

Product Name: Sledge Herbicide
APVMA Approval No: 83053/127113



Label Name:	Sledge Herbicide
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Signal Headings:	CAUTION KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
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Constituent Statements:	25 g/L PYRAFLUFEN-ETHYL 102 g/L N-METHYL-2-PYRROLIDONE 756 g/L HYDROCARBON LIQUID
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Mode of Action:	GROUP G HERBICIDE
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Statement of Claims:	For improvement in the brownout of a range of broadleaf and grass weeds, for the control of volunteer cotton seedlings and for the defoliation and acceleration of boll opening in cotton.
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Net Contents:	1L-20L
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Restrains:	Refer to attachment
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Directions for Use:	Refer to attachment
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Other Limitations:	
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Withholding Periods:	<p>Harvest Cotton: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.</p> <p>Grazing Cotton: DO NOT FEED, OR ALLOW TREATED COTTON TRASH OR STUBBLE TO BE FED TO LIVESTOCK.</p> <p>All other situations: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION.</p>
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Trade Advice:	
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General Instructions:	Refer to attachment
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Resistance Warning:	<p>RESISTANT WEEDS WARNING GROUP G HERBICIDE</p> <p>SLEDGE Herbicide is a member of the phenylpyrazole group of herbicides. Its mode of action is through a process of membrane disruption, which is initiated by the inhibition of the enzyme protoporphyrinogen oxidase. This inhibition interferes with the chlorophyll biosynthetic pathway. For weed resistance management, SLEDGE Herbicide is a Group G herbicide. Some naturally occurring weed biotypes resistant to SLEDGE Herbicide and other herbicides that inhibit the enzyme protoporphyrinogen oxidase may exist through normal genetic variability in any weed population and increase if these herbicides are used repeatedly. These resistant weeds will not be controlled by SLEDGE Herbicide or other herbicides that inhibit the enzyme protoporphyrinogen oxidase. Since the occurrence of resistant weeds is difficult to detect prior to use, Sipcam Pacific Australia Pty Ltd accepts no liability for any losses that may result from the failure of SLEDGE Herbicide or other herbicides that inhibit the enzyme protoporphyrinogen oxidase.</p>
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Precautions:	<p>PRECAUTIONS</p> <p>When using together with other products, consult their label safety directions</p>
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Protections:	<p>PROTECTION OF CROPS, NATIVE AND OTHER NON TARGET PLANTS</p> <p>Do not apply under meteorological conditions or from spraying equipment that could be expected to cause spray to drift on to nearby susceptible crops or native vegetation.</p> <p>For SLEDGE + thidiazuron tank mix, observe the following additional constraints: DO NOT allow spray drift to contact trees or crops other than cotton, as this product may injure or defoliate other crops, particularly citrus, grapevines and lettuce.</p> <p>To help reduce drift damage potential: DO NOT apply by air when citrus in flush is within 8 km downwind from the point of application. DO NOT apply by air when within 800m of lettuce. DO NOT plant lettuce or carrots in cotton fields where SLEDGE + thidiazuron tank mix has been applied within the previous 9 months. DO NOT plant legumes, lucerne, other root crops or leafy vegetables (besides those noted above) in cotton fields where SLEDGE + thidiazuron tank mix has been applied within the previous two months. DO NOT plant small grains, sorghum or corn in cotton fields where SLEDGE + thidiazuron tank mix has been applied within the previous two weeks.</p>
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PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Very toxic to aquatic life. Do not contaminate wetlands or watercourses with this product or used containers.

Storage and Disposal:

Store in the closed, original container in a cool, well ventilated area. Do NOT store for prolonged periods in direct sunlight. Triple rinse containers before disposal. Add rinsings to the spray tank. Do NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. Do NOT burn empty containers or product.

Safety Directions:

Harmful if inhaled. Do not inhale spray mist. Will damage eyes. Will irritate the skin. Avoid contact with eyes and skin. When opening the container and preparing the spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles. If product on skin, immediately wash area with soap and water. If product in eyes wash it out immediately with water. After each day's use, wash gloves, face shield or goggles and contaminated clothing. Wash hands after use.

First Aid Instructions:

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If in eyes wash out immediately with water.

First Aid Warnings:

Directions for Use

Crop/ Situation	Weeds Controlled	Rate/ha	Critical Comments
Prior to sowing winter crops or starting a winter fallow	Annual ryegrass Barley grass Caltrop Canola Capeweed Deadnettle Dwarf amaranth Erodium/Storksbill Fat hen Heliotrope (common / blue / potato weed) Lesser loosestrife Marshmallow Oats Prickly lettuce Sow thistle (milk thistle) Subterranean clover Tree hogweed (<i>Polygonum patulum</i>) Veronica (<i>Veronica sp.</i>) Wild Radish Wireweed /Hogweed	50-100 mL plus recommended label rate of Raze or other glyphosate product OR plus recommended label rate of Inferno or other paraquat product	Use the higher rate of SLEDGE on larger weeds and for faster brown-out. Refer to the Raze or Inferno product label and select a rate of glyphosate or paraquat suitable for the conditions and weed size in each situation. Apply to actively growing weeds at the 2-6 leaf stage. Visible symptoms of brownout will take 2-7 days to develop Application to old, hardened or stressed weeds and in harsh environmental conditions such as high temperatures and low soil moisture may not result in adequate control. To ensure uptake of SLEDGE do not sow crops for at least 1 hour after application. Always refer to the appropriate companion product label in case a longer re-crop sowing period is required. On summer fallows, the addition of an adjuvant such as HOTUP# or HASTEN# may improve results. Refer to the adjuvant label for rates and mixing instructions.
Prior to sowing summer crops or starting a summer fallow	Any of the weeds listed above plus:- Afghan melon (<i>Aristida holathera</i>) Prickly paddy melon (<i>Cucumis myriocarpus</i>)	80-160 mL plus recommended label rate of Raze or other glyphosate product OR plus recommended label rate of Inferno or other paraquat product	
	Volunteer cotton (including Roundup Ready cotton)		Application to old, hardened or stressed weeds and in harsh environmental conditions such as high temperatures and low soil moisture may not result in adequate control. To ensure uptake of SLEDGE do not sow crops for at least 1 hour after application. Always refer to the appropriate companion product label in case a longer re-crop sowing period is required. Apply by ground rig only. Good spray coverage is essential.
		100mL + 1.5L Inferno or other paraquat product	Apply to cotton from seedling to the 10 leaf stage
		100-200 mL + 2L DC Tron Cotton OR 1L Hasten	Use when targeting volunteer cotton seedlings up to the 4 leaf growth stage. Use the higher rate for larger cotton plants or when the target population is high.
		200-400 mL + 2L DC Tron Cotton OR 1L Hasten	Use when targeting weeds from the 5 – 8 leaf stage, or when the targeted population is high.

Directions for Use

Crop/ Situation	Use	Rate/ha	Critical Comments
Cotton	First pass defoliation and acceleration of boll opening	80mL plus 1 to 2L ethephon (720g/L product) plus 1L D-C-TRON Cotton or 0.5L of HASTEN	Always apply as a tank mixture with ethephon and D-C-TRON Cotton or HASTEN. Apply when the last harvestable boll is physiologically mature. For the best results use sufficient spray volume to achieve thorough and uniform coverage of leaves and bolls. Use the higher rates of ethephon when the crop canopy is denser and for greater enhancement of boll opening. A follow up application of Sledge and / or boll opener may be required for complete defoliation and boll opening. Leaf desiccation may be observed during the defoliation process. Some desiccated leaf may be retained. Do NOT mix with ethephon product before reading the ethephon label.
	Second pass defoliation and acceleration of boll opening	40mL plus 1 to 2L ethephon (720g/L product) plus 1L D-C-TRON Cotton or 0.5L HASTEN	If required, apply following a first pass application of 80mL/ha Sledge. Always apply as a tank mixture with ethephon and D-C-TRON Cotton or HASTEN. For best results use sufficient spray volume to achieve thorough and uniform coverage of leaves and bolls. Use the higher rates of ethephon for greater enhancement of boll opening. Leaf desiccation may be observed during the defoliation process. Some desiccated leaf may be retained. Do NOT mix with the ethephon product before reading the ethephon label.
	For defoliation And acceleration of boll opening	40mL plus 100mL of thidiazuron 500g/L plus 1 to 2L ethephon (720g/L) plus 1L D-C-TRON* Cotton or 0.5L of HASTEN* or 0.5 L Canopy* Insecticide	Always apply as a tank mixture with thidiazuron and ethephon plus D-C-TRON Cotton, HASTEN or Canopy Insecticide. Apply when the last harvestable boll is physiologically mature. For the best results use sufficient spray volume to achieve thorough and uniform coverage of leaves and bolls. Use the higher rates of ethephon when the crop canopy is denser and for greater enhancement of boll opening. A repeat application may be required for complete defoliation and boll opening. Leaf desiccation may be observed during the defoliation process. Some desiccated leaf may be retained. DO NOT apply this tank mix under cold conditions (night temperatures below 120C and/or mean day/night temperatures below 180C). DO NOT apply if rain is expected within 24 hours DO NOT apply this tank mix following application of sodium chlorate, magnesium chlorate or diquat.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

General Instructions

GENERAL INSTRUCTIONS

Before opening, carefully read Directions for Use, Precautionary Statements, Safety Directions and First Aid Instructions.

Cotton: When applied as a foliar spray to cotton pre-harvest, Sledge provides fast, effective defoliation of cotton plants. Adequate defoliation is generally achieved within 7 to 14 days dependent on weather and crop conditions. Apply Sledge when the last harvestable boll is physiologically mature. . Defoliation of crops with moderate to high levels of nitrogen remaining in the soil are more prone to leaf freezing than crops that have depleted soil nitrogen.

DO NOT apply SLEDGE under cold conditions when mixed with thidiazuron (night temperatures below 12°C and/or mean day/night temperatures below 18°C).

All other situations: The addition of SLEDGE to Raze (or other glyphosate products) or Inferno (or other paraquat products) may increase the rate of brownout and final control, when compared to the use of the glyphosate or paraquat products alone. Refer to the product label for Raze (or other glyphosate product) or Inferno (or other paraquat product) and select a rate suitable for the conditions and weed size in fallow situations.

Apply to volunteer cotton seedlings up to the 8-10 leaf growth stage. Ensure thorough coverage is achieved. Best results are achieved when cotton volunteers are actively growing. Avoid application when volunteer cotton seedlings are moisture stressed.

APVMA compliance instructions for mandatory COARSE or larger droplet size categories for tank mix of thidiazuron with SLEDGE:

Important information

These instructions inform those using this chemical product how to lawfully comply with the requirement of a COARSE or larger spray droplet size category for spray application. Spray droplet size categories are defined in the ASAE S572 Standard (newer name may also be shown as ASABE) or the BCPC guideline. Nozzle manufacturers may refer to one or both of these documents, to identify droplet size categories; however, for a nozzle to comply with this requirement, the manufacturer must refer to at least one.

Complying with the label requirement to use a specific droplet size category means using the correct nozzle that will deliver that droplet size category under the spray operation conditions being used. The APVMA has approved only the following specific methods for choosing the correct nozzle. Use one of the methods specified in these instructions to select a correct nozzle to deliver a COARSE or larger droplet size category.

Mandatory instructions for ground applications

USE ONLY nozzles that the nozzles' manufacturer has rated to deliver a COARSE, a VERY COARSE or an EXTREMELY COARSE droplet size category, as referenced in ASAE S572 or BCPC. Choose a nozzle that is specified to provide the droplet size category required in the label Spray Drift Restraints.

DO NOT use a higher spray system pressure than the maximum the manufacturer specifies for the selected nozzle to deliver the droplet size category required in the label Spray Drift Restraint.

Mandatory Instructions for fixed-wing aerial application

Instructions in this section apply to fixed-wing aerial application of products for which the label Spray Drift Restraint requires a COARSE or a VERY COARSE spray droplet category.

Nozzle choices must be made using Option 1, 2 or 3 below.

Option 1 nozzles are limited to a maximum aircraft speed of 110 knots and are for COARSE droplets only. Option 2 nozzles are limited to a maximum aircraft speed of 120 knots and are also for COARSE droplets only. Option 3 nozzles have their use conditions (maximum airspeed, nozzle spray angle, product used, orifice size and spray system pressure) specified in the APVMA Approved Aerial Agricultural Association of Australia (AAAA) Nozzle Calculator (described in Option 3). Depending on those use conditions, the calculator can identify a correct nozzle for either a COARSE or a VERY COARSE spray droplet category. (To use Option 3, aerial applicators must contact the AAAA for access to their approved nozzle calculator.)

Option 1

For up to a maximum aircraft speed of 110 knots and a COARSE droplet size category, USE ONLY solid stream 0° nozzles with orifice diameter greater than or equal to 1.5 mm and oriented straight back to the flight direction. USE ONLY a spray system pressure greater than or equal to 3 bar.

General Instructions

Option 2

For up to a maximum aircraft speed of 120 knots and a COARSE droplet size category, USE ONLY narrow angle flat fan nozzles with spray angle less than or equal to 40° and oriented straight back to the flight direction. USE ONLY a spray system pressure greater than or equal to 4 bar.

Option 3

USE ONLY nozzles rated by the APVMA Approved AAAA Nozzle Calculator as COARSE or VERY COARSE to comply with a product label's requirement for a COARSE or a VERY COARSE spray droplet size category. Use the AAAA Nozzle Calculator, and follow the additional instructions below in a), b) and c).

a) To identify a nozzle to comply with the required spray droplet category, aerial applicators must use only the droplet size category given in the nozzle calculator at the DV(0.1) position. The categories shown at the DV(0.5) and the DV(0.9) positions in the calculator must not be used for making a nozzle selection.

b) Aerial applicators must not apply the product at airspeeds greater than the speed used to select the nozzle. If an application airspeed that is slower than 100 knots (the minimum speed specified in the nozzle calculator) is planned, a nozzle identified as COARSE or VERY COARSE at 100 knots can also be used at these slower airspeeds, provided that the nozzle angle and system pressure are kept the same.

c) When a particular pesticide product is chosen within the nozzle calculator as one of the conditions set to select a nozzle, then aerial applicators must use that specific pesticide product with that nozzle. When a pesticide product is planned for use and is not available as a choice within the nozzle calculator, aerial applicators must use the category 'Other product' in the calculator to set the condition for selecting a nozzle.

Instructions for helicopter aerial application

Instructions in this section apply to helicopter application of products where the label Spray Drift Restraint requires a COARSE, a VERY COARSE or an EXTREMELY COARSE spray droplet category. Nozzle choices must be made using Option 1, 2 or 3 below.

Option 1

For helicopter applications requiring a COARSE or a VERY COARSE spray droplet size category, USE ONLY nozzles selected with the methods previously specified for fixed-wing aircraft in Section 2.

Option 2

When using Micronair controlled droplet applicators (Micron Sprayers Ltd), USE ONLY nozzles selected with the Micronair Droplet Size Prediction Models designed for Micronair products (and located on the company website) to choose a nozzle to satisfy the label requirement for a COARSE droplet size category. Important: to qualify for the COARSE category, the DV(0.1) value must be greater than 156 microns. Adjust parameters as necessary (eg lower the atomizer rotation rate) in order to achieve a DV(0.1) value greater than 156 microns.

Option 3

When using Accu-Flo nozzles (Bishop Equipment Mfg Inc), USE ONLY nozzles rated according to the manufacturer's instructions to select the correct nozzle to apply a COARSE, a VERY COARSE or an EXTREMELY COARSE droplet size category to satisfy the label requirement for one of those specific droplet size categories.

MIXING

Cotton only: Half fill the spray tank with good quality water and begin agitation. While agitating, add the required volume of ethephon and thidiazuron product then the required volume of Sledge, followed by the D-C-TRON, CANOPY or HASTEN and the remaining water. Prepare only enough spray solution for immediate use and do NOT stand overnight. If tank mixtures are prepared, maintain good agitation and use promptly.

All other situations: Half fill the spray tank with good quality water and begin agitation. While agitating, add the required volume of SLEDGE then the required volume of Raze (or other glyphosate product) or Inferno (or other paraquat product) followed by the remaining water. Prepare only enough spray solution for immediate use, and do not stand overnight. If tank mixtures are prepared, maintain good agitation and use promptly.

General Instructions

APPLICATION

Cotton only:

Ground Application: Boom sprayers must be fitted with mechanical or bypass agitation.

Sledge works by contact action hence thorough and uniform coverage of leaves and bolls is essential. Use sufficient water and configure the boom sprayer to optimize coverage of all leaves and bolls. Apply in at least 90 to 100L water per hectare.

Aerial Application: Apply by aircraft in at least 40L water per hectare. Ensure thorough coverage.

All other situations:

DO NOT apply by air. Apply by ground application only. Apply in 70 to 150L water per hectare. Because SLEDGE is primarily a contact herbicide, higher water volumes may improve results if the weeds are very small by increasing the number of droplets per square cm. Higher water volumes may also improve coverage and hence control of larger weeds. Do not use low-drift, air induction or flood-jet nozzles. Spray equipment should be properly calibrated to ensure correct and uniform coverage. Use sufficient good quality water and configure the boom sprayer to optimise coverage.

COMPATIBILITY:

Cotton only: Sledge is compatible with Ethephon 720 Growth Regulator, thidiazuron (500g/L), Prep* 720 Growth Regulator, Rover® Systemic Insecticide, Intruder* Insecticide, Pegasus* Miticide, Folidol* M500 Insecticide Spray, HASTEN# Spray Adjuvant and D-C-TRON* Cotton spray oil.

Mixtures with all other products should be tested before mixing or applying commercial quantities.

All other situations: SLEDGE Herbicide is compatible with Raze® and other formulations of glyphosate and Inferno and other formulations of paraquat, DC Tron, Hasten and Hot Up. Mixtures with all other products should be tested before mixing or applying commercial quantities.

EQUIPMENT CLEANING

Do NOT allow the spray solution to dry in the application equipment. After application and before using the sprayer equipment for any other applications, the sprayer must be thoroughly cleaned. Applicators must ensure proper equipment clean-out for any other products mixed with **SLEDGE Herbicide** as provided on the other product label(s). Immediately following application, clean all equipment thoroughly with detergent or a spray tank cleaner and water as described below. Should residues of **SLEDGE Herbicide** remain in inadequately cleaned equipment, they may be released in subsequent applications and cause injury to crops.

1. Drain sprayer tank, hoses, and spray boom and thoroughly rinse with clean water the inside of the spray tank, sprayer hoses, boom, and nozzles to remove any sediment or residues.
2. Fill the tank with clean water; add an alkaline detergent or boom cleaner (follow manufacturer's directions for use). Fill tank and operate the sprayer with agitation for 15 minutes to flush hoses, boom and nozzles.
3. Drain the sprayer tank, lines, and booms. Rinse the tank with clean water and flush through the hoses, boom and nozzles. Remove and clean spray nozzles, tips and screens.
4. Dispose of all cleaning solutions, rinsate and wash waters in accordance with Federal, state and local regulations.

RESTRAINTS:**DO NOT** apply if rain is expected within 2 hours.**DO NOT** apply alone.**DO NOT** apply by aircraft in situations other than cotton crop application.**DO NOT** apply by a vertical sprayer**SPRAY DRIFT RESTRAINTS**Specific definitions for terms used in this section of the label can be found at [apvma.gov.au/spray drift](http://apvma.gov.au/spray%20drift).**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 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 three 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 one to two hours before sunset and persist until one to two hours after sunrise.**Specific Spray Drift Restraints for tank mixes of SLEDGE with glyphosate, petroleum oil, Hasten, Ethephon and/or paraquat:****AIRCRAFT****DO NOT** apply by aircraft with spray droplets smaller than a MEDIUM spray droplet size category.**BOOM SPRAYERS (ground application)****DO NOT** apply by a boom sprayer unless the following requirements are met:

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

Buffer zones for boom sprayers

Tank mix partner	Boom height above the target canopy	Mandatory downwind buffer zones	
		Natural aquatic areas	Vegetation areas
Raze or other glyphosate product, Petroleum oil adjuvant, HASTEN, or Ethephon product	1.0 m or lower	5	60
Inferno or other paraquat product	0.5 m or lower	20	65
	1.0 m or lower	55	180

Specific Spray Drift Restraints for tank mix of thidiazuron with SLEDGE:

DO NOT apply with spray droplets smaller than a COARSE spray droplet size category according to 'APVMA Compliance Instructions for Mandatory COARSE or Larger Droplet Size Categories' located under this title in the GENERAL INSTRUCTIONS section of this label.

DO NOT direct the spray above trees or vines during airblast applications. TURN OFF outward pointing nozzles at row ends and outer rows during airblast applications.

Users of this product MUST make an accurate written record of the details of each spray application within 24 hours following application, and must KEEP this record for at least 2 years. The spray application details that must be recorded are: 1. date with start and finish times of application 2. location address and paddock(s) sprayed 3. full name of this product 4. amount of product used per hectare and number of hectares applied to 5. crop or situation and weed or pest 6. wind speed and direction during application 7. air temperature and relative humidity during application 8. nozzle brand, type, spray angle, nozzle capacity and spray system pressure measured during application 9. name and address of person applying this product. (Additional record details may be required by the state or territory where this product is used.)

MANDATORY NO-SPRAY ZONES for tank mix of thidiazuron with SLEDGE:

DO NOT apply if there are sensitive crops, gardens, landscaping vegetation, protected native vegetation or protected animal habitat downwind from the application area and within the mandatory no-spray zones shown in the table below.

For aerial application

Wind speed range at time of application	Downwind mandatory no-spray zone	Fixed-wing Helicopter
from 3 to 8 kilometres per hour	200 metres	120 metres
from 8 to 14 kilometres per hour	250 metres	180 metres
from 14 to 20 kilometres per hour	300 metres	180 metres

For ground application

from 3 to 20 kilometres per hour 20 metres