

Product Name: STRIKE-OUT 500 EC INSECTICIDE
APVMA Approval No: 45486/121082



Label Name:	STRIKE-OUT 500 EC INSECTICIDE
Signal Headings:	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Constituent Statements:	ACTIVE CONSTITUENT: 500 g/L CHLORPYRIFOS SOLVENT: 480 g/L LIQUID HYDROCARBON (A) 520 g/L LIQUID HYDROCARBON (B)
Mode of Action:	GROUP 1B INSECTICIDE
Statement of Claims:	For the control of certain insect pests of fruit, vegetables, field crops and pasture and other situations and for the post-construction management of subterranean termites in accord with AS3660.2 and other insect pests as specified in the Directions for Use Table. THIS PRODUCT IS TOO HAZARDOUS FOR USE BY HOUSEHOLDERS. DO NOT USE THIS PRODUCT IN OR AROUND THE HOME.
Net Contents:	1000L 10L 110L 200L 20L 5L
Restrains:	MANAGEMENT OF SUBTERRANEAN TERMITES (All States, except Tasmania) RESTRAINTS: DO NOT apply to soils if excessively wet, immediately after heavy rain or if heavy rains are expected within 48 hours to avoid run-off of chemical. DO NOT use at less than indicated label rates. DO NOT use in cavity walls, except for direct treatment of nest. DO NOT use on alkaline soils in SA (use on neutral or acidic soils only) or on dolomite-based sub-slab bedding material.

	<p>DO NOT use this product in or around the home.</p> <p>COMMERCIAL ORNAMENTAL PRODUCTION AND TURF FARMS – DO NOT GRAZE TREATED TURF OR FEED GRASS CLIPPINGS TO ANIMALS</p> <p>RESTRAINTS: DO NOT apply to potted ornamentals or turf in domestic, residential or public space areas.</p> <p>GENERAL PEST CONTROL – Commercial and Industrial areas only</p> <p>RESTRAINTS: DO NOT spray polycarbonate surfaces/roof sheeting or aged vinyl wall cladding as solvent may cause etching. DO NOT apply in domestic, residential or public space areas.</p>
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Directions for Use:	This section contains file attachment.
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Other Limitations:	NOT TO BE USED FOR ANY PURPOSE OR IN ANY MANNER CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.
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Withholding Periods:	<p>WITHHOLDING PERIODS:</p> <p>Cotton: DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION. DO NOT GRAZE OR CUT FOR STOCKFOOD FOR 4 WEEKS AFTER APPLICATION.</p> <p>Cereals, Forage Crops, Grain Sorghum, Oilseeds (Except Cotton), Pasture, Sugarcane: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR TWO DAYS AFTER APPLICATION. DO NOT FEED TURF CLIPPINGS TO POULTRY OR OTHER ANIMALS.</p> <p>Mango: DO NOT HARVEST 21 DAYS AFTER APPLICATION.</p> <p>Asparagus, Bananas, Celery, Citrus, Grapevines, Kiwifruit, Pome Fruit, Stone Fruit: DO NOT HARVEST 14 DAYS AFTER APPLICATION.</p> <p>Cereals: DO NOT HARVEST 10 DAYS AFTER APPLICATION.</p> <p>Avocado, Sugarcane: DO NOT HARVEST 7 DAYS AFTER APPLICATION.</p> <p>Cole Crops, Cucurbits: DO NOT HARVEST 5 DAYS AFTER APPLICATION.</p> <p>Tomatoes: DO NOT HARVEST 3 DAYS AFTER APPLICATION.</p> <p>Grain Sorghum: DO NOT HARVEST 2 DAYS AFTER APPLICATION.</p>
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Trade Advice:	
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General Instructions:	This section contains file attachment.
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Resistance Warning:	<p>For insecticide resistance management STRIKE-OUT® 500 EC Insecticide is a Group 1B insecticide. Some naturally occurring insect biotypes resistant to STRIKE-OUT® 500 EC and other Group 1B insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if STRIKE-OUT® 500 EC or other Group 1B insecticides are used repeatedly. The effectiveness of STRIKE-OUT® 500 EC on resistant individuals could be significantly reduced. Since the occurrence of resistant insects is difficult to detect prior to use, ADAMA Australia Pty. Ltd. accepts no liability for any losses that may result from the failure of STRIKE-OUT® 500 EC to control resistant insects. STRIKE-OUT® 500 EC may be subject to specific resistance management strategies. For further information contact your local supplier, ADAMA representative or local agricultural department agronomist.</p>
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Precautions:	<p>PRECAUTIONS – For use as a Termiticide DO NOT apply inside buildings except as a crack and crevice treatment. DO NOT apply to surface areas such as interior floors and walls.</p> <p>RE-ENTRY TO TREATED AREAS DO NOT permit re-occupation of any premises until treated areas are completely dry (normally 3-4 hours) and adequately ventilated.</p> <p>PRECAUTIONS – For use as an Insecticide RE-ENTRY PERIOD Field Crops, Tree Crops and Vines: DO NOT allow entry into treated crops until spray deposits have dried. If prior entry is required, limit duration of entry and wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day’s use. Greenhouses: DO NOT allow entry into greenhouses until spray deposits have dried and treated areas are adequately ventilated. If prior entry is required, limit duration of entry and wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), chemical resistant gloves and half-facepiece respirator. Clothing must be laundered after each day’s use. Not for home, garden, residential or publicly accessible spaces. Cotton Chippers: DO NOT allow entry into treated areas until spray deposits have dried. After this time, wear shoes, or boots, socks, long trousers, long sleeved shirt, gloves and hat.</p>
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Protections:	<p>PROTECTIONS - For use as a Termiticide</p> <p>PROTECTION OF PETS AND LIVESTOCK Before spraying, remove animals and pets from buildings and other areas to be treated. Cover or remove any open food and water containers. Cover or remove fish tanks before spraying. DO NOT allow animals and pets to contact treated areas for at least 24 hours. Dangerous to bees. DO NOT spray any plants in flower while bees are actively foraging.</p> <p>PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT VERY HIGHLY TOXIC TO FISH AND AQUATIC INVERTEBRATES. Rinse waters, and run-off from treated areas MUST NOT enter drains or waterways. For under-slab treatments, the moisture membrane MUST be installed immediately after treatment. DO NOT apply to waterlogged soils. DO NOT apply if heavy rains are expected to occur within 48 hours of application. HIGHLY TOXIC TO BIRDS. DO NOT treat fill unless it has been placed back in the trench to form the chemical soil barrier. DO NOT spray directly on to the foliage of plants as damage to some species is possible.</p>
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PROTECTIONS - For use as an Insecticide

PROTECTION OF LIVESTOCK, WILDLIFE, FISH AND ENVIRONMENT
HIGHLY TOXIC TO BIRDS AND REPTILES. VERY HIGHLY TOXIC TO FISH AND
AQUATIC INVERTEBRATES.

DO NOT contaminate streams, rivers or waterways with the chemical or used container.

DO NOT contaminate food, feed or domestic water supplies.

Harmful to bees. DO NOT spray any plants in flower whilst bees are foraging.

DO NOT re-apply to the same crop within 7 days (unless specifically recommended in the directions for use). Spray drift may occur under adverse meteorological conditions or from certain spray equipment.

DO NOT allow spray to drift onto sensitive areas including, but not limited to, natural streams, rivers or waterways and human dwellings. A spray drift management strategy such as those in the 'Best Management Practices manual for Cotton Growers' or the 'Pilots and Operators Manual' should be applied. Options for minimising drift to sensitive areas include not spraying within a certain distance of sensitive areas when the wind is blowing towards them (see table for guidance) or ensuring that drifting spray will be intercepted by a catching surface such as a row of shelter trees, an unsprayed row of orchard trees, or hail netting.

SITUATION / RECOMMENDED BUFFER DISTANCE (m)

Orchard (dormant trees, citrus, large trees)* / 30 m

Other crops (aerial application) / 100 m

Cotton (aerial application) / 300 m

DO NOT apply if heavy rains or storms that are likely to cause surface run-off are forecast in the immediate area within two days of application. DO NOT apply when irrigating, or to waterlogged soil, or while water remains on the surface or in furrows, unless tailwater is captured on farm. DO NOT allow contaminated run-off water from treated paddocks to enter adjacent areas or water bodies.

Run-off contaminated by irrigation events (tailwater) and a 25 mm rain storm should be captured on farm for two days after application.

Storage and
Disposal:

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 spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or a 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. Rinsate/ rinse water should be disposed of in accordance with appropriate State legislation and should preferably be sprayed on to an application site or added as up to 10% of the diluent the next time this product or another similar termiticide is used. DO NOT put rinse water down sewers, gutters or storm water drains. In some States wastes can only be buried at a licensed landfill.

Envirodrum Micro Matic Valve (110 L): Store the original sealed Envirodrum in a cool well-ventilated area. DO NOT store for prolonged periods in direct sunlight. DO NOT tamper with the Micro Matic valve or the security seal. DO NOT contaminate the Envirodrum with water or any foreign matter. After each use of the product, please ensure that the Micro Matic coupler delivery system and hoses are disconnected, triple rinsed with clean water and drained accordingly. When the contents of the Envirodrum have been used, please return the Envirodrum to the point of purchase. The Envirodrum remains the property of ADAMA Australia Pty. Ltd.

1000 L Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight. Storage must be secure so that contents cannot be tampered with. All locks and/or seals must be in order. If locks or seals are broken prior to initial use, then the integrity of this product cannot be assured. If this occurs ADAMA Australia Pty. Ltd. should be advised immediately. This minibulk container is reusable and remains the property of ADAMA Australia Pty. Ltd. DO NOT rinse empty container. Empty contents fully into application equipment. Close all valves and return to the point of supply for refill or storage. No other liquid, solid or pesticide product should be put into it. When empty return to ADAMA Australia Pty. Ltd. for cleaning, relabelling and refilling.

SMALL SPILL MANAGEMENT

Wear appropriate clothing and protective equipment whilst cleaning up small spills (see SAFETY DIRECTIONS). Treat spill with an absorbent material such as earth, sand or granular clay. Sweep up contaminated material and place in a refuse vessel for disposal. If spilled inside a building, wash contaminated surfaces to deactivate the chlorpyrifos with a dilute solution of bleach (sodium hypochlorite), prepared according to the bleach label instruction. Dispose of the contaminated material in accordance with STORAGE AND DISPOSAL.

Safety Directions:

Product is poisonous if absorbed by skin contact, inhaled or swallowed. Repeated exposure may cause allergic disorders. Repeated minor exposure may have a cumulative poisoning effect. Will irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale vapour or spray mist when opening the container, preparing the spray and using the prepared spray wear chemical resistant clothing buttoned to the neck and wrist, washable hat, elbow-length PVC gloves, goggles, chemical resistant footwear and a half facepiece respirator with combined dust and gas cartridge. If clothing becomes contaminated with product or wet with spray remove clothing immediately. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water after use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, goggles and respirator and if rubber wash with detergent and warm water contaminated clothing.

First Aid Instructions:

If swallowed, splashed on skin or in eyes, or inhaled, contact a Poisons Information Centre (Phone Australia 13 11 26) or a doctor at once. Remove any contaminated clothing and wash skin thoroughly. If swallowed, activated charcoal may be advised. Give atropine if instructed. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

First Aid Warnings:

**DIRECTIONS FOR USE AS A TERMITICIDE:
MANAGEMENT OF SUBTERRANEAN TERMITES (All States, except Tasmania)**

RATES OF APPLICATION IMPORTANT: STRIKE-OUT® 500 EC should be used as part of an overall termite management program as detailed in Australian Standard Series AS 3660. A great deal of care is required to understand construction details of the building and to apply the product in a manner which ensures a complete chemical soil barrier. Where necessary, the barrier may need to be re-applied under the building. Application equipment must be fitted with a flow meter and pressure regulator on the application device. The purpose of a chemical soil barrier is to impede and discourage concealed termite entry into a structure. Barriers may still be bridged by termites, but their entry can then be more easily detected during routine inspections. If a barrier is not complete or breached, then concealed termite entry may occur. It is often not possible to form a complete barrier around existing structures in which case other termite management options and/or more frequent inspections will also need to be considered.

SITUATION	RATE	CRITICAL COMMENTS
Installing a chemical soil barrier around and under buildings.	Horizontal Barriers: 100 mL/m ² Vertical Barriers: 2 L/m ³	Horizontal Barriers – Not for home, garden, residential or publicly accessible spaces: Use 100 mL of STRIKE-OUT® 500 EC per 5 L of water and apply the mixture (emulsion) at a rate of 5 L/m ² . Vertical Barriers: Use 2 L of STRIKE-OUT® 500 EC per 100 L of water and apply the mixture at a rate of 100 L/m ³ . See APPLICATION VOLUME section in GENERAL INSTRUCTIONS for further information. 200 mL/10 L is equivalent to a 1% active ingredient emulsion. See Service requirement in GENERAL INSTRUCTIONS for expected barrier life.
Installing a chemical soil barrier around and under buildings north of the Tropic of Capricorn or where <i>Mastotermes darwiniensis</i> is a concern.	Horizontal Barriers: 200 mL/m ² Vertical Barriers: 4 L/m ³	This is an optional high rate for use north of the Tropic of Capricorn, or where <i>M. darwiniensis</i> is a concern. Horizontal Barriers – Not for home, garden, residential or publicly accessible spaces: Use 200 mL of STRIKE-OUT® 500 EC per 5 L of water and apply the mixture (emulsion) at a rate of 5 L/m ² . Vertical Barriers: Use 4 L of STRIKE-OUT® 500 EC per 100 L of water and apply the mixture at a rate of 100 L/m ³ . See APPLICATION VOLUME section in GENERAL INSTRUCTIONS for further information. 4 L/100 L is equivalent to a 2% active ingredient emulsion. See Service requirement in GENERAL INSTRUCTIONS for expected barrier life.
Installing a chemical soil barrier around new and existing poles, e.g. transmission and building poles, fence posts and palings.	200 mL/10 L of water or creosote	Trench (preferred) or rod and puddle-treat backfill, ensuring a complete and continuous treated soil barrier is provided around the pole or post, to a minimum depth of 300 mm and minimum width of 150 mm. Use 100 L of emulsion per m ³ of soil. In addition, infested poles may be drilled near ground level and the cavity flooded with the emulsion. This allows seepage to form a treated soil barrier. Note: A 50 mm gap between fence palings and soil will reduce termite attack and fungal decay. Only soil in contact with palings should be treated. <ul style="list-style-type: none"> • Replenishment is recommended within 2 years north of the Tropic of Capricorn and 5 years in other areas. • If the barrier is disturbed, or rain falls immediately after application, retreat to restore continuity and completeness of the barrier. Refer to Australian Standard Series AS 3660.
Treatment of termite nest or colony	100 mL/10 L of water	Once the nest or colony has been located it should be broken open and flooded with emulsion. This includes nests located in trees. When treating trees, the addition of a wetting agent is suggested. Refer to Australian Standard Series AS 3660. DO NOT apply to ground-dwelling termite nests or colonies situated in domestic, residential or public spaces.

