Australian Government
Australian Pesticides and Veterinary Medicines Authority

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Spray drift labelling

In July 2019, the Australian Pesticides and Veterinary Medicines Authority (APVMA) implemented a new approach to spray drift management. The approach is outlined in chapter 5 of the spray drift risk assessment manual (SDRAM).

The APVMA has now incorporated the requirements relating to labels set out in the manual into this part of the Agricultural Labelling Code. As new scientific information becomes available the APVMA will revise the Agricultural Labelling Code accordingly.

The following instructions will be required as relevant particulars for approved labels, or as conditions on permits, where a relevant assessment has been conducted in accordance with this manual.

The location of these instructions on product labels is described in section 9.5 of the Agricultural Labelling Code.

It is essential that these use instructions are interpreted with the definitions of terms used on product label.

Standard instructions

Standard instructions contain 4 discrete sections:

- General instructions: Includes instructions applying to the use of any product that requires a spray drift risk assessment regardless of the application equipment.
- Boom sprayers: Provides options for instructions specifically related to application by boom sprayer. The first option can be varied by including buffer zones calculated from the maximum label rate and a significantly lower application rate (included on the approved label for use in a different crop/situation or to control a different pest/disease/weed). Additional options for DRTs may be added to the table.
- Vertical sprayers: Provides options for instructions specifically related to application by vertical sprayer, including buffer zones for three different canopy types. Additional options for DRTs may be added to the table.
- Aircraft: Provides 3 options for instructions specifically related to application by aircraft, including buffer zones for fixed-wing and helicopter aircraft. The first option can be varied by refining the instructions to account for approved labels where only one aircraft type is supported or different droplet sizes are required for different aircraft types. Additional options for lower rates and DRTs may be added to the table.

The selection of application equipment is at the discretion of the applicant, provided that they are within the limits of the Agvet Code (i.e. they must align with the outcomes of the safety, trade and efficacy assessments). For example, if an application was not supported on the grounds that vertical sprayer application presented an un-mitigatable occupational health and safety exposure risk to users, then this section of the label must include the instruction ‘DO NOT apply with vertical sprayers’.

General instructions

Spray drift restraints

Specific definitions for terms used in this section of the label can be found at apvma.gov.au/spraydrift.

DO NOT allow bystanders to come into contact with the spray cloud.

DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. The buffer zones in the relevant buffer zone table/s below provide guidance but may not be sufficient in all situations. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.

DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.

DO NOT apply if there are hazardous surface temperature inversion conditions present at the application site during the time of application. Surface temperature inversion conditions exist most evenings 1 to 2 hours before sunset and persist until 1 to 2 hours after sunrise.

Boom sprayers

DO NOT apply by a boom sprayer unless the following requirements are met:

- Spray droplets not smaller than a **(ZAA)** spray droplet size category.
- Minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for boom sprayers') are observed.

Buffer zones for boom sprayers

Application rate	Boom height above the target canopy	Mandatory downwind buffer zones				
		Bystander areas	Natural aquatic areas	Pollinator areas	Vegetation areas	Livestock areas
Up to maximum label rate	0.5 m or lower	(ZBB) m	(ZCC) m	(ZDD) m	(ZEE) m	(ZFF) m
	1.0 m or lower	(ZLL) m	(ZMM) m	(ZNN) m	(ZOO) m	(ZPP) m
A rate lower than the maximum label rate	0.5 m or lower	(ZGG) m	(ZHH) m	(ZII) m	(ZJJ) m	(ZKK) m

(if relevant for the product label)	1.0 m or lower	(ZQQ) m	(ZRR) m	(ZSS) m	(ZTT) m	(ZUU) m

OR (if an assessment required any buffer zone distance to be greater than the validated distance):

DO NOT apply by a boom sprayer.

OR (if the use of boom sprayers is not supported under any circumstance):

DO NOT apply by a boom sprayer.

Vertical sprayers

DO NOT apply by a vertical sprayer unless the following requirements are met:

- Spray is not directed above the target canopy.
- The outside of the sprayer is turned off when turning at the end of rows and when spraying the outer row on each side of the application site.
- For dilute water rates up to the maximum listed for each type of canopy specified, minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for vertical sprayers') are observed.

Buffer zones for vertical sprayers

Type of target canopy and dilute water rate	Mandatory downwind buffer zones				
	Bystander areas	Natural aquatic areas	Pollinator areas	Vegetation areas	Livestock areas
2 metres tall and shorter, maximum dilute water rate of (YPP) L/ha	(YAA) m	(YBB) m	(YCC) m	(YDD) m	(YEE) m
Taller than 2 metres (not fully-foliated), maximum dilute water rate of (YQQ) L/ha	(YFF) m	(YGG) m	(YHH) m	(YII) m	(YJJ) m
Taller than 2 metres (fully-foliated), maximum dilute water rate of (YRR) L/ha	(YKK) m	(YLL) m	(YMM) m	(YNN) m	(YOO) m

OR (if an assessment required any buffer zone distance to be greater than the validated distance):

DO NOT apply by a vertical sprayer.

OR (if the use of vertical sprayers is not supported under any circumstance):

DO NOT apply by a vertical sprayer.

Aircraft

DO NOT apply by aircraft unless the following requirements are met:

- Spray droplets not smaller than a (XAA) spray droplet size category.
- For maximum release height above the target canopy of 3 m or 25% of wingspan or 25% of rotor diameter, whichever is the greatest, minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for aircraft') are observed.

Buffer zones for aircraft

Type of aircraft	Mandatory downwind buffer zones				
	Bystander areas	Natural aquatic areas	Pollinator areas	Vegetation areas	Livestock areas
Fixed-wing	(XBB) m	(XCC) m	(XDD) m	(XEE) m	(XFF) m
Helicopter	(XGG) m	(XHH) m	(XII) m	(XJJ) m	(XKK) m

OR (if an assessment required any buffer zone distance to be greater than the validated distance):

DO NOT apply by aircraft.

OR (if the use of aircraft is not supported under any circumstance):

DO NOT apply by aircraft.

Different application equipment types for different crop/situation use patterns

When the range of crop/situation use patterns on a product label are intended to be treated with the same type/s of application equipment, no further use instructions are required. However, if different application equipment types are intended for different crop/situation use patterns, specific instructions must be incorporated onto the label in order to provide clarity to users.

For example, if boom and aerial application was supported for wheat and only vertical sprayer application was supported for apples on efficacy grounds, then the use instructions would need to clarify this.

These clarifying instructions are required in order to indicate which application type/s are intended for use with which crop/situation; they may appear in different sections of the label at the discretion of the registrant. The complexity of a label (i.e. the number and range of different crop/situations approved) will dictate the most efficient and effective way of providing this clarification. Some suggested locations for these statements are in the following sections of a label:

- SPRAY DRIFT RESTRAINTS
- GENERAL INSTRUCTIONS
- DIRECTIONS FOR USE (CROP/SITUATION or CRITICAL COMMENTS)

The DIRECTIONS FOR USE table could also be split into sections for each application equipment type (e.g. a label could have 4 DIRECTIONS FOR USE sections with only the relevant use pattern(s) in each: a boom sprayer section, a vertical sprayer section, an aircraft section, and a miscellaneous application equipment section for use patterns that do not require a spray drift risk assessment as detailed above).

Custom instructions

When information relating to spray drift (see Spray Drift Data Guideline) is submitted as part of an application, the standard instructions outlined above will be used as a basis for establishing label instructions; the standard instructions will be refined, reduced or expanded in accordance with the nature of that application.

When an application proposes to only allow use with certain equipment, examples of potential additional instructions include:

- ‘Only to be applied with a make A model B nozzle up to a maximum pressure of C bar’ (for boom sprayer application)
- ‘Only to be applied with a make A model B tower sprayer’ (for vertical sprayer application)
- ‘Only to be applied with a make A model B orifice C nozzle at a maximum airspeed of D with a minimum pressure of E bar and a maximum angle of Fº from the horizontal (where 0º is directly opposite from the direction of flight and 90º is directly downwards)’ (for aircraft application)

When an application proposes the addition of a drift-reducing adjuvant, examples of potential additional instructions include:

- ‘Only to be applied when (adjuvant product name and number) is used in a tank mix at label rates’
- ‘Minimum distances between the application site and downwind sensitive areas that appear in the ‘Mandatory buffer zones’ section of the table above titled ‘Buffer zones for boom sprayers (with or without using adjuvant) must be observed’ (where the first row of the table lists buffer zones established by a risk assessment using standard deposition curves and the second lists buffer zones established by a risk assessment using custom deposition curves).

More generally, applicants may wish to provide additional risk management use instructions in relation to spray drift. For example, as buffer zones may not always be completely protective of agricultural crops or aquacultural production, applicants may wish to include specific statements about these areas through custom use instructions. This may be particularly useful when there are known risks posed to certain crops or aquacultural species (including at certain development stages) by a certain product.

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We acknowledge the traditional owners and custodians of country throughout Australia and acknowledge their continuing connection to land, sea and community. We pay our respects to the people, the cultures and the elders past, present and emerging.