

**POISON****KEEP OUT OF REACH OF CHILDREN****READ SAFETY DIRECTIONS BEFORE OPENING OR USING****Genfarm  
Chlorpyrifos 500  
Insecticide****ACTIVE CONSTITUENT: 500 g/L CHLORPYRIFOS  
(an anticholinesterase compound)****SOLVENT: 474 g/L LIQUID HYDROCARBON (A)  
488 g/L LIQUID HYDROCARBON (B)****GROUP****1B****INSECTICIDE**

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.

**IMPORTANT: READ THE ATTACHED BOOKLET BEFORE USE****CONTENTS: 5/20/110/200 LITRES**

Landmark Operations Limited  
Suite 2, Level 3, 64 Talavera Road,  
North Ryde, NSW, 2113  
Tel: (02) 9889 5400  
Product Support Tel: 1800 44 88 92

**STORAGE AND DISPOSAL**

Store in the closed original container, in a cool well ventilated area. DO NOT store for prolonged periods in direct sunlight.

This container can be recycled if it is clean, dry, free of visible residues and has the *drumMUSTER* logo visible. Triple rinse container for disposal. Dispose of rinsate by adding it to the spray tank. DO NOT dispose of undiluted chemical on site. Wash outside of the container and the cap. Store cleaned container in a sheltered place with cap removed. It will then be acceptable for recycling at any *drumMUSTER* collection point or similar container management program site. The cap should not be replaced but may be taken separately.

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 500mm 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 and product.

**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****For use as an Insecticide**

Product is poisonous if absorbed by skin contact, inhaled or swallowed. Repeated minor exposure may have a cumulative poisoning effect. Obtain a supply of atropine tablets 0.6 mg. 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 or using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves and face shield or goggles.

If product is spilt on skin, immediately wash area with soap and 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, face shield or goggles and contaminated clothing.

**For use as a Termiticide**

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. Obtain an emergency supply of atropine tablets 0.6mg. 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 and a 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 the skin, immediately wash area with soap and water. If product is in the 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, respirator (and if rubber wash with detergent and warm water), and contaminated clothing.

**FIRST AID**

If swallowed, splashed on skin or in eyes, or inhaled, contact a Poisons Information Centre Phone: Australia 13 11 26 or doctor at once. Remove any contaminated clothing and wash skin thoroughly. If swallowed, DO NOT induce vomiting. Give a glass of water, 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.

**MATERIAL SAFETY DATA SHEET**

For further information refer to the Material Safety Data Sheet, which can be obtained from the supplier.

**CONDITIONS OF SALE**

The use of this product is beyond the control of Landmark Operations Limited. No warranty is expressed or implied regarding the suitability or efficiency for any purpose for which the buyer uses it. Landmark Operations Limited accepts no responsibility for any consequences resulting from the use of this product. Landmark Operations Limited will not be held liable for any loss, injury or damage arising from the sale, supply or use of this product, whether through negligence or otherwise. No responsibility will be accepted for any consequences whatsoever resulting from the use of this product.



**UN No. 3018**  
**ORGANOPHOSPHORUS**  
**PESTICIDE,**  
**LIQUID, TOXIC, N.O.S. PKG III**  
**HAZCHEM 2X**

**Landmark Operations Limited**

Suite 2, Level 3, 64 Talavera Road,  
Macquarie Park,  
NSW, 2113  
Tel: (02) 9889 5400

Batch Number:

Date of Manufacture:

APVMA Approval No: 60188/52767

**POISON**  
**KEEP OUT OF REACH OF CHILDREN**  
**READ SAFETY DIRECTIONS BEFORE OPENING OR USING**

**Genfarm**  
**Chlorpyrifos 500**  
**Insecticide**

**ACTIVE CONSTITUENT: 500 g/L CHLORPYRIFOS**  
(an anticholinesterase compound)  
**SOLVENT: 474 g/L LIQUID HYDROCARBON**  
**488 g/L LIQUID HYDROCARBON (B)**

<b>GROUP</b>	<b>IB</b>	<b>INSECTICIDE</b>
--------------	-----------	--------------------

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.

**IMPORTANT: READ THIS BOOKLET BEFORE USE**

**APVMA Approval No: 60188/52767**

Landmark Operations Limited  
Suite 2, Level 3, 64 Talavera Road,  
North Ryde,  
NSW, 2113  
Tel: (02) 9889 5400  
Product Support Tel: 1800 44 88 92