DIRECTIONS FOR USE – FOR USE AS AN INSECTICIDE

1. TREE AND VINE CROPS

RATE					CRITICAL COMMENTS
This table shows rates for dilute spraying. For concentrate spraying, refer to the Mixing/Application section.					
CROP	PEST	STATE	RATE	WHP (days)	
Apples, Pears	San Jose Scale	Qld, NSW, ACT, SA, WA only	100 mL/100 L water	14 (H)	Dormant Period: Add 2% Winter Oil. Apply as late as possible ensuring thorough spray coverage. Growing Period: Apply to coincide with crawler activity (mid-November and later). Ensure thorough coverage of all branches, foliage and fruit.

<p style="text-align: center;">RATE</p> <p style="text-align: center;">This table shows rates for dilute spraying. For concentrate spraying, refer to the Mixing/Application section.</p>					<p>CRITICAL COMMENTS</p> <p>For all uses in this table: Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.</p>
CROP	PEST	STATE	RATE	WHP (days)	
Apples, Pears – <i>continued</i>	Woolly Aphid	Qld, NSW, ACT, SA, WA only	100 mL/ 100 L water	14 (H)	Apply when aphid build-up is first noticed ensuring spray coverage is thorough.
	Wingless Grasshopper	NSW, ACT only	500 mL/ha OR 50 mL/ 100 L water		Apply to areas of crop infested with grasshoppers. Also apply as a barrier across the line of advance, when grasshoppers are invading the crop.
Avocado	Avocado Leafroller, Ivy Leafroller	Qld, WA only	1 L/ha OR 50 mL/ 100 L water	7 (H)	Use this rate in tank mix with 1 L/ha (500 mL/100 L of water) of dichlorvos (500 g/L). For the low volume spray equipment use L/ha rate. Apply at first sign of pest activity before larvae move to fruit.
	Ivy Leafroller	NSW, ACT, WA only			Apply at first sign of pest activity before larvae move to fruit.
	Hairy Caterpillars, Latania Scale, Light Brown Apple Moth, Redshouldered Leaf Beetle				Apply when populations indicate treatment is required. Spot spray affected trees only. Repeat as necessary.
Citrus	California Red Scale	NSW, ACT, Vic, SA, WA only	100 mL/100 L water alone or 50 mL + 1 L miscible summer spraying oil/ 100 L water	14 (H)	Application period November-March. Two sprays may be required for control under heavy infestations. DO NOT use in integrated pest control programs.
		Qld only	100 mL/100 L water alone or 100 mL + 1 L miscible summer spraying oil/ 100 L water		
Citrus, Pome Fruit	Wingless Grasshopper	Vic, Tas, SA, WA only	500 mL/ha OR 50 mL/ 100 L water		Spray areas infested with grasshoppers. Also apply as a barrier across the line of advance as crops are invaded.
Grapevines	Grape Vine Scale	Qld, NSW, ACT, Tas, SA, WA only	100 mL/ 100 L water OR 50 mL + 1 L winter oil/ 100 L water		Apply as a dormant spray following pruning (July).
	Grave Vine Moth Light Brown Apple Moth	All States	500 mL/ha OR 50 mL/ 100 L water		Apply initial spray just after berry set (early October). Repeat application as required.

<p style="text-align: center;">RATE</p> <p style="text-align: center;">This table shows rates for dilute spraying. For concentrate spraying, refer to the Mixing/Application section.</p>					<p>CRITICAL COMMENTS</p> <p>For all uses in this table: Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.</p>
CROP	PEST	STATE	RATE	WHP (days)	
Kiwifruit – trellised	Common Armyworm, Light Brown Apple Moth, Southern Armyworm	Qld, NSW, ACT, Vic, Tas, SA, WA only	1 L/ha OR 50 mL/ 100 L water	14 (H)	Apply at green tip at least 10 days after dormant lime sulphur application and pre-blossom. DO NOT apply post blossom.
Mango	Common Mango Scale	Qld, WA only	100 mL/ 100 L water	21 (H)	Apply to coincide with crawler activity. Ensure thorough coverage of all branches, foliage and fruit.
Stone Fruit	European Earwig	NSW, ACT, WA only	100 mL/ 100 L water	14 (H)	<p>Spray application: Apply in a minimum of 2000 L/ha in Spring. If lower volume used, increase concentration to apply 2L of product/ha.</p> <p>Bait application: Apply 5 kg of bait/ha in Spring by fertilizer spreader. See General Instructions on preparation of cracked wheat or sorghum bait.</p>
			2 L/ha OR 200 mL + 250 mL sunflower oil/ 5 kg cracked wheat or sorghum		
	San Jose Scale	Qld, NSW, ACT, WA only	100 mL/ 100 L water (2% miscible winter oil may be added to the dormant spray)		<p>Dormant period: Apply as late as possible ensuring thorough coverage of all branches.</p> <p>Seasonal period: Apply to coincide with crawler activity in mid-late November and later if necessary. Ensure thorough coverage of all branches, foliage and fruit.</p> <p>Note: Some fruit marking may occur if high volume spraying is carried out under hot, dry conditions.</p>
Tomatoes – trellised	Wingless Grasshopper	NSW, ACT, Vic, Tas, SA only	500 mL/ha OR 50 mL/100 L water	3 (H)	Spray areas of crop infested with grasshoppers. Also apply as a barrier across the line of advance, when grasshoppers are invading the crop.
	False Wireworm, Wireworm	Qld only	5 L/ha sprayed	–	Apply as a band at least 10 cm wide into the open furrow at planting. Spray the entire furrow width using a nozzle directly behind the planting tyne. Use a minimum spray volume of 20 L/ha. See General Instructions on soil application.
	African Black Beetle	NSW, ACT only	2 L/ha (Boom spray) OR 300 mL/ 100 L water (Drench)		<p>Boom spray: Apply in 500-1000 L of water/ha at or soon after planting as a 10-15 cm band spray.</p> <p>Drench: Apply 100 mL of diluted spray to base of each plant. Treat as soon as first sign of infestation is noticed.</p> <p>Note: If attack is prolonged, follow-up boom spray or drench treatment may be necessary.</p>
	Tomato Grubs	Qld, NSW, ACT, Vic, WA only	1.5 or 2 L/ ha OR 150 or 200 mL/ 100 L water	3 (H)	Spray on 7 to 10 day schedule commencing at flowering. Use high rate under heavy pest pressure.
	Native Budworm	Tas only			
	Green Vegetable Bug	Tas, SA, WA only			Spray at first sign of bug activity.
Green Peach Aphid	Qld, Vic, Tas, SA, WA only	1 L/ha OR 100 mL/ 100 L water		Spray when aphids are seen. Large plants: Use 1000 L/ha.	

2. OTHER HORTICULTURAL CROPS

CROP	PEST	STATE	RATE	WHP (days)	CRITICAL COMMENTS
Bananas	Banana Scab Moth	Qld only	1-2 L/ha use a minimum of 10 L/ha of water OR 200 mL/ 100 L water use a minimum of 500 L/ha water	14 (H)	Apply from the first appearance of flower bell and repeat as populations indicate until fingers are exposed. Use high rate with onset of wet weather and/or heavy insect pressure. Note: Burning of young fruit may occur under poor drying conditions.
	Banana Weevil Borer	Qld, NSW, ACT only	1 or 1.8 L in 100 L water		Sub Tropical Areas: Use high rate for annual control of borers. Tropical areas: Use high rate in Sept-Nov for initial spray and follow with low rate in February-April should insect numbers warrant a second application. After trash removal, apply 500-700 mL of spray mixture to lower 30 cm of the butt and surrounding soil within a 30 cm radius. Ensure thorough coverage of butt and suckers.
	Caterpillars	NSW, ACT only	200 mL/ 100 L water		Apply from first appearance of flower bells and repeat as required until fingers are exposed. Ground application only. DO NOT apply by air.
Carrots	Light Brown Apple Moth		500 or 700 mL/ha	—	Apply when moths are first detected. Repeat at high rate if reinfested.
Cassava	Cutworm	Qld only	700 mL		Apply to seedlings and soil at base of seedlings, when Cutworm activity is observed.
Cole Crops: Broccoli, Brussels Sprouts, Cabbage, Cauliflower	Cabbage Moth, Cabbage White Butterfly, Cabbage Aphid, Cluster Caterpillar, Cabbage Cluster Caterpillar	NSW, ACT, Vic, Tas, SA, WA only	1.5 or 2 L/ha	5 (H) 2 (G)	Spray at 10-14 days intervals using the high rate under heavy pest pressure. Use 1000 L/ha of water on larger plants. For improved coverage add a non-ionic wetting agent as recommended.
	Corn Earworm, Native Budworm	Qld only	150 mL/ 100 L water OR 1.5 L/ha		Apply when pests first appear. Use 1000 L/ha of water on larger plants.
	Corn Earworm	NSW, ACT, Vic, SA, WA only	1.5 or 2 L/ha OR 150 or 200 mL/ 100 L water	5 (H)	Apply when pests first appear at 10 to 14 day intervals. Use high rate under heavy pest pressure. Use 1000 L/ha of water on larger plants.
	Native Budworm	NSW, ACT, Vic, Tas, SA, WA Only	1.5 or 2 L/ha OR 150 or 200 mL/ 100 L water	5 (H)	Apply at 10 day intervals commencing when pests first appear. Use high rate and at 7 day intervals under heavy pest pressure. Large plants: Use 1000 L/ha.
	Wingless Grasshoppers	NSW, ACT, Vic, Tas, SA only	500 mL/ha OR 50 mL/ 100 L water		Spray areas of crop infested with grasshoppers. Also apply as a barrier across line of advance, when grasshoppers are invading the crop.
	Blue Oat Mite, Redlegged Earth Mite	NSW, ACT only	140 or 300 mL/ha		Use high rate for severe infestation. Headlands and vegetation surrounding the crop may also need to be sprayed.

CROP	PEST	STATE	RATE	WHP (days)	CRITICAL COMMENTS
Cabbage, Cauliflower	African Black Beetle	NSW, ACT only	2 L/ha (Boom spray) or 300 mL/100 L water (Drench)	5 (H)	Boom spray: Apply in 500-1000 L of water/ha at or soon after planting as a 10-15 cm band spray. Drench: Apply 100 mL of diluted spray to base of each plant. Treat as soon as the first signs of infestation are observed. Note: If attack prolonged follow up boom spray or drench treatment may be necessary.
Cucurbits	White Flies	NSW, ACT only	50 mL/100 L water	5 (H)	Apply when pest is first detected. If required repeat applications every 10 to 14 days.
Ginger	Cutworm	Qld only	700-900 mL/ha	—	Apply when pest population is evident from damage to the primary shoot at or below ground, or to the first leaf during growth.
Kiwifruit	Common Armyworm, Southern Armyworm, Light Brown Apple Moth	Qld, NSW, ACT, Vic, Tas, SA, WA only	1 L/ha OR 50 mL/100 L water	14 (H)	Apply at green tip at least 10 days after dormant lime sulphur application and pre-blossom. DO NOT apply post-blossom.
Pineapples	White Grubs	Qld, WA only	5 L/ha	—	Use as a pre-plant application. Spray freshly cultivated soil surface and rotary hoe ground to a depth of 10-20 cm to incorporate the chemical.
	Ants, Pineapple Mealy Bug		50 mL/100 L water		Use in a minimum of 3000 L/ha of water. Apply when first seen and repeat in 90 day intervals or when required.
Potatoes	African Black Beetle	NSW, ACT, WA only	3 or 6 L/ha		Apply the spray to the soil immediately prior to planting, ensuring thorough immediate incorporation to a depth of 15 cm. Use high rate under heavy pest pressure.
			900 mL/ha		Apply as a second spray as bands on either side of plants at final hilling-up. Ensure good incorporation of the spray immediately into the soil in the hill.
	White Fringed Weevil	NSW, ACT, Vic, WA only	6 L/ha		Apply pre-plant and incorporate into the soil immediately after application.
			1 L/ha		Apply at hilling-up or 7 weeks after planting as a follow up to pre-plant incorporation.
Wireworm	Vic, WA only	6 L/ha		Apply as a band spray to the soil surface incorporating immediately. Use before planting in areas where Wireworms are a known problem.	
Silverbeet	Blue Oat Mite, Redlegged Earth Mite	NSW, ACT only	140 or 300 mL/ha		Use high rate for severe infestations. Headlands and vegetation surrounding the crop may also need to be treated.
Strawberries	Field Crickets, Mole Crickets	Qld only	100 mL/10 kg bran bait/ha		Apply in recently ratooned strawberry patches or newly planted runners when damage or pest populations indicate. Broadcast, preferably in the late afternoon, to base of plants and inter-row space. See General Instructions on preparation of bran baits.
Tomatoes	Green Peach Aphid	Qld, Vic, Tas, SA, WA only	1 L/ha OR 100 mL/100 L water	3 (H)	Apply as aphid build-up is first noticed. Use 1000 L/ha of water on larger plants.

CROP	PEST	STATE	RATE	WHP (days)	CRITICAL COMMENTS
Tomatoes – <i>continued</i>	Green Vegetable Bug	Tas, SA, WA Only	1.5 or 2 L/ha OR 150 or 200 mL/ 100 L water	3 (H)	Apply at first sign of bug activity. Use the high rate under heavy insect pressure.
	Native Budworm	Tas only	200 mL/ 100 L water		Apply from flowering on a 7-10 day schedule. Use the high rate under heavy insect pressure.
	Tomato Grub	Qld, NSW, ACT, Vic, Tas, WA only			Apply from flowering on a 7-10 day schedule. Use the high rate under heavy insect pressure.
	Wingless Grasshopper	NSW, ACT, Vic, Tas, SA only			500 mL/ha OR 50 mL/ 100 L water
	False Wireworm, Wireworm	Qld, WA only	5 L/ha		Larvae: Apply to the planting region at or prior to planting when wireworm numbers become significant. Adults: Apply as populations and damage indicate once seedlings are established.
	African Black Beetle	NSW, ACT, WA only	2 L/ha (Boom spray) or 300 mL/ 100 L water (Drench)		Boom spray: Apply in 500-1000 L of water/ha at or soon after planting as a 10-15 cm band spray. Drench: Apply 100 mL of diluted spray to base of each plant. Treat as soon as first sign of infestation is noticed. Note: If attack is prolonged follow up boom spray or drench treatment may be necessary.
Vegetables*	Cutworm in young plants	All States	700 mL/ha OR 70 mL/ 100 L water	Cucurbits Cole Crops 5 (H) Tomatoes 3 (H)	Apply immediately infestation is observed. Increase concentration to compensate if application is below 1000 L/ha. Spray should cover soil out to at least 20 cm on both sides of row crop.
	Field Crickets, Mole Crickets	Qld, WA only	100 mL/ 10 kg bran bait/ha	Asparagus, Celery 14 (H)	Apply as pest populations indicate. See General Instructions on preparation of bran baits.
	Vegetable Weevil	NSW, ACT, WA only	800 mL/ha		Apply immediately infestation is observed. Apply as a band over the young plants and adjacent soil along the row. One treatment should be sufficient if plants are sprayed at the seedling stage or soon afterwards.
	Wingless Grasshopper	NSW, ACT, Vic, Tas, WA only	500 mL/ha in 100-150 L water OR 50 mL/ 100 L water		Spray areas of crop infested with hoppers. Also apply as a barrier across the line of advance as crop is invaded.
* Includes: Asparagus, Beans, Beetroot, Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Capsicums, Carrots, Celery, Eggplants, Onions, Peas, Potatoes, Radishes, Rhubarb, Shallots, Sweet potatoes, Tomatoes and Turnips.					

3. FIELD CROPS AND PASTURES

CROP	PEST	STATE	RATE	WHP (days)	CRITICAL COMMENTS
Canola (Rapeseed)	Wireworm, False Wireworm	Qld only	1 or 1.5 L/ha	–	Apply as a broadcast application. Use high rate with extreme population numbers. See General Instructions on soil application.

CROP	PEST	STATE	RATE	WHP (days)	CRITICAL COMMENTS	
Cereals, Pastures, Forage Crops	Southern Armyworm, Common Armyworm	All States	700 or 900 mL/ha	10 (H) 2 (G)	Spray over total crop area when infestation is widespread. When pests are moving as an "army", treat a broad strip over and in advance of the infestation. Late stage instar: Use high rate when larvae 3 cm in length. Apply follow-up as required.	
Cereals	Pasture Webworm	NSW, ACT, Vic, Tas, SA only	700 mL/ha		Spray at first sign of damage. If applied by ground, use a ground-rig boom or mister or apply by air.	
	Pasture Webworm	WA only	300 mL/ha		Pre-plant: Apply with the label rate of an approved tillage herbicide to foliage prior to any cultivation. Post-emergence: Apply at first sign of damage. Apply with ground-rig boom or mister or by air.	
Cereals, Pasture, Young Plants of Oil Seeds	Cutworm	Qld, NSW, ACT, Tas, WA only	900 mL in a minimum of 100 L water		Apply immediately infestation is observed. Apply follow-up treatments as required.	
		Vic only	700 mL in a minimum of 100 L water			
Cereals, Pasture, Oil Seeds	Cutworm (<i>Agrotis munda</i> and <i>A. infusa</i>)	SA only	700 mL in a minimum of 100 L water		Apply immediately infestation is observed. Apply follow-up treatments as required.	
Cereals, Pasture, Forage Crops	Spur-throated Locust	Qld, NSW, ACT, Vic, WA only	1.25 or 1.5 L/ha		Spray areas of crop or pasture infested with locusts. Apply spray to trees or roosting sites to control swarming adult locusts. Late stage hoppers and adults: Use high rate.	
	Australian Plague Locust	Vic only	560 mL/ha			Adults: Spray areas of crop or pasture infested with locusts.
			350 mL/ha			Hoppers: Spray a swath in advance of marching band and then spray along the dense marching front. Continue spraying until all hoppers have been contacted.
		SA only	560 mL/ha			Adults: Spray areas of crop or pasture infested with locusts.
			350 mL/ha			Hoppers: Spray a swath in advance of marching band and then spray along the dense marching front. Continue spraying until all hoppers have been contacted.
	Migratory Locust	Qld only				Spray areas of crop, trees and roosting sites infested with locusts.
	Blue Oat Mite	All States	140 mL/ha			Spray when pests appear in large numbers, 3-6 weeks after autumn rains. Re-spray as necessary. Avoid spraying when pests are sheltering. Spray when at least 2.5 cm cover of pasture or crop is present. DO NOT spray if rain is imminent.
Redlegged Earth Mite	NSW, ACT, Vic, Tas, SA, WA only	70 mL/ha				
Lucerne Flea						
Cereals, Pasture, Oil Seeds	Wingless Grasshopper	NSW, ACT, Vic, Tas, SA only	500 mL/ha		Spray area of crop or pasture infested with grasshoppers. Apply also as a barrier across the line of advance, when grasshoppers are invading the crop.	

CROP	PEST	STATE	RATE	WHP (days)	CRITICAL COMMENTS
Field Peas, Broad Beans, Chickpeas, Lupins, Lucerne, Lucerne Pastures and Clover Seed Crops, Canola (Rapeseed), Linseed, Safflower, Wheat, Oats, Barley, Rye, Triticale, Improved Annual Pastures, Establishing Perennial Pastures	Blue Oat Mite, Redlegged Earth Mite	NSW, ACT, WA only	140 to 300 mL/ha	10 (H) 2 (G)	Apply as ground spray immediately prior to seedling emergence using sufficient water to give good coverage. For severe infestations also spray headlands and surrounding vegetation prior to emergence.
Cotton	Common Armyworm, Southern Armyworm	Qld, NSW, ACT only	700 or 900 mL/ha	4 weeks (H) 4 weeks (G)	When infestation is widespread spray the total crop area. When pests are moving as an army spray a broad strip over and in advance of the infestation. Use high rate when larvae are more than 3 cm long and retreat as required.
	Cotton Aphid		300 or 400 mL/ha		Spray when infestation is first noticed and repeat as required. Use high rate for higher populations.
	Cutworm in young plants		900 mL in 100 L water/ha min.		Apply immediately infestation is observed. Repeat sprays as necessary.
	Pink Spotted Bollworm Moth	Qld only	1 L/ha	Apply when 10-15 moths are trapped on two consecutive nights. This prevents infestation of bolls by larvae.	
	Cotton Flea Beetle, Red Shouldered Leaf Beetle	Qld, NSW, ACT only	900 mL or 1.5 L/ha	Apply when pests are present. Use high rate under heavy pest pressure.	
	Springtails		300 mL/ha	Spray when large numbers of pests occur and damage is evident. Re-spray as necessary.	
	False Wireworm, Wireworm		In-furrow: 5 to 15 mL/ 100 m row OR 500 mL to 1.5 L/ha for row spacing of 1 metre	Use higher rate with extreme population numbers. See General Instructions on soil application.	
	Wingless Grasshopper		500 mL/ha	Spray areas of crop infested with hoppers. Also apply as a barrier across the line of advance as crop is invaded.	
	Spur-throated Locust		1.25 or 1.50 L/ha	Spray crop areas infested by locusts as well as trees and roosting sites. For late stage hoppers and adults, use the high rate.	
	Migratory Locust		350 mL/ha		

CROP	PEST	STATE	RATE	WHP (days)	CRITICAL COMMENTS
Hops	Common Armyworm, Light Brown Apple Moth, Southern Armyworm	Vic, Tas only	160 mL/100 L Water	—	Spray on first appearance of pests and repeat as numbers indicate.
Lucerne (young plants)	Cutworm	Qld, NSW, ACT, Tas, WA Only	900 mL in a minimum of 100 L water	2 (G)	Apply immediately infestation is observed. Apply follow-up treatments as required.
	Cutworm (<i>Agrotis munda</i> and <i>A. infusa</i>)	Vic only SA only	700 mL in a minimum of 100 L water		
Lucerne	Lucerne Leafroller	Qld, NSW, ACT only	300 or 400 mL/ha		Apply when pests first appear. Use the high rate under heavy insect pressure or if larvae exceed 1.5 cm in length.
	Webspinner Caterpillar		700 mL/ha		Spray as pests appear.
Lucerne and Medics in Pasture and Forage Crops	Bluegreen Aphid	NSW, ACT only	200 or 300 mL/ha		Spray when pests first appear. Use the high rate when large numbers present. Seedling lucerne, medics: Spray when 1-2 aphids are observed per plant. Established lucerne, medics: Spray when 20-40 aphids are observed per stem. Apply in minimum 100 L water per ha.
	Spotted Alfalfa Aphid	Qld, Vic, Tas, SA, WA only			
	Pea Aphid	Qld, NSW, ACT, Vic, Tas, SA only			
	Sitona Weevil	NSW, ACT, Vic, Tas, SA, WA only	350 mL/ha		
Maize	African Black Beetle	NSW, ACT Only	20 mL/100 m of row or 2 L/ha for row spacing of 1 metre		Apply at sowing as a 15-20 cm band spray. For best results spray nozzles should be in front of press wheels on planter. Press wheels assist in establishment.
Maize, Soybeans, Sunflowers	Cockroaches, False Wireworms, Field Crickets	Qld only	In-furrow: 100 mL + 125 mL sunflower oil/ 2.5 kg cracked wheat or cracked sorghum bait/ha		Apply at planting of crop. See General Instructions on preparation of cracked wheat or sorghum bait.
Maize, Sunflowers	False Wireworm, Wireworm	Qld, NSW, ACT only	5 to 15 mL/100 m row or 500 mL to 1.5 L/ha for row spacing of 1 metre		Using a minimum spray volume of 30-70 L/ha, apply as a band spray at planting into the open furrow. By using a nozzle directly behind the planting tyne, spray the entire furrow width (at least 10 cm).
Pasture	Lawn Armyworm	Qld, NSW, ACT only	700 mL/ha	2 (G)	Spray over total crop area when infestation is widespread. When pests are moving as an "army" treat a broad strip over and in advance of the infestation. Apply follow-up treatments as required.

CROP	PEST	STATE	RATE	WHP (days)	CRITICAL COMMENTS
Pasture – <i>continued</i>	Sod Webworm	Qld only	700 mL/ha	2 (G)	Spray as early as possible once pests appear. Apply with ground-rig boom or mister. Re-spray as necessary.
	Blackheaded Pasture Cockchafer	NSW, ACT, Vic, Tas, SA, WA only	900 mL/ha		Treat when larvae are actively foraging as indicated by numerous piles of fresh soil, or casts on the surface. This usually occurs after showers of rain following short dry spells. Apply by ground-rig boom.
Pasture, Forage Crops	Underground Grass Grub	NSW, ACT, Vic, SA, WA Only			Apply when caterpillars are actively feeding. Spray before noticeable damage has occurred. Graze pasture prior to spraying to ensure penetration of spray into the pasture sward.
	Brown Pasture Looper	NSW, ACT, Vic, Tas, SA, WA only	700 mL/ha	Spray at first sign of pasture infestation.	
	Pasture Webworm			Spray at first sign of damage. Apply with ground-rig boom or mister or by air.	
Rice	Bloodworm	NSW, ACT Only	60 or 150 mL/ha	10 (H)	Use high rate when water more than 15 cm or amount of decaying plant material is high.
	Brown Planthopper	Qld only	1.5 L/ha		Apply when pest numbers reach 1-2 per tiller and repeat as necessary.
Sorghum DO NOT use on Sugar Drip or Alpha. Check new varieties before application	Cockroaches, False Wireworm, Field Crickets	Qld only	100 mL PLUS 125 mL sunflower oil per 2.5 kg cracked wheat or cracked sorghum bait/ ha	2 (G)	See General Instructions on preparation of cracked wheat or cracked sorghum bait.
	Common Armyworm, Southern Armyworm	Qld, NSW, ACT only	700-900 mL/ha	2 (H) 2 (G)	Spray over total crop area when infestation is widespread. When pests are moving as an “army” treat a broad strip over and in advance of the infestation. Late stage instar: Use higher rate when larvae 3 cm in length. Apply follow-up treatments as required.
	Australian Plague Locust		350 mL/ha	Adults: Spray areas infested. Hoppers: After spraying a swath in front of the band, spray along the dense marching front until all hoppers have been contacted.	
	Corn Aphid		500 mL/ha	Spray when pests reach damaging numbers.	
	Cutworm		900 mL/ha	Apply in a minimum of 100 L/ha of water immediately infestation is observed. Repeat treatment as necessary.	
	Sorghum Midge	Qld, NSW, ACT only	500 mL/ha	2 (H) 2 (G)	Check crop regularly, early morning preferable. From first head emergence to pollen shedding spray when 1-2 midge present per head. Under constant attack respray intervals may be 5 days or less.
	Spur-throated Locust		1.25 or 1.5 L/ha		Spray crop areas infested by locusts as well as trees and roosting sites. For late stage hoppers and adults, use the high rate.
	Migratory Locust		Qld only		

CROP	PEST	STATE	RATE	WHP (days)	CRITICAL COMMENTS
Sorghum DO NOT use on Sugar Drip or Alpha. Check new varieties before application – <i>continued</i>	False Wireworm, Wireworm	Qld, NSW, ACT only	In-furrow: 5-15 mL/ 100 m row or 500 mL to 1.5 L/ha for row spacing of 1 metre	2 (H) 2 (G)	Use high rate with extreme population numbers. See General Instructions on soil application.
Sugarcane	Common Armyworm, Southern Armyworm	Qld only	700 or 900 mL/ha	7 (H) 2 (G)	When infestation is widespread spray the total crop area. When pests are moving as an army spray a broad strip over and in advance of the infestation. Use high rate when larvae are more than 3 cm long and retreat as required.
	Spur-throated Locust		1.25 or 1.5 L/ha		Spray areas of crop infested with locusts. Apply spray to trees or roosting sites to control swarming adult locusts. Late stage hoppers and adults: Use high rate.
	Australian Plague Locust, Migratory Locust		350 mL/ha		Adults: Spray areas infested with locusts. Hoppers: Spray infested crop areas and as a band across the line of advance and onto marching hoppers. Spray until all hoppers have been contacted. Spray areas of crop, trees and roosting sites infested with locusts.
	Symphylids		2 L/ha		Apply as a low pressure (less than 35 kPa) or gravity feed spray onto the plant sett and adjacent to soil, at the point of exit from the rear of the planting machine, immediately prior to soil cover being brought in over the sett.
	Sugarcane Wireworm	Qld, NSW, ACT only	1.5 L/ha	Apply at planting or ratooning. Apply as a low pressure (less than 35 kPa) or gravity feed spray onto the plant sett and adjacent soil through a nozzle placed above the planter boards. Repeat treatment within 12 weeks of planting if Black Beetles re-occur.	
	African Black Beetle, Black Beetle	NSW, ACT only	1.5 L/ha		
Tobacco	Wireworm, False Wireworm, Cutworm	Vic only	3.0 L/ha	-	Apply as a pre-plant spray to cultivated soil surface. Incorporate immediately by rotary hoeing to a depth of 10 cm.

4. COMMERCIAL ORNAMENTAL PRODUCTION AND TURF FARMS – DO NOT GRAZE TREATED TURF OR FEED GRASS CLIPPINGS TO ANIMALS

RESTRAINTS: DO NOT apply to potted ornamentals or turf in domestic, residential or public space areas.

CROP	PEST	STATE	RATE	CRITICAL COMMENTS
Potted Ornamentals – Commercial cultivation only	Scarab Beetles - Larvae	Qld only	20 to 40 mL/ 100 L water	Apply mixture as a pot drench and water through. Drenching may cause root damage and should be tested on a few plants before widespread treatment.
Commercial Turf to which the public do not have access	Funnel Ant	Qld, NSW, ACT only	5 mL/5 L spot spray	For spot spraying apply 30 mL spray to each mound. In areas of high density a repeat application may be necessary to ensure thorough mound coverage. DO NOT GRAZE TREATED TURF OR FEED TREATED GRASS CLIPPINGS TO ANIMALS.

CROP	PEST	STATE	RATE	CRITICAL COMMENTS
Commercial Turf to which the public do not have access – <i>continued</i>	Blackheaded Pasture Cockchafer	NSW, ACT, Vic, Tas, SA, WA only	900 mL/ha OR 9 mL/100 m ²	Use sufficient water to give even coverage. Apply as late in the day as possible.
	Brown Pasture Looper		700 mL/ha OR	Apply when pests first appear.
	Pasture Webworm		7 mL/100 m ²	Spray at first sign of damage. Apply with ground-rig boom or mister. Apply as late in the day as possible.
	Lawn Armyworm	Qld, NSW, ACT, Vic, SA, WA only		Spray over total turf area when infestation is present. When pests are moving treat strip over and in advance of infestation. Apply follow up treatments as required.
	Sod Webworm	All States		Apply as soon as pests appear. Repeat as required.
	Underground Grass Grub	NSW, ACT, Vic, SA, WA only	900 mL/ha OR 9 mL/100 m ²	Apply when caterpillars are actively feeding. Spray before noticeable damage has occurred. Apply as late in the day as possible.
Duboisia – Commercial cultivation only	Cutworms	Qld only	900 mL/ 100 L water	Apply at planting out. DO NOT apply to ornamental Duboisia.

5. GENERAL PEST CONTROL – Commercial and Industrial areas only

RESTRAINTS: DO NOT spray polycarbonate surfaces/roof sheeting or aged vinyl wall cladding as solvent may cause etching.
DO NOT apply in domestic, residential or public space areas.

SITUATION	PEST	RATE	CRITICAL COMMENTS
Commercial and Industrial areas to which the public do not have access	Cockroaches (residual control and/or heavy infestations)	95 mL/10 L of water	Apply as a coarse, low pressure spray to the point of run-off, to cracks, crevices, harbourages, eaves, downpipes and other places where the pests may occur. For optimum control of webbing spiders, use a 2-part treatment. After applying as a coarse, low pressure spray to harbourages where spiders may occur, apply a light spray over surfaces of the building.
	Spiders		
	Silverfish	50 mL/10 L of water	
	Cockroaches (light infestations)		
	Ants including Argentine Ants	95 mL/10 L of water	
Fleas (outdoor use only)	90 mL/10 L of water	Apply as a fine droplet spray. Outdoors only: Treat areas where animals frequent. Remove animals during treatment and until spray deposit is dry. DO NOT treat pets with this product. Pets should be treated with a product registered for application to animals.	
Light vegetation	Mosquito Larvae	30 mL/ha	MUST NOT be used in residential areas, around homes, in public spaces or in publicly accessible commercial or industrial areas. Dilute with water and apply as a spray to areas infested with mosquitoes.
Medium vegetation		60 mL/ha	
Heavy vegetation		105 mL/ha	
Light to medium vegetation	Mosquito Adults	60 mL/ha	
Medium to heavy vegetation		105 mL/ha	
Polluted water impoundments	Mosquitoes (larvae and adults)	2 mL/10,000 L of water OR 20 mL/100 m ³ of water	

6. GENERAL PEST CONTROL – Hides/Skins

SITUATION	PEST	RATE	CRITICAL COMMENTS
Hides/Skins	Hide Beetles	200 mL/100 L of water	Use at least 30 mL of spray/skin. Apply spray to flesh side of skins or hides sufficient to moisten them. Ensure coverage of ears and lugs. To minimise the chance of later infestations, storage area should be sprayed regularly. Repeat application every 3 months. Access through bales should be maintained for application of product.

**GENERAL INSTRUCTIONS FOR USE AS A TERMITICIDE:
MANAGEMENT OF SUBTERRANEAN TERMITES (All States, except Tasmania)**

APPLICATION INSTRUCTIONS

APPLICATION EQUIPMENT

Hand Spraying

For hand spraying use a rose head shrouded nozzle, operating at 170 kPa, with a flow meter and pressure regulator fitted to the hand-piece.

Treatment Beneath Concrete Slabs or Sealed Areas

Where it is not possible or practical to remove the slab to allow direct application to the soil, use a sub-slab injector fitted with multi-directional tip (e.g. a B&G or similar system) with a 5 degree upward angle (e.g. 3 way or 4 way) operated at 170 kPa. Ensure a strong seal with the top of the drill hole to avoid leakage. For the best distribution, the injector needs to be held vertically, at right angles to the slab, and rotated during the application through 90 degrees (if using a 4 way dispersion tip), or through 120 degrees (for a 3 way dispersion tip).

Injection into Soil

Where it is not possible or practicable to trench the soil; use a soil rod with a 3 or 4 way multi-directional tip (B&G, or similar) operated at 170 kPa. The 4 way tip needs to be rotated during the application through 90 degrees and the 3 way tip through 120 degrees.

APPLICATION VOLUME

To compensate for impervious soils such as heavy clay where application of 5 L/m² would cause run-off, it may be necessary to apply a volume of emulsion less than 5 L/m². When reducing the total volume of emulsion used, increase the concentration accordingly to match the label rate by mixing the required amount of STRIKE-OUT® 500 EC per m² in a lesser volume of water.

DO NOT use emulsion volumes less than 2 L for every square metre to be treated.

Note: Use of emulsion volumes other than the recommended 5 L/m² is only permitted when installing barriers in exposed soil. It is not permitted when injecting through the slab or into sealed areas.

Existing Structures

a) Strategic Drilling Through Slab or Sealed Areas

For treatment of slabs when termites are entering the building through the slab, where reticulation systems do not exist, slab drilling and injection will be required. In most cases, unless there is a known severe termite hazard, grid drilling of the slab is not required. Any such need is to be determined by a licensed Pest Manager. Treatment needs to be made around the inside of all exterior walls to complete a termite barrier, along both sides of interior wall partitions, around plumbing/electrical or piping entry points and along major cracks or expansion joints. When treating along major cracks or expansion joints it is recommended that holes are drilled alternately on either side of the crack at the recommended drill hole spacings. For a sand base or sandy soil, apply through a row of holes drilled no more than 300 mm apart and 100-200 mm out from the wall, crack or pipe. For a clay base, apply through a row of holes drilled 150 mm apart and 100 mm from the wall, crack or pipe. Apply 10 L of emulsion per linear metre and ensure the holes are securely plugged after treatment.

b) External Barriers

An external barrier should be installed around the perimeter of the building and should circumference all pipes and service facilities. External barriers should be created by using either a vertical or horizontal barrier, as determined by the building construction type and adjoining ground level. **An external barrier is an essential part of the treatment when relying on a chemical soil barrier to provide the full termite management system as per AS 3660.**

An external horizontal barrier is only required when prevention of concealed vertical access by termites is necessary at the perimeter (e.g. when ground level is equal to the top of a slab, where the slab is also a barrier to concealed termite movement into the building). A vertical barrier is required when prevention of concealed horizontal access is necessary (e.g. where ground level is higher than building material vulnerable to concealed horizontal entry by termites).

i) Horizontal Barrier: Not for home, garden, residential or publicly accessible areas. Use a rose head shower nozzle operated at 170 kPa to apply the required rate of 1.5L of the correctly diluted STRIKE-OUT® 500 EC per linear metre (150 mm wide) to soil loosened to a depth of approximately 80 mm (see **APPLICATION VOLUME** Section).

ii) Vertical Barrier: The vertical barrier should be at least 150mm wide and should reach down to 50mm below the top of the footings. To achieve this, trench to the top of the footings, and where this is not possible, a combination of trenching (preferably at least 300 mm deep) and rodding into the base of the trench may be necessary.

