

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

Protect-us MultiAg INSECTICIDE

ACTIVE CONSTITUENT: 200 g/L IMIDACLOPRID

GROUP 4A INSECTICIDE

For the control of various insect pests of cotton, fruit, vegetables and ornamentals and use in the management of subterranean termites as specified in the Directions for Use table.

IMPORTANT: READ THIS BOOKLET BEFORE USE

Protect-us AUSTRALIA PTY LTD

ACN 156 662 216
Unit 3, 2 Duck Street, Auburn NSW 2144
www.Protect-us.com.au
CUSTOMER SERVICE 1800 420 144
EMERGENCY RESPONSE (ALL HOURS) 1800 420 144
APVMA Approval No: 68971/59539
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**PROTECT-US MULTIAG INSECTICIDE
DIRECTIONS FOR USE**

1. FOLIAR SPRAY APPLICATIONS (AGRICULTURAL APPLICATIONS)

Crop	Pest	Rate	WHP	Critical Comments
Cotton	Aphids	250 mL/ha + Reactor Penetrant at 0.2% v/v (2 mL/L water) or equivalent Organo silicone surfactant* (eg Freeway Gold) *Check with supplier for recommended Organo silicone surfactants.	13 weeks	The addition of Reactor Penetrant or equivalent is critical for the performance of Protect-us MultiAg Insecticide. Apply early in the establishment of an aphid infestation when numbers are low (ie no more than 1 or 2 leaves per plant with honeydew present). Applications made later than this may result in reduced control. Shorter residual control may be evident and a repeat application of a registered aphicide (follow the Cotton Insecticide Resistance Management Strategy for cotton aphid) may be required to achieve complete control: <ul style="list-style-type: none"> if applications of Protect-us MultiAg Insecticide plus Reactor or equivalent are timed too late (see above); or if existing high density aphid colonies (hotspots) are present; or if aphids have established throughout the plant canopy (especially lower in the canopy); or if there is high reinfestation pressure; or if there is rapid crop growth; or if Protect-us MultiAg Insecticide plus Reactor or equivalent is used following a spray failure (eg resistance to organophosphate or carbamate insecticides). Note: Where resistance to carbamates or organophosphates is suspected Protect-us MultiAg Insecticide plus Reactor or equivalent should be used first so as not to delay control of the aphids present. Aphids treated with Protect-us MultiAg Insecticide plus Reactor or equivalent may still be present on the plant but will not be feeding. Control of aphids should initially be assessed by a reduction in fresh honeydew and not on the presence of aphids on the plant. After ingesting Protect-us MultiAg Insecticide, aphids may take up to 5 days to die.
	Mirids Brown flea beetle			Apply when pest numbers reach treatment threshold levels as determined by field checks.
Stone fruit	Green peach aphid Black peach aphid	Dilute spraying 25 mL/100 L Concentrate spraying Refer to the Mixing/ Application section	21 days	Apply at first sign of aphid infestation. Apply as a full cover spray, ensuring thorough coverage. 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. Do not use in equipment that requires rates greater than 125 mL/100 L of water.
Apples	Woolly aphid	Chemical control 12 mL/1 L of water/tree Beneficial insect plus chemical control (eg <i>Aphelinus mali</i> plus Protect-us MultiAg Insecticide) 3 mL/1 L of water/tree	-	For trees up to 7 years of age. For application method, see General Instructions. If aerial colonies are present at application, maximum effectiveness may not be achieved until the following season. Do not treat more than once in any 3 year period.
	Cucurbits Capsicum Egg plant Potato Tomato	Green peach aphid or 300 mL/ha	1 day 7 days 3 days	Apply at first sign of aphid infestation.
Brassicicas	Grey cabbage aphid Turnip aphid	25 mL/100 L or 250 mL/ha	7 days	Apply at first sign of aphid infestation. Add a wetting agent.
Sweet potato	Silverleaf whitefly, including type B	25 mL/100 L or 250 mL/ha	7 days	Apply at first sign of whitefly or melon thrips infestation.
Cucumber			1 day	Apply dilute sprays (25 mL/100 L) to run off. Ensure thorough coverage of underside of leaves. Use of droppers will improve coverage of underside of leaves.
Egg plant	Melon thrips		7 days	
Turf	First instar larvae of: African black beetle Argentinian scarab Pruinose scarab	2.5 L/ha or 25 mL/100 m ² Spray with at least 400 L water per hectare to ensure even coverage. Preferably spray on to wet or dewy grass. Irrigate with 12 mm of water commencing within one hour of application.	-	Apply at peak egg hatch, which is mid spring to mid summer depending on species.
	Larvae of billbug			Monitor adult activity through late spring and early summer. Spray when numbers peak, or when small larvae (4 mm) are found in the thatch or surface soil. Early application is essential to minimise grass damage due to feeding.
Roses	Aphids	25 mL/100 L		Apply as a thorough cover spray at first sign of insect infestation.
Ornamental plants	Aphids Azalea lace bug Bronze orange bug Harlequin bug Citrus mealybug Greenhouse thrips Fullers rose weevil			
	Hibiscus flower beetle	50 mL/100 L		Spray buds and flowers as needed.
	Longtailed mealybug	50 mL/100 L + surfactant		Apply 3 sprays 2 weeks apart. Use a non-ionic surfactant at label rate.
	Psyllids	25 mL/100 L		Spray at first sign and then a week later.
	Soft scales	25 mL/100 L		Spray in late spring or when small scales are first seen. Apply 3 sprays 2 weeks apart. Add a wetting agent.
Duboisia	Green peach aphid	25 mL/100 L	-	Apply when aphid numbers reach spray threshold levels as determined by regular monitoring. Ensure thorough coverage of all leaves.
Pandanus trees	Flatid (<i>Jamella australiae</i>)	Spot spray 875 mL/100 L of water Stem injection 1.75 L/1 L of water	-	Spot spray: Spray 100 mL of mixture directly into the leafy throat of each head. Stem injection: Drill holes 0.5 to 1 cm in diameter and 10 cm deep at an angle of 30° to 1.5 m above ground level. Drill one hole per limb (or trunk in single trunked trees). Apply 5 mL of mixture in each hole and seal the hole. Do not reapply in the same holes. Uptake of Protect-us MultiAg Insecticide, and therefore control of the pest in heavