.1) pressure at a pre-determined value irrespective of the number of *spray boom* (3.2.7.4) or *nozzle bar sections* (3.2.7.6) in operation

3.2.8.9**air chamber****air vessel****air bottle pressure chamber**

air chamber, with or without air pressurization, usually fitted on the output side of a pump to reduce pressure pulsations

3.2.8.10**pressure gauge**

gauge to indicate visually the pressure of a fluid over atmospheric pressure

3.2.8.11**pressure indicator**

device to indicate visually the pressure of a fluid over atmospheric pressure

3.2.8.12**non-return valve**

device which automatically permits the flow of a fluid in one direction only

3.2.8.13**by-pass**

device which allows all or part of the *spray liquid* (3.2.1.4) delivered by the pump to be returned to the *spray tank* (3.2.9.1) or elsewhere

3.2.8.14**spray tank contents indicator**

device which indicates the volume of *spray liquid* (3.2.1.4) in the tank

3.2.8.15**direct injection system**

spraying (3.2.1.1) system which meters the *formulated product* (3.1.3) into the *diluent* (3.1.6) in the *spray boom* (3.2.7.4), *nozzle bar* (3.2.7.5), or to nozzles at a predetermined set rate, generally in proportion to forward speed or according to a map/plan

3.2.8.16**anti-drip device**

device, normally part of or fitted within the nozzle body, which prevents any further *spray liquid flow* (3.1.12) or dripping from the nozzle after the *spray liquid flow* to the *spray boom* (3.2.7.4) or *nozzle bar* (3.2.7.5) has been shut off

3.2.8.17**maximum working pressure**

maximum *spray system* (3.2.1.3) pressure recommended for all parts of the sprayer, including additional or detachable accessories

3.2.8.18**control pressure**

pressure used for *spray system* (3.2.1.3) control and reported to the operator

3.2.8.19**rated pressure**

pressure or pressure range recommended by the manufacturer of the equipment or component e.g. nozzle, hose, pump

3.2.8.20**nozzle tip pressure**

pressure measured immediately before the nozzle tip (after any flow control or anti-drip device)

3.2.8.21**pump outlet pressure**

pressure measured as near as possible to the outlet of the system pump

3.2.9 Tanks, filling devices and storage facilities

3.2.9.1

spray tank

reservoir or chamber of the sprayer which contains the *spray liquid* (3.2.1.4)

3.2.9.2

tank sump

depression in the base of the *spray tank* (3.2.9.1), generally into which the pump inlet pipe and tank emptying device are fitted

3.2.9.3

filling hole

opening in the *spray tank* (3.2.9.1) through which the sprayer can be filled with *spray liquid* (3.2.1.4)

3.2.9.4

induction hopper

device, generally a bowl, into which *formulated products* (3.1.3) and *diluent* (3.1.6) can be poured for mixing and transfer to the *spray tank* (3.2.9.1)

3.2.9.5

induction probe

suction pipe for transferring *formulated products* (3.1.3) from containers into *spray tanks* (3.2.9.1)

3.2.9.6

closed transfer system

device or assembly of components, including the container to *application equipment* (3.1.16) interface, intended to wholly and partially transfer *plant protection products* (3.1.1) and other compatible liquids from their original containers into application or mixing equipment by direct coupling or other engineering means of enclosure that reduces the exposure of the operator and environment

3.2.9.7

tank nominal volume

volume indicated by the maximum filling level marked on the *spray tank* (3.2.9.1) when placed on a level horizontal surface

3.2.9.8

clean water tank

tank mounted on the sprayer containing clean water for washing the sprayer or operator

3.2.9.9

cleaning device

appliance or device attached or integrated to the sprayer for cleaning the external surface of the sprayer or the insides of empty *plant protection product* (3.1.1) containers

3.2.9.10

rinsing device

appliance or device attached or integrated to the sprayer for cleaning the inside of the sprayer, particularly the *spray tank* (3.2.9.1)

3.2.9.11

rinsing tank

tank of water for rinsing the sprayer

3.2.9.12

personal protective equipment storage

PPE storage

enclosure provided on the sprayer to store personal protective equipment (PPE), such as clothing, gloves, face shields, etc., used or worn by the operator to minimise risks to the operator's health and safety

3.2.10 Filters

3.2.10.1

filter

strainer

device which removes materials larger than a pre-determined size from the *spray liquid* ([3.2.1.4](#))

3.2.10.2

nozzle filter

component, fitted between the nozzle holder and the nozzle tip, which removes solids larger than a pre-determined size from the *spray liquid* ([3.2.1.4](#)) to prevent nozzle blockage

3.2.10.3

suction strainer

device situated on the suction side of the system to prevent foreign bodies from entering the *spray system* ([3.2.1.3](#))

3.2.10.4

tank filling strainer

device in the *filling hole* ([3.2.9.3](#)) of the *spray tank* ([3.2.9.1](#)) which prevents foreign bodies from entering the spray tank

3.2.10.5

flow meter strainer

device situated between the pump and the flow meter which prevents foreign bodies from entering the flow meter

3.2.10.6

spray boom filter

device to prevent foreign bodies from entering the spray boom plumbing

3.3 Equipment for applying dust

3.3.1 Basic definitions

3.3.1.1

dust

finely divided particles of a solid substance containing or carrying the *active ingredient(s)* ([3.1.5](#)) and ready for use

3.3.1.2

dusting

applying *formulated product* ([3.1.3](#)) in the form of *dust* ([3.3.1.1](#))

3.3.1.3

electrostatic dusting

process where electrostatic forces are used to aid the deposition of a *dust* ([3.3.1.1](#))

3.3.1.4

wet dusting

process comprising the simultaneous application of a *dust* ([3.3.1.1](#)) and a spray

3.3.1.5

mechanical dusting

process of distribution of a *dust* ([3.3.1.1](#)) by mechanical means only

3.3.1.6

pneumatic dusting

process of distribution of a *dust* ([3.3.1.1](#)) by means of *air flow* ([3.1.14](#))

3.3.1.7

duster

appliance for applying *formulated products* (3.1.3) in the form of *dust* (3.3.1.1)

3.3.1.8

mechanical duster

appliance for *mechanical dusting* (3.3.1.5)

3.3.1.9

pneumatic duster

appliance for *pneumatic dusting* (3.3.1.6)

3.3.2 Components

3.3.2.1

dust nozzle

device for directing and distributing/spreading an *air flow* (3.1.14) containing *dust* (3.3.1.1)

3.3.2.2

dust hopper

container to hold *dust* (3.3.1.1)

3.4 Equipment for applying granules

3.4.1 Basic definitions

3.4.1.1

granule

particle, within a defined size range, of an solid substance(s) containing or carrying the *active ingredient(s)* (3.1.5) and ready for use

3.4.1.2

granule applicator

appliance for applying *granules* (3.4.1.1)

3.4.1.3

granule distributor

granule spreader

granule applicator (3.4.1.2) for *overall treatment* (3.1.8)

3.4.1.4

granule band applicator

granule applicator (3.4.1.2) that applies in bands or rows

3.4.1.5

granule spot applicator

granule applicator (3.4.1.2) that applies in spots

3.4.1.6

granule flow rate

mass of granules flowing through a metering device per unit of time

3.4.2 Components

3.4.2.1

granule nozzle

device that directs *granules* (3.4.1.1) towards their target and distributes them

3.4.2.2**granule metering mechanism**

part of a *granule applicator* (3.4.1.2) that controls the flow of granules at the desired rate

3.4.2.3**granule hopper**

container to hold *granules* (3.4.1.1)

3.5 Other definitions**3.5.1 Agitation systems****3.5.1.1****agitation**

operation to produce and maintain a uniform concentration of *active ingredient* (3.1.5) or *formulated product* (3.1.3) in the *spray liquid* (3.2.1.4) in the *spray tank* (3.2.9.1) via mixing with liquid motion or, in the case of *dusts* (3.3.1.1) or *granules* (3.4.1.1), to facilitate their flow from the hopper