**DIRECTIONS FOR USE AS A TERMITICIDE:****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.

**RATES OF APPLICATION**

**IMPORTANT:** Genfarm Chlorpyrifos 500 Insecticide 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.	<b>Horizontal Barriers:</b> 100mL/m <sup>2</sup>  <b>Vertical Barriers:</b> 2L/m <sup>3</sup>	<b>Horizontal Barriers:</b> Use 100mL of Genfarm Chlorpyrifos 500 Insecticide per 5L of water and apply the mixture (emulsion) at a rate of 5L/m <sup>2</sup> . <b>Vertical Barriers:</b> Use 2L of Genfarm Chlorpyrifos 500 Insecticide per 100L of water and apply the mixture at a rate of 100L/m <sup>3</sup> . See <b>APPLICATION VOLUME</b> section in <b>GENERAL INSTRUCTIONS</b> for further information. <b>200 mL/10L is equivalent to a 1% active ingredient emulsion.</b> See <b>Service requirement</b> in <b>GENERAL INSTRUCTIONS</b> 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.	<b>Horizontal Barriers:</b> 200mL/m <sup>2</sup>  <b>Vertical Barriers:</b> 4L/m <sup>3</sup>	This is an optional high rate for use north of the Tropic of Capricorn, or where <i>M darwiniensis</i> is a concern. <b>Horizontal Barriers:</b> Use 200mL of Genfarm Chlorpyrifos 500 Insecticide per 5L of water and apply the mixture (emulsion) at a rate of 5L/m <sup>2</sup> . <b>Vertical Barriers:</b> Use 4L of Genfarm Chlorpyrifos 500 Insecticide per 100L of water and apply the mixture at a rate of 100L/m <sup>3</sup> . See <b>APPLICATION VOLUME</b> section in <b>GENERAL INSTRUCTIONS</b> for further information. <b>4L/100L is equivalent to a 2% active ingredient emulsion.</b> See <b>Service requirement</b> in <b>GENERAL INSTRUCTIONS</b> for expected barrier life.
Installing a chemical soil barrier around new and existing poles, eg. transmission and building poles, fence posts and palings.	200mL/10L 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 300mm and minimum width of 150mm. Use 100L of emulsion per m <sup>3</sup> 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. <b>Note:</b> A 50mm 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"> <li>Replenishment is recommended within 2 years north of the Tropic of Capricorn and 5 years in other areas.</li> <li>If the barrier is disturbed, or rain falls immediately after application, retreat to restore continuity and completeness of the barrier.</li> </ul> Refer to Australian Standard Series AS 3660
Treatment of termite nest or colony.	100mL/10L 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.

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

## 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 (eg. a B&G or similar system) with a 5 degree upward angle (eg. 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 5L/m<sup>2</sup> would cause run-off, it may be necessary to apply a volume of emulsion less than 5L/m<sup>2</sup>. When reducing the total volume of emulsion used, increase the concentration accordingly to match the label rate by mixing the required amount of Genfarm Chlorpyrifos 500 Insecticide per m<sup>2</sup> in a lesser volume of water. **DO NOT** use emulsion volumes less than 2L for every square metre to be treated.

**Note:** Use of emulsion volumes other than the recommended 5L/m<sup>2</sup> 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 300mm apart and 100-200mm out from the wall, crack or pipe. For a clay base, apply through a row of holes drilled 150mm apart and 100mm from the wall, crack or pipe. Apply 10L 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. (eg. 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 (eg. where ground level is higher than building material vulnerable to concealed horizontal entry by termites).

- i) **Horizontal Barrier:** Use a rose head shower nozzle operated at 170 kPa to apply the required rate of 1.5L of the correctly diluted Genfarm Chlorpyrifos 500 Insecticide per lineal metre (150mm wide) to soil loosened to a depth of approximately 80mm (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 300mm deep) and rodding into the base of the trench may be necessary.

Apply Genfarm Chlorpyrifos 500 Insecticide emulsion at 100L per cubic metre of backfill soil, this equates to 1.5L of emulsion/linear metre of a trench 150mm wide and 100mm deep. Where the required vertical barrier is deeper than 100mm, 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**

<b>Heavy Clay</b>	<b>Clay Loams</b>	<b>Sands</b>
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 (eg. 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. Genfarm Chlorpyrifos 500 Insecticide 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, Genfarm Chlorpyrifos 500 Insecticide 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, Genfarm Chlorpyrifos 500 Insecticide 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, Genfarm Chlorpyrifos 500 Insecticide 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 Genfarm Chlorpyrifos 500 Insecticide, 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 Genfarm Chlorpyrifos 500 Insecticide, 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.

**PRECAUTIONS**

DO NOT apply inside buildings except as a crack and crevice treatment. DO NOT apply to surface areas such as interior floors and walls.