Apply STRIKE-OUT® 500 EC emulsion at 100 L per cubic metre of backfill soil, this equates to 1.5 L of emulsion/linear metre of a trench 150 mm wide and 100 mm deep.

Where the required vertical barrier is deeper than 100 mm, ensure the same rate of application for the extra volume of soil.

Use a rose head shower nozzle operated at 170 kPa to flood the base of the open trench and also to treat the backfill soil as it is replaced into the trench to ensure even distribution.

Where rodding is necessary, rod before the trench is treated using the spacings in the following table.

Rod Spacings

Heavy	Clay Loams	Loams Sands
150 mm	200 mm	300 mm

Insert the rod to the foundation foot as close as possible to the house wall ensuring the chemical is applied during insertion and withdrawal. (See **APPLICATION EQUIPMENT** section, Injection into Soil).

c) Suspended Floors

Install horizontal and vertical barriers as specified in Australian Standard Series AS 3660 to adjoin all substructure walls, stumps, piers, pipes and wastes using the techniques described for external barriers around concrete slabs (See Existing Structures Section).

GENERAL INSTRUCTIONS – Termite Management

Termite Management

To minimise the risk of termite infestation, the subfloor area of buildings should be kept free of stored or waste timber and all other building materials that attract termites.

Appropriate action should also be taken to eliminate any undue dampness caused by leaking water or sewerage pipes, or inadequate drainage.

Subterranean termites need a constant source of moisture to survive. Provision of adequate ventilation in the subfloor area also helps to eliminate undue dampness.

Pest managers using this product for termite management should advise the home owner that disturbing the treated soil barrier with subsequent construction of additions or alterations, paths, steps, landscaping etc., may render the termite management system in place ineffective unless further management options are considered.

Colonies not in contact with the ground

Occasionally subterranean termites establish a colony in a building without having contact with the soil because they have access to a continuous supply of moisture (e.g. from a faulty plumbing fixture or leaking roof).

Such colonies are not affected by chemical soil barriers and should be treated as recommended for established colonies, as per Australian Standard Series AS 3660. STRIKE-OUT® 500 EC may be applied directly to the termite colony in such situations.

Service Requirement

Regular, competent inspections by a licensed Pest Manager are recommended as part of an overall termite management program to determine the prevailing termite pressure and environmental conditions and consequent requirement for further termite management options.

Inspections should be performed at least on an annual basis, but more frequent inspections are strongly recommended. At the 1% application rate, STRIKE-OUT® 500 EC can provide an effective chemical soil barrier in subfloor regions for 4 years or more north of the Tropic of Capricorn, and 10 years or more south of the Tropic of Capricorn.

At the 1% application rate, STRIKE-OUT® 500 EC can provide an effective chemical soil barrier in exposed situations for 2 years or more north of the Tropic of Capricorn, and up to 5 years or more south of the Tropic of Capricorn.

At the 2% application rate north of the Tropic of Capricorn, STRIKE-OUT 500® EC can provide an effective chemical soil barrier in subfloor regions for 6 years or more and in exposed situations for up to 3 years or more.

The actual period of efficacy will depend on factors such as termite hazard, climatic conditions, soil types and soil disturbance and gardening/landscaping practices.

GENERAL INSTRUCTIONS – For use as a Termiticide

Mixing

Half fill the spray tank with water (or creosote where applicable) and add the required amount of STRIKE-OUT® 500 EC, then add the remaining water (or creosote) with an agitator running. If using a knapsack sprayer gently shake before using. Only mix sufficient chemical for each specific application.

Cleaning Spray Equipment

After using STRIKE-OUT® 500 EC, empty the spray equipment completely and drain the whole system. Thoroughly wash inside the tank using a pressure hose and drain. To wash the system, quarter fill the tank with clean water and circulate through the pump, lines, hoses and nozzles (for knapsack sprayers spray to waste through the nozzle). Drain and repeat the washing procedure twice. Dispose of rinsate/rinse water in accordance with Storage and Disposal Instructions below.

GENERAL INSTRUCTIONS – FOR USE AS AN INSECTICIDE

Thorough coverage is essential. For application by aircraft apply in 10-50 L of water/ha.

MIXING

Spray: Add the required amount of product slowly to water in the spray tank whilst stirring or agitating. Agitate mixture during spraying.

APPLICATION

Ground: Apply per hectare rates in sufficient water to give thorough coverage. See Directions for Use for details.

Aircraft: Apply in 10-50 litres of water per hectare.

Tree and Vine Crops

Dilute Spraying

Use a sprayer designed to apply high volumes of water up to the point of run-off and matched to the crop being sprayed. Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover the crop to the point of run-off. Avoid excessive run-off. The required water volume may be determined by applying different test volumes, using different settings on the sprayer, from industry guidelines or expert advice. Add the amount

of product specified in the Directions for Use table for each 100 L of water. Spray to the point of run-off. The required dilute spray volume will change, and the sprayer set up and operation may also need to be changed, as the crop grows.

Concentrate Spraying

Use a sprayer designed and set up for the concentrate spraying (that is a sprayer which applies water volumes less than those required to reach the point of run-off) and matched to the crop being sprayed. Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen water volume. Determine an appropriate dilute spray volume (See Dilute Spraying above) for the crop canopy. This is needed to calculate the concentrate mixing rate. The mixing rate for concentrate can then be calculated in the following way:

EXAMPLE ONLY

1. Dilute spray volume as determined above: For example 1500 L/ha.
2. Your chosen concentrate spray volume: For example 500 L/ha.
3. The concentration factor in this example is: 3x (i.e. $1500 \text{ L} \div 500 \text{ L} = 3$).
4. If the dilute label rate is 10 mL/100 L, then the concentrate rate becomes 3 x 10, that is 30 mL/100 L of concentrate spraying.

The chosen spray volume, amount of product per 100 L of water, and the sprayer set up and operation may need to be changed as the crop grows.

For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry Best Practices.

SOIL APPLICATION

In-furrow: Apply as a band spray to the open furrow at planting. Spray the entire furrow width using a nozzle located directly behind the seed tube. Ensure all spray is directed into the furrow contacting bottom, sides and all soil drawn into the furrow at closure.

Use a minimum of 20 L of water/ha. Use the higher rate under extreme population numbers.

BAIT APPLICATION

Bran bait: Mix 10 mL/kg of bran using sufficient water to give a moist crumb structure. Allow to stand for 2-3 hours before application. Gloves should be worn when preparing and applying the bait.

Cracked wheat or cracked sorghum bait: Mix the required volume of this product and sunflower oil together. Then, add to the wheat or sorghum, mixing thoroughly. Gloves should be worn when preparing the bait.