3.5.1.2**hydraulic agitation**

agitation (3.5.1.1) by means of a pump to recirculate the *spray liquid* (3.2.1.4)

3.5.1.3**mechanical agitation**

agitation (3.5.1.1) of the *spray liquid* (3.2.1.4), *dust* (3.3.1.1) or *granules* (3.4.1.1) inside a *spray tank* (3.2.9.1) or hopper by means of mechanically operated agitators

3.5.1.4**pneumatic agitation**

agitation (3.5.1.1) of the *spray liquid* (3.2.1.4), *dust* (3.3.1.1) or *granules* (3.4.1.1) inside a *spray tank* (3.2.9.1) or hopper using *air flow* (3.1.14)

3.5.1.5**mechanical agitator**

mechanical device intended to produce and maintain uniform concentration of *active ingredient* (3.1.5) or *formulated product* (3.1.3) in the *spray liquid* (3.2.1.4) in the *spray tank* (3.2.9.1) or in the case of *dust* (3.3.1.1) or *granules* (3.4.1.1) to facilitate their flow from the hopper

3.5.1.6**pneumatic agitator**

device intended to produce and maintain uniform concentration of the *active ingredient* (3.1.5) or *formulated product* (3.1.3) in the *spray liquid* (3.2.1.4) in the *spray tank* (3.2.9.1) by using *air flow* (3.1.14) or in the case of *dust* (3.3.1.1) or *granules* (3.4.1.1) to facilitate their flow from the hopper

3.5.1.7**manual agitation**

agitation (3.5.1.1) of the *spray liquid* (3.2.1.4), *dust* (3.3.1.1) or *granules* (3.4.1.1) inside a *spray tank* (3.2.9.1) or hopper by manual means

3.5.1.8**re-agitation**

agitation (3.5.1.1) of a suspension that has settled out after an initial agitation

3.5.2 Injection system**3.5.2.1****injection**

act of forcing a substance, such as a fluid, under pressure into another substance, for example a fluid or porous medium (such as soil)

3.5.2.2

injection treatment

operation of *injection* (3.5.2.1) of *active ingredients* (3.1.5) into soil, plants or water by means of an appropriate appliance or device

3.5.2.3

soil injection

injection (3.5.2.1) of a *plant protection product* (3.1.1) beneath the soil surface

3.5.2.4

tree injection

injection (3.5.2.1) of a *plant protection product* (3.1.1) under the bark of a tree

3.5.2.5

soil injector

appliance for injecting *plant protection products* (3.1.1) into the soil

3.5.2.6

tree injector

appliance for injecting *plant protection products* (3.1.1) under the bark of a tree

3.5.3

wiper

weed-wiper

device using an applicator such as a wick, rope or carpet for applying liquid *plant protection products* (3.1.1) to a target surface by direct contact

3.5.4

crop opener

device, generally mechanical, such as a bar suspended below a *spray boom* (3.2.7.4), for opening the crop to assist spray to penetrate the crop canopy

3.5.5

floating nozzle sprayer

crop surfer sprayer

slapduk

horizontal boom sprayer (3.2.4.18) with nozzles mounted on a flexible frame beneath the boom designed to maintain a constant *nozzle height* (3.2.7.12) above the target crop, maintained by the crop canopy or ground surface, to reduce the risk of *spray drift* (3.7.2.10) and improve *spray penetration* (3.7.2.4) into the canopy

3.5.6

seed treatment

application of a *plant protection product* (3.1.1) to seed prior to sowing

3.6 Machine operation

3.6.1 Field techniques

3.6.1.1

swath

successive passes of a sprayer, *duster* (3.3.1.8) or *granule distributor/spreader* (3.4.1.3) of a certain working width

3.6.1.2

swath width

effective working width of *horizontal boom sprayers* (3.2.4.18) or *granule distributors/spreaders* (3.4.1.3) operating in field crops and vertical boom or *air-blast sprayers/mistblowers* (3.2.4.23) operating in tree and bush crops

3.6.1.3**tramline**

tracks in the field for the sprayer or *granule distributor/spreader* (3.4.1.3), generally established when sowing or drilling, and used repeatedly

3.6.1.4**swath marker****swath bout marker**

device to indicate the extremity of the *swath* (3.6.1.1)

EXAMPLE Foam spots at the end of a spray boom.

3.6.1.5**calibration**

operation of adjusting and checking an appliance to give the desired *spray volume* (3.2.2.14) *application rate* (3.6.2.4)

3.6.2 Rates of application**3.6.2.1****spray volume per unit area**

volume of *spray liquid* (3.2.1.4) distributed by a sprayer over an area

3.6.2.2**mass per unit area**

mass of *dust* (3.3.1.1) or *granules* (3.4.1.1) applied over an area

3.6.2.3**dose rate**

mass of *active ingredient* (3.1.5) or of *formulated product* (3.1.3) applied per unit of length, area or volume to be treated

3.6.2.4**application rate**

volume or mass of *spray liquid* (3.2.1.4), *dust* (3.3.1.1), *granules* (3.4.1.1) applied per unit of length, area or volume to be treated

3.6.2.5**broadcast application**

application over an entire area or volume

3.6.2.6**localised application**

application to a specific area or zone, such as crops, rows, beds

3.6.2.7**band application****banded application**

application in (continuous restricted) bands, for example, over the crop or inter-row

3.6.2.8**basal application**

application to the base of a plant

3.6.2.9**spot application****spot treatment**

application to a selected area only

3.6.2.10

foliar application

application to the stems, fruits or leaves/needles of a plant

3.6.2.11

soil application

application to the soil

3.6.2.12

directed application

directed *localised application* ([3.6.2.6](#)), often using air assistance

3.6.2.13

space application

application by dispersion into a volume of air (usually indoors)

3.6.2.14

variable rate application

application of intentionally different amounts of *plant protection product* ([3.1.1](#)) to different areas of the area being tested

3.6.2.15

high volume application

HV

application generally of 600 l/ha or more for field crops/amenity and over 1 000 l/ha for bush and tree crops

3.6.2.16

medium volume application

MV

application generally of 200 up to 600 l/ha for field crops/amenity and of 500 up to 1 000 l/ha for bush and tree crops

3.6.2.17

low volume application

LV

application generally of 50 up to 200 l/ha for field crops and of 200 up to 500 l/ha for bush and tree crops

3.6.2.18

very low volume application

VLV

application generally of 5 up to 50 l/ha for field crops and of 50 up to 200 l/ha for bush and tree crops

3.6.2.19

ultra low volume application

ULV

application generally under 5 l/ha for field crops and under 50 l/ha for bush and tree crops

3.7 Evaluation of performance

3.7.1 All systems

3.7.1.1

efficacy

level of control of target pest or pest damage after application

3.7.1.2

distribution

evenness of volume of *spray liquid* ([3.2.1.4](#)), or mass of *dust* ([3.3.1.1](#)) or *granules* ([3.4.1.1](#)), deposited over the target or *treated area* ([3.1.10](#))

3.7.1.3**transverse distribution**

evenness of volume of *spray liquid* (3.2.1.4), or mass of *dust* (3.3.1.1) or *granules* (3.4.1.1), deposited in a horizontal plane transverse to the direction of travel

3.7.1.4**longitudinal distribution**

evenness of volume of *spray liquid* (3.2.1.4), or mass of *dust* (3.3.1.1) or *granules* (3.4.1.1), deposited in a horizontal plane in the direction of travel

3.7.1.5**vertical distribution**

evenness of volume of *spray liquid* (3.2.1.4), or mass of *dust* (3.3.1.1) or *granules* (3.4.1.1), deposited in a vertical plane over the *treated area* (3.1.10)

3.7.2 Sprays**3.7.2.1****spray classification**

classification of sprays produced by nozzles by *droplet size spectrum* (3.2.1.7)

3.7.2.2**spread factor**

ratio of the diameter of the contact area produced by a droplet after it has been deposited on a given surface to the actual diameter of the droplet

3.7.2.3**spray coverage percentage**

ratio of the target area surface covered by droplets to the total target area surface

3.7.2.4**spray penetration**

spray entering and being deposited within the inner part of a foliar canopy

3.7.2.5**droplet density**

number of droplets deposited per unit surface area

Note 1 to entry: The unit surface area is usually 1 cm².