**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.

**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.

**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.

**DIRECTIONS FOR USE – AS AN INSECTICIDE****FRUIT AND VEGETABLES**

CROPS	INSECT	STATE	RATE		WITH-HOLDING PERIODS	CRITICAL COMMENTS
			VOL/HA	VOL/100L WATER		
Bananas	Banana scab moth	QLD, WA ONLY	<b>Aerial:</b> 1 or 2 L in a minimum of 10 L water	200 mL. Apply a minimum of 500 L water/ha	Harvest - 14 days	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. <b>Note:</b> Burning of young fruit may occur under poor drying conditions.
	Banana weevil borer	QLD, NSW, WA ONLY	Not applicable	1 or 1.8 L		After removal of trash, apply 500-700 mL of spray depending on butt size, to the lower 30 cm of the butt and to the surrounding soil within a radius of 30 cm, ensuring thorough coverage of butt and suckers. <b>Sub-tropical areas:</b> Use high rate for annual control of borers. <b>Tropical areas:</b> Use high rate in September-November for initial spray and a follow-up with low rate in February-April should insect presence warrant a second application.
	Caterpillars	NSW, ACT, ONLY	Not applicable	200 mL		Apply from the first appearance of flower bell and repeat as populations indicate until fingers are exposed. Use as ground application only, do not apply by air.
Carrots	Light brown apple moth	All States	500 or 700 mL	Not applicable	Not applicable	Apply when moths are first detected. Repeat at the higher rate if there is a re-occurrence of infestation.
Cassava	Cutworm	QLD, WA ONLY	700 mL			Apply to seedlings and soil at base of seedlings, when cutworm activity is observed.
Cole crops including cabbage, cauliflower, brussels sprouts, broccoli	Cabbage moth, Cabbage white butterfly, Cabbage aphid, Cluster caterpillar, Cabbage cluster caterpillar	NSW, ACT, VIC, TAS, SA, WA ONLY	1.5 or 2 L	150 or 200 mL	Harvest - 5 days	Spray at 10 to 14 day intervals. Use high rate under heavy pest pressure. <b>Large plants:</b> Use 1000 L of spray/ha. To improve spray coverage add non-ionic wetting agents as recommended.
	Corn earworm, Native budworm	QLD, WA ONLY	1.5 L	150 mL		Apply when pests first appear. <b>Large plants:</b> Use 1000 L of spray/ha.
	Corn earworm	NSW, ACT, VIC, SA, WA ONLY	1.5 or 2 L	150 or 200 mL		Apply at 10 to 14 day intervals. Use high rate under heavy pest pressure. <b>Large plants:</b> Use 1000 L of spray/ha.
	Native budworm	NSW, ACT, VIC, TAS, SA, WA ONLY				Apply at 10 day intervals commencing when pests first appear. Apply at 7 day intervals under heavy pest pressure. <b>Large plants:</b> Use 1000 L/ha.
	Wingless grasshopper	NSW, ACT, VIC, TAS, SA ONLY	500 mL	50 mL		Spray areas of crop infested with grasshoppers. Also apply as a barrier across the line of advance, when grasshoppers are invading the crop
	Redlegged earth mite, Blue oat mite	NSW, WA, ACT ONLY	140 or 300 mL	Not applicable		Use higher rate for severe infestations. Headlands and vegetation surrounding the crop may also need to be sprayed.
Cabbage, Cauliflower	African black beetle	NSW, WA, ACT ONLY	2 L (Boom spray)	300 mL (Drench)	Harvest - 5 days	<b>Boom spray:</b> Apply in 500-1000 L of water/ha at or soon after planting as a 10-15 cm band spray. <b>Drench:</b> Apply 100 mL of diluted spray to base of each plant. Treat as soon as the first signs of infestation are observed. <b>Note:</b> If attack is prolonged, follow up boom spray or drench treatment may be necessary.
Cucurbits	White flies	NSW, WA, ACT ONLY	Not applicable	50 mL		Apply when pest is first detected. If required repeat applications every 10 to 14 days.
Ginger	Cutworm	QLD, WA ONLY	700 - 900 mL	Not applicable	Not applicable	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, Lightbrown apple moth	NSW, ACT, VIC, WA, SA, TAS, QLD ONLY	1 L	50 mL	Harvest - 14 days	Apply at green tip at least 10 days after dormant lime sulphur application and pre-blossom. Do not apply post-blossom.
Pine-apples	Pineapple mealybug, Ants	QLD, WA ONLY	Not applicable	50 or 100 mL	Not applicable	Apply when pests are first seen and repeat at 90 day intervals or as necessary. Use a minimum of 3000 L of spray/ha. Use higher rate under heavy pest pressure.
	White grubs		5 L	Not applicable		Apply as a pre-plant spray, to a freshly cultivated soil surface. Incorporate immediately by rotary hoeing to a depth of 10-20 cm.
Potatoes	African black beetle	NSW, ACT, WA ONLY	3 or 6 L			Apply the spray to the soil immediately prior to planting, ensuring thorough immediate incorporation to a depth of 15 cm. Use higher rate under heavy pest pressure.
			900 mL			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.
	Whitefringed weevil	NSW, ACT, VIC, WA ONLY	6 L			Apply pre-plant and incorporate into the soil immediately after application.
		WA, NSW, ACT ONLY	1 L			Apply at hilling-up or 7 weeks after planting as a follow-up to pre-plant incorporation.
Wireworm	VIC ONLY	6 L	Apply as a band spray to the soil surface incorporating immediately. Use before planting in areas where wireworms are a known problem.			
Silver Beet	Redlegged earth mite, Blue oat mite	NSW, ACT, TAS, WA ONLY	140 or 300 mL			Use higher rate for severe infestations. Headlands and vegetation surrounding the crop may also need to be treated.
Straw-berries	Field crickets, Mole crickets	QLD, WA 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. <b>See General Instructions</b> on preparation of bran baits.
Tomatoes	Wingless grasshopper	NSW, ACT, VIC, TAS, SA, WA ONLY	500 mL	50 mL	Harvest - 3 days	Spray areas of crop infested with grasshoppers. Also apply as a barrier across the line of advance, when grasshoppers are invading the crop.
	Wireworm, False wireworm	QLD ONLY	5 L/ha sprayed	Not applicable	Not applicable	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 tine. Use a minimum spray volume of 20 L/ha. <b>See General Instructions</b> on soil application.
	African black beetle	NSW, ACT ONLY	2 L (Boom Spray)	300 mL (Drench)		<b>Boom spray:</b> Apply in 500-1000 L of water/ha at or soon after planting as a 10-15 cm band spray. <b>Drench:</b> Apply 100 mL of diluted spray to base of each plant. Treat as soon as first sign of infestation is noticed. <b>Note:</b> If attack is prolonged, follow-up boom spray or drench treatment may be necessary.
	Tomato grubs	QLD, NSW, ACT, VIC, WA ONLY	1.5 or 2 L	150 or 200 mL	Harvest - 3 days	Spray on 7 to 10 day schedule commencing at flowering. Use high rate under heavy pest pressure.
	Native budworm	TAS, WA ONLY				
	Green vegetable bug	TAS, SA, WA ONLY				Spray at first sign of bug activity. Use higher rate under heavy pest pressure.
	Green peach aphid	QLD, VIC, TAS, SA, WA ONLY		1 L		

Vegetables including asparagus, beans, beetroot, broccoli, brussels sprouts, cabbage, cauliflower, capsicum, carrot, celery, eggplant, onion, peas, potato, radish, rhubarb, shallot, sweet potato, tomato, turnip	Wingless grasshopper	NSW, ACT, WA, VIC, TAS ONLY	500 mL	50 mL	<b>Tomatoes</b> Harvest - 3 days	Spray areas of crop infested with grasshoppers. Also apply as a barrier across the line of advance, when grasshoppers are invading the crop.
	Cutworm	ALL STATES	700 mL	70 mL		<b>Cole crops</b> Harvest - - 5 days
	Field crickets, Mole crickets	QLD, WA ONLY	100 mL/10 kg bran bait/ha	Not Applicable	<b>Asparagus, celery</b> Harvest - - 14 days	
	Vegetable weevil	NSW, WA, ACT ONLY	800 mL			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.

## FRUIT AND VEGETABLES – TREE CROP/VINE

CROPS	INSECT	STATE	RATE All rates are given for dilute spraying. For concentrate spraying, refer to the Application Section		WITH-HOLDING PERIODS	CRITICAL COMMENTS  For all uses in this table: Apply by dilute or concentrate spraying equipment. Refer to the MIXING instructions in the GENERAL INSTRUCTIONS: FOR USE AS AN INSECTICIDE section. Apply the same amount of product to the target crop whether applying this product by dilute or concentrate spraying methods.
			VOL/HA	VOL/100L WATER		
Apples, Pears	San Jose scale	QLD NSW, ACT, SA, WA ONLY	Not Applicable	100 mL (2% miscible winter oil may be added to the dormant spray)	Harvest - 14 days	<b>Dormant period:</b> Apply as late as possible ensuring thorough coverage of all branches. <b>Seasonal period:</b> Apply to coincide with crawler activity in mid-late November and later as necessary. Ensure thorough coverage of all branches, foliage and fruit.
	Woolly aphid					
	Wingless grasshopper	NSW, ACT ONLY	500 mL	50 mL		
Avocado	Avocado leafroller, Ivy leafroller	QLD, WA ONLY	1 or 2 L	50 or 100 mL	Harvest - 7 days	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. Use higher rate when populations are high. Apply at first sign of pest activity before larvae move to fruit. Use higher rate when populations are high. For low volume spray equipment use L/ha rate. Apply when populations indicate treatment is required. Spot-spray affected trees only. Repeat as necessary. Use higher rate when populations are high.
	Ivy leafroller	NSW, WA, ACT ONLY				
	Latania scale, Hairy caterpillars, Light brown apple moth, Red shouldered leaf beetle					
Citrus	California red scale	NSW, ACT, VIC, SA, WA ONLY	Not Applicable	100 mL alone or 50 mL + 1 L miscible summer spraying oil	Harvest - 14 days	Apply during November-March period. Two sprays may be required under conditions of heavy scale infestation. Apply with high volume sprayer to point of run-off. <b>Note:</b> Do not use on citrus in areas where integrated control programmes are in operation.
		QLD ONLY		100 mL alone or 100 mL + 1 L miscible summer spraying oil		
Citrus, Pome fruit	Wingless grasshopper	VIC, TAS, NSW, WA, SA ONLY	500 mL	50 mL		Spray areas of crop infested with grasshoppers. Also apply as a barrier across the line of advance, when grasshoppers are invading the crop.
Grape Vines	Light brown apple moth	ALL STATES	500 mL	50 mL	Harvest - 14 days	Apply initial spray just after berry set (early October). Later schedule sprays should be made as required. Apply as a dormant spray, post-pruning (July).
	Grapevine moth	QLD, NSW, ACT, TAS, SA, WA ONLY				
	Grapevine scale		Not applicable	100 mL alone or 50 mL + 1 L miscible winter oil		
Kiwifruit - trellised	Common armyworm, Southern armyworm, Lightbrown apple moth	NSW, ACT, VIC, WA, SA, TAS, QLD ONLY	1 L	50 mL		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	Not applicable	100 mL	Harvest - 21 days	Apply to coincide with crawler activity. Ensure thorough coverage of all branches, foliage and fruit.
Stone-fruit	European earwig	NSW, WA, ACT ONLY	2 L	100 mL	Harvest - 14 days	<b>Spray application:</b> Apply in a minimum of 2000 L/ha in spring. If lower volume used, increase concentration to apply 2 L of product/ha.
			200 mL + 250 mL sunflower oil/5 kg cracked wheat or cracked sorghum bait			<b>Bait application:</b> Apply 5 kg of bait/ha in spring by fertiliser spreader. <b>See General Instructions</b> on preparation of cracked wheat or cracked sorghum bait.
	San Jose scale	QLD, WA, NSW, ACT ONLY	Not applicable	100 mL (2% miscible winter oil may be added to the dormant spray)		<b>Dormant period:</b> Apply as late as possible ensuring thorough coverage of all branches. <b>Seasonal period:</b> Apply to coincide with crawler activity in mid-late November and later if necessary. Ensure thorough coverage of all branches, foliage and fruit. <b>Note:</b> Some fruit marking may occur if high volume spraying is carried out under hot, dry conditions.
Tomatoes – trellised	Wingless grasshopper	NSW, ACT, VIC, TAS, SA, WA ONLY	500 mL	50 mL	Harvest - 3 days	Spray areas of crop infested with grasshoppers. Also apply as a barrier across the line of advance, when grasshoppers are invading the crop.
	Wireworm, False wireworm	QLD ONLY	5 L/ha sprayed	Not applicable	Not applicable	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 tine. Use a minimum spray volume of 20 L/ha. <b>See General Instructions</b> on soil application.
	African black beetle	NSW, ACT ONLY	2 L (Boom Spray)	300 mL (Drench)		<b>Boom spray:</b> Apply in 500-1000 L of water/ha at or soon after planting as a 10-15 cm band spray. <b>Drench:</b> Apply 100 mL of diluted spray to base of each plant. Treat as soon as first sign of infestation is noticed. <b>Note:</b> If attack is prolonged, follow-up boom spray or drench treatment may be necessary.
	Tomato grubs	QLD, NSW, ACT, VIC, WA ONLY	1.5 or 2 L	150 or 200 mL	Harvest - 3 days	Spray on 7 to 10 day schedule commencing at flowering. Use high rate under heavy pest pressure.
	Native budworm	TAS, WA ONLY				
	Green vegetable bug	TAS, SA, WA ONLY				Spray at first sign of bug activity. Use higher rate under heavy pest pressure.
	Green peach aphid	QLD, VIC, TAS, SA, WA ONLY		1 L	100 mL	Spray when aphids are seen. <b>Large plants:</b> Use 1000 L/ha.

## FIELD CROPS AND PASTURE

CROPS	INSECT	STATE	VOL/HA	WITHHOLDING PERIODS	CRITICAL COMMENTS
Canola (rapeseed)	Wireworm, False wireworm	QLD, WA ONLY	1 or 1.5 L/ha	Not Applicable	Apply as a broadcast application. Use higher rate with extreme population numbers. <b>See General Instructions</b> on soil application.
Cereals, pasture, forage crops	Southern armyworm, Common armyworm	ALL STATES	700 or 900 mL	<b>Cereals</b> - 10 days <b>Grazing</b> - 2 days	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. <b>Late stage instar:</b> Use higher rate when larvae 3 cm in length. Apply follow-up as required.
Cereals	Pasture webworm	NSW, ACT, VIC, TAS, SA ONLY	700 mL		Spray at first sign of damage. Apply with ground-rig boom or mister or by air.
		WA ONLY	300 mL		<b>Pre-plant:</b> Apply with the label rate of an approved tillage herbicide to foliage prior to any cultivation. <b>Post-emergence:</b> 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	<b>Cereals</b> - 10 days <b>Grazing</b> - 2 days	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, WA ONLY	700 mL in a minimum of 100 L water		Apply immediately infestation is observed. Apply follow-up treatments as required.
Cereals	Cereal curculio	SA, WA ONLY	120 mL/100 kg seed	Not Applicable	<b>Apply as a seed dressing</b> just prior to sowing through an accurately calibrated applicator. <b>Note:</b> A sowing rate of 95 kg/ha (min.) is necessary to ensure economic responses are achieved.
Cereals, pasture, forage crops	Spur-throated locust	QLD, NSW, ACT, VIC, WA ONLY	1.25 or 1.5 L	<b>Cereals</b> - 10 days <b>Grazing</b> - 2 days	Spray areas of crop or pasture infested with locusts. Apply spray to trees or roosting sites to control swarming adult locusts. <b>Late stage hoppers and adults:</b> Use higher rate.
	Australian plague locust	VIC ONLY	560 mL		<b>Adults:</b> Spray areas of crop or pasture infested with locusts.
			350 mL		<b>Hoppers:</b> 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		<b>Adults:</b> Spray areas of crop or pasture infested with locusts.
		QLD, NSW, ACT, WA ONLY	350 mL		<b>Hoppers:</b> 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, WA ONLY			Spray areas of crop, trees and roosting sites infested with locusts.
	Blue oat mite	ALL STATES	140 mL		Spray when pests appear in large numbers, 3-6 weeks after autumn rains.
	Redlegged earth mite	NSW, ACT, VIC, WA, SA, TAS ONLY			Re-spray as necessary. Avoid spraying when pests are sheltering. Spray when at least 2.5 cm cover of pasture or crop is present. <b>DO NOT</b> spray if rain is imminent.
Lucerne flea		70 mL			
Cereals, pasture, oil seeds	Wingless grasshopper	NSW, ACT, VIC, TAS, WA, SA ONLY	500 mL		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.
Field Peas, broad beans, chickpeas, lupins, lucerne, lucerne pastures and clover seed crops, rapeseed, linseed, safflower, wheat, oats, barley, rye, triticale. Improved annual pastures, establishing perennial pastures.	Blue oat mite, Redlegged earth mite	NSW, ACT, WA ONLY	140-300 mL		Apply as a ground spray immediately prior to seedling emergence using sufficient water to give good coverage. If mite activity is severe, also spray headlands and surrounding vegetation prior to seedling emergence.

Cotton (young plants)	Cutworm	QLD, NSW, WA, ACT ONLY	900 mL in a minimum of 100 L water	Harvest - 4 weeks  Grazing - 4 weeks	Apply immediately infestation is observed. Apply follow-up treatments as required.
Cotton	Southern armyworm, Common armyworm		700 or 900 mL		Spray over total crop area when infestation is widespread. When pests are moving as an "army" treat broad strip over and in advance of the infestation. <b>Late stage instar:</b> Use higher rate when larvae 3 cm in length. Apply follow-up treatments as required.
	Pink spotted bollworm moth	QLD, WA ONLY	1 L		Apply when 10-15 moths are trapped on two consecutive nights. This prevents infestation of bolls by larvae.
	Spur-throated locusts	QLD, NSW, WA, ACT ONLY	1.25 or 1.5 L		Spray areas of crop infested with locusts. Apply spray to trees or roosting sites to control swarming adult locusts. <b>Late stage instar:</b> Use higher rate.
	Wingless grasshopper		500 mL		Spray areas of crop infested with grasshoppers. Apply also as a barrier across the line of advance when grasshoppers are invading the crop.
	Cotton aphid		300 or 400 mL		Apply when pests first appear. Re-spray as indicated by field inspection. Use higher rate for higher populations.
	Cotton flea beetle, Red shouldered leaf beetle		900 mL or 1.5L		Apply when pests are present. Use higher rate under heavy pest pressure.
	Springtails		300 mL		Spray when large numbers of pests occur and damage is evident. Re-spray as necessary.
	Migratory locust	QLD, WA ONLY	350 mL		Spray areas of crop, trees and roosting sites infested with locusts.
	Wireworm, False wireworm	QLD, NSW, ACT ONLY	<b>In-furrow:</b> 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. <b>See General Instructions</b> on soil application.
Lucerne (young plants)	Cutworm	QLD, NSW, ACT, TAS, WA ONLY	900 mL in a minimum of 100 L water	Grazing - 2 days	Apply immediately infestation is observed. Apply follow-up treatments as required.
		VIC ONLY	700 mL in a minimum of 100 L water		
	Cutworm ( <i>Agrotis munda</i> and <i>A. infusa</i> )	SA, WA ONLY	700 mL in a minimum of 100 L water		
Lucerne	Webspinner caterpillar	QLD, NSW, WA, ACT ONLY	700 mL		Spray when pests appear.
	Lucerne leaf roller		300 or 400 mL		Apply when pests first appear. <b>Late stage instar:</b> Use higher rate when larvae 1.5 cm in length are present and/or under heavy pest pressure.
Lucerne and medics in pasture and forage crops	Spotted alfalfa aphid, Bluegreen aphid	NSW, WA, ACT ONLY	200 or 300 mL		Spray when aphids first appear. Use the higher rate when large numbers of aphids are invading the crop.
		QLD, VIC, TAS, SA, WA ONLY			<b>Seeding lucerne, medics:</b> Apply when 1-2 aphids/plant are observed. <b>Established lucerne, medics:</b> Apply when 20-40 aphids/stem are observed.
	Pea aphid	QLD, NSW, ACT, VIC, TAS, SA, WA ONLY			
	Sitona weevil	NSW, ACT, VIC, TAS, WA, SA ONLY	350 mL		Apply October to December, or in autumn when adults occur in damaging numbers.

Maize	African black beetle	NSW, ACT ONLY	20 mL/100m of row or 2 L/ha for row spacing of 1 metre	Not Applicable	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, sunflower	False wireworm, Cockroaches, Field crickets	QLD, WA ONLY	100 mL + 125 mL sunflower oil/2.5 kg cracked wheat or cracked sorghum bait/ha		Apply at planting of crop. <b>See General Instructions</b> on preparation of cracked wheat or sorghum bait.
Maize, sunflower	Wireworm, False wireworm	QLD, NSW, ACT ONLY	<b>In-furrow</b> 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. <b>See General Instructions</b> on soil application.
Pasture	Lawn armyworm	QLD, NSW, WA, ACT only	700 mL	Grazing - 2 days	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.
	Sod webworm	QLD, WA ONLY			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		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		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, WA ONLY	60 or 150 mL	Harvest - 10 days	Use higher rate when water more than 15 cm or amount of decaying plant material is high.
	Brown planthopper	QLD, WA ONLY	1.5 L		Apply when pest numbers reach 1-2 per tiller and repeat as necessary.

Sorghum <b>Note: (DO NOT use on Sugar Drip or Alpha sorghum. Check new varieties before applying to entire crop.)</b>	Southern armyworm, Common armyworm	QLD, NSW, ACT, WA ONLY	700 to 900 mL	Harvest - 2 days	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. <b>Late stage instar:</b> Use higher rate when larvae 3 cm in length. Apply follow-up treatments as required.
	Cutworm		900 mL in a minimum of 100 L water		Apply immediately infestation is observed. Apply follow-up treatments as required.
	Spur-throated locust		1.25 or 1.5 L		Spray areas of crop infested with locusts. Apply spray to trees or roosting sites to control swarming adult locusts. <b>Late stage instar: Use higher rate.</b>
	Australian plague locust		350 mL		<b>Adults:</b> Spray areas of crop infested with locusts. <b>Hoppers:</b> Spray a swath in advance of marching band and the dense marching front. Continue spraying until all hoppers have been contacted.
	Migratory locust	QLD, WA ONLY			Spray all areas of crop, trees and roosting sites infested with locusts.
	Sorghum midge	QLD, NSW, ACT, WA ONLY	500 mL		Check regularly (preferably in the morning) and apply when 1-2 midge per head are present from first emergence of boot to pollen shedding. With repeated attack spray at intervals of 5 days or less.
	Wireworm, False wireworm		<b>In-furrow:</b> 5 to 15 mL /100 m row or 500 mL to 1.5 L/ha for row spacing of 1 metre	Not Applicable	Use high rate with extreme population numbers. <b>See General Instructions</b> on soil application.
	Corn aphid		500 mL	Harvest - 2 days	Apply when damaging populations of aphids occur.
False wireworm, Cockroaches, Field crickets	QLD, WA ONLY	100 mL + 125 mL sunflower oil/2.5 kg cracked wheat or cracked sorghum bait/ha	Grazing - 2 days	Apply at planting of crop. <b>See General Instructions</b> on preparation of cracked wheat or cracked sorghum bait.	
Sugarcane	Southern armyworm, Common armyworm	QLD, NSW, WA ONLY	700 or 900 mL	Harvest - 7 days Grazing - 2 days	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. <b>Late stage instar:</b> Use higher rate when larvae 3 cm in length. Apply follow-up treatments as required.
	Spur-throated locust		1.25 or 1.5 L		Spray areas of crop infested with locusts. Apply spray to trees or roosting sites to control swarming adult locusts. <b>Late stage hoppers and adults:</b> Use higher rate.
	Australian plague locust, Migratory locust		350 mL		<b>Adults:</b> Spray areas of crop infested with locusts. <b>Hoppers:</b> Spray a swath in advance of marching band and then spray along the dense marching front. Continue spraying until all hoppers have been contacted. Spray areas of crop, trees and roosting sites infested with locusts.
	Symphylids		2 L		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, WA ONLY	1.5 L		
	African black beetle, Black Beetle	NSW, WA ONLY			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.
Tobacco	Wireworm, False wireworm, Cutworm	VIC, WA ONLY	3.0 L	Not Applicable	Apply as a pre-plant spray to cultivated soil surface. Incorporate immediately by rotary hoeing to a depth of 10 cm.

**GENERAL PEST CONTROL****RESTRAINTS**

**DO NOT** spray polycarbonate surfaces/roof sheeting or aged vinyl wall cladding as solvent may cause etching.

SITUATION	PEST	RATE	CRITICAL COMMENTS
Domestic and public places, commercial and industrial areas	Cockroaches (residual control and/or heavy infestations)	95mL/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	50mL/10L of water	
	Cockroaches (light infestations)		
	Ants including Argentine ants	95mL/10L of water. Use at least 1L spray/10m <sup>2</sup> infested area	Locate ant nests and treat appropriately. Spray ant tracks or where ant activity is noticed. Apply to paths in continuous 300mm bands. Apply to base of buildings, walls, fences, rock-works, trunks of shrubs and trees, and other hard surfaces to a height of 300mm. <b>Note:</b> All occurrences of Argentine Ants are to be reported to WA Department of Agriculture.
Domestic and public places, commercial and industrial areas.	Fleas (outdoor use only)	90mL/10L of water	Apply as a fine droplet spray. <b>Outdoors only.</b> Treat areas where animals frequent. <b>Remove animals during treatment and until spray deposit is dry.</b> <b>Do not treat pets with this product. Pets should be treated with a product registered for application to animals.</b>
Hides/Skins	Hide Beetles	200mL/100L of water. Use at least 30mL 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.
Light vegetation	Mosquito larvae	30mL/ha	Dilute with water and apply as a spray to areas infested with mosquitoes.
Medium vegetation		60mL/ha	
Heavy vegetation		105mL/ha	
Light to medium vegetation	Mosquito adults	60mL/ha	
Medium to heavy vegetation		105mL/ha	
Polluted water impoundments	Mosquitoes (larvae and adults)	2mL/10,000L of water or 20mL/100 m <sup>3</sup> of water	

**TURF**

CROPS	INSECT	STATE	RATE	CRITICAL COMMENTS
TURF	Funnel Ant	Qld, NSW, WA only	<i>Field application:</i> 2.0 L/ha <i>Spot spray:</i> 5 mL/5L	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.
	African Black Beetle	Qld, NSW, Vic, WA only	6.0 L/ha or 60 mL/100 m <sup>2</sup>	Apply to lawn when pests appear. Water in immediately after application.
	Argentine Stem Weevil	NSW, Vic, Tas, SA, WA only	4.0 L/ha or 40 mL/100 m <sup>2</sup>	Lightly water following application. Apply as late in the day as possible.
	Blackheaded Pasture Cockchafer		900 mL/ha or 9 mL/100 m <sup>2</sup>	Use sufficient water to give even coverage. Apply as late in the day as possible.
	Brown Pasture Looper		700 mL/ha or 7 mL/100 m <sup>2</sup>	Apply when pests first appear.
	Pasture Webworm			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, Vic, SA, WA only	Spray over total lawn 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, Vic, SA, WA only	900 mL/ha or 9 mL/100 m <sup>2</sup>	Apply when caterpillars are actively feeding. Spray before noticeable damage has occurred. Apply as late in the day as possible.
	Crickets	Qld, WA only	2.5 kg bran bait	Bait should only be used on turf farms not recreational turf. <b>See General Instructions for Bran Bait preparation.</b>
	Winter Corbie, Corbie	Tas only	900mL/ha	Apply May to July for Winter Corbie and September for Corbie.

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

**WITHHOLDING PERIOD**

**DO NOT GRAZE OR CUT CEREALS, PASTURES OR FORAGE CROPS FOR STOCK FOOD FOR 2 DAYS AFTER APPLICATION.**

**TURF: DO NOT FEED TURF/LAWN CLIPPINGS FROM TREATED AREA TO POULTRY OR LIVESTOCK.**

**COTTON: DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION. DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 4 WEEKS AFTER APPLICATION.**

**DO NOT HARVEST THE FOLLOWING CROPS UNTIL THE NUMBER OF DAYS STATED BELOW HAS ELAPSED, AFTER SPRAYING:**

Mango	21 days
Asparagus, Bananas, Citrus, Grapevines, Kiwifruit, Pome Fruit, Stone Fruit, Celery	14 days
Cereal Grain Crops	10 days
Avocado, Sugar Cane	7 days
Cole Crops, Cucurbits	5 days
Tomatoes	3 days
Sorghum Grain Crops	2 days

**GENERAL INSTRUCTIONS: FOR USE AS AN INSECTICIDE**

Thorough coverage is essential.

For application by aircraft apply in 10-50 L of water/ha.

**MIXING**

Slowly add the required amount of product to the water in the spray tank under agitation.

**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 100L 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 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 spraying 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: 3 X (i.e.  $1500 \text{ L} \div 500 \text{ L} = 3$ )
  4. If the dilute label rate is 10 mL/100L, then the concentrate rate becomes 3 x 10, that is 30 mL/100L of concentrate spray.
- The chosen spray volume, amount of product per 100L 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 tilth using a nozzle located directly behind the seed tube. Ensure all spray is directed into the furrow contacting bottom, sides and all soil drawn in to 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 Genfarm Chlorpyrifos 500 Insecticide and sunflower oil together. Then, add to the wheat or sorghum, mixing thoroughly. Gloves should be worn when preparing and applying the bait.

**COMPATIBILITY**

Genfarm Chlorpyrifos 500 Insecticide is compatible with the following:

**Herbicides**

Atrazine, bromoxynil, chlorsulfuron, diclofop-methyl, diuron, flamprop-methyl, fluometuron, glyphosate, paraquat, paraquat + diquat, pendimethalin, trifluralin.

**Insecticides and Miticides**

Acephate, azinphos-methyl, carbaryl, cypermethrin, deltamethrin, demeton-S-methyl, diazinon, dichlorvos, dicofol, dimethoate, endosulfan, ethion, fenvalerate, maldison, methidathion, methomyl, monocrotophos, oils, oxythioquinox, parathion, phosalone, phosmet, tetradifon, trichlorfon.

**Fungicides**

Chlorothalonil, thiram, triadimefon, zineb, ziram.

**Fertilisers**

Diammonium phosphate, limestone, miloreanite, monoammonium sulphate, potash, sulphur coated urea, triple superphosphate, urea.

**INCOMPATIBILITY**

Genfarm Chlorpyrifos 500 Insecticide is **NOT** compatible with the following:

**Herbicides**

2,4-D, Dicamba, MCPA, Tordon\* 75-D, Tordon\*242.

**Fungicides**

Fixed coppers, liquid and organic coppers, wettable sulphur.

**Fertilisers**

Iron sulphate, manganese sulphate, zinc oxysulphate.

**RE-ENTRY TO TREATED AREAS**

**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.

**Cotton chippers:** Do not allow entry into treated crops until spray deposits have dried. After this time, wear shoes or boots, socks, long trousers, long sleeved shirt, gloves and hat.

**PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT**

- **HIGHLY TOXIC TO BIRDS AND REPTILES. VERY HIGHLY TOXIC TO FISH AND AQUATIC INVERTEBRATES.**
- **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	Rate (L/ha)	Recommended Buffer Distance (m)
Orchard (dormant trees, citrus, large trees)	<4	30
	4-8	40
	>8	50
Cotton (aerial application)	-	300
Other crops (aerial application)	-	100

- 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 tail water 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 (tail water) and a 25 mm rainstorm should be captured on farm for two days after application.
- DO NOT contaminate streams, rivers or waterways with chemical or used container.

### PROTECTION OF LIVESTOCK

- **DO NOT** feed grass clippings to poultry or other animals.
- Dangerous to bees. **DO NOT** spray any plants in flower while bees are foraging.

### GENERAL INSTRUCTIONS

#### INSECTICIDE RESISTANCE WARNING

GROUP	IB	INSECTICIDE
-------	----	-------------

For insecticide resistance management Genfarm Chlorpyrifos 500 Insecticide is a Group 1B insecticide. Some naturally occurring insect biotypes resistant to Genfarm Chlorpyrifos 500 Insecticide 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 Genfarm Chlorpyrifos 500 Insecticide or other Group 1B insecticides are used repeatedly. The effectiveness of Genfarm Chlorpyrifos 500 Insecticide on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Landmark Operations Limited accepts no liability for any losses that may result from the failure of Genfarm Chlorpyrifos 500 Insecticide to control resistant insects.

Genfarm Chlorpyrifos 500 Insecticide may be subject to specific resistance management strategies. For further information contact your local supplier or Landmark Operations Limited representative.

### STORAGE AND DISPOSAL

Store in the closed original container, in a cool well ventilated area. DO NOT store for prolonged periods in direct sunlight.

This container can be recycled if it is clean, dry, free of visible residues and has the *drumMUSTER* logo visible. Triple rinse container for disposal. Dispose of rinsate by adding it to the spray tank. DO NOT dispose of undiluted chemical on site. Wash outside of the container and the cap. Store cleaned container in a sheltered place with cap removed. It will then be acceptable for recycling at any *drumMUSTER* collection point or similar container management program site. The cap should not be replaced but may be taken separately.

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 500mm 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 and product.

### SMALL SPILL MANAGEMENT

Wear appropriate clothing and protective equipment whilst cleaning up small spills (see **SAFETY DIRECTIONS**). Apply absorbent material such as earth, sand, cat litter or clay granules to the spill. Sweep up contaminated material and contain 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 instructions. Dispose of the contaminated material in accordance with **STORAGE and DISPOSAL** instructions below.

**SAFETY DIRECTIONS****For use as an Insecticide**

Product is poisonous if absorbed by skin contact, inhaled or swallowed. Repeated minor exposure may have a cumulative poisoning effect. Obtain a supply of atropine tablets 0.6 mg. 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 or using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length PVC gloves and face shield or goggles.

If product is spilt on skin, immediately wash area with soap and 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, face shield or goggles and contaminated clothing.

**For use as a Termiticide**

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. Obtain an emergency supply of atropine tablets 0.6mg. 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 and a 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 the skin, immediately wash area with soap and water. If product is in the 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, respirator (and if rubber wash with detergent and warm water), and contaminated clothing.

**FIRST AID**

If swallowed, splashed on skin or in eyes, or inhaled, contact a Poisons Information Centre Phone: Australia 13 11 26 or doctor at once. Remove any contaminated clothing and wash skin thoroughly. If swallowed, DO NOT induce vomiting. Give a glass of water, 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.

**MATERIAL SAFETY DATA SHEET**

For further information refer to the Material Safety Data Sheet, which can be obtained from the supplier.

**CONDITIONS OF SALE**

The use of this product is beyond the control of Landmark Operations Limited. No warranty is expressed or implied regarding the suitability or efficiency for any purpose for which the buyer uses it. Landmark Operations Limited accepts no responsibility for any consequences resulting from the use of this product. Landmark Operations Limited will not be held liable for any loss, injury or damage arising from the sale, supply or use of this product, whether through negligence or otherwise. No responsibility will be accepted for any consequences whatsoever resulting from the use of this product.

**Landmark Operations Limited**  
Suite 2, Level 3, 64 Talavera Road,  
Macquarie Park,  
NSW, 2113

APVMA Approval Number: 60188/52767