3.7.2.6**horizontal patternator**

laboratory device to assess the variation in volume or mass distribution from a nozzle, *spray boom* (3.2.7.4), or *granule applicator* (3.4.1.2) in a horizontal plane (to simulate the ground) transverse to the direction of travel

3.7.2.7**vertical patternator**

laboratory device to assess the volume distribution from a nozzle (3.2.3.1) or *spray boom* (3.2.7.4) in a vertical plane (to simulate a plant canopy) transverse to the direction of travel

3.7.2.8**spray overlap**

percentage by which the spray from adjacent nozzles overlap, as measured in a horizontal or vertical plane at the target area surface level

3.7.2.9**spray deposition**

quantity or volume or mass of *spray liquid* (3.2.1.4), *formulated product* (3.1.3) or *active ingredient* (3.1.5) deposited on a surface, generally the *spray target* (3.1.11)

3.7.2.10

spray drift

quantity of *plant protection product* (3.1.1) that is carried out of the *treated area* (3.1.10) by the action of air currents during the application process

3.7.2.11

vapour drift

quantity of *plant protection product* (3.1.1) that volatilises and is carried out of the *treated area* (3.1.10) by the action of air currents after the application process

3.7.2.12

spray drift potential

percentage of the *spray volume* (3.2.2.14) that can be displaced to a specified distance downwind of the sprayer by the action of air currents during the application process

3.7.2.13

spray drift reduction

difference in *spray drift* (3.7.2.10), or *spray drift potential* (3.7.2.12), of a *spray system* (3.2.1.3) compared to a reference spray system

3.7.2.14

spray drift reduction technology

DRT

sprayer or other technology that reduces *spray drift* (3.7.2.10) or *spray drift potential* (3.7.2.12) compared to a reference *spray system* (3.2.1.3)

3.7.2.15

spray drift reduction nozzle

DRN

nozzle that reduces *spray drift* (3.7.2.10) or *spray drift potential* (3.7.2.12) compared to a reference nozzle

3.7.2.16

spray drift deposition

proportion of *spray drift* (3.7.2.10) depositing at particular distances from the *treated area* (3.1.10) by the effect of gravity and/or air currents

3.7.2.17

volume of residual in the tank

dilutable volume

part of the total residue that remains in the *spray tank* (3.2.9.1) or that can flow back to the spray tank during normal sprayer operation

3.7.2.18

drainable volume

amount of *spray liquid* (3.2.1.4) collectable from the spray tank outlet(s) and/or other outlets after internal cleaning of the sprayer

3.7.2.19

drainable rinsing liquid concentration

concentration of *formulated product* (3.1.3) or *active ingredient* (3.1.5) in the *drainable volume* (3.7.2.18)

3.7.2.20

dead volume

non-dilutable volume

part of the total residual that cannot flow back to the tank during normal operation of the sprayer

3.7.2.21

volume of total residual

volume of the *spray mixture* (3.2.1.4) remaining in the sprayer which cannot be delivered with the intended *application rate* (3.6.2.4) and/or pressure, equal to the sum of the *volume of residual in the tank* (3.7.2.17) and the *dead volume* (3.7.2.20)

3.7.2.22

cleaning device for plant protection product container

device for cleaning the inside of emptied *plant protection product* ([3.1.1](#)) containers

3.7.2.23

pressure drop

drop in pressure from line losses as *spray liquid* ([3.2.1.4](#)) or *air flows* ([3.1.14](#)) through the sprayer delivery system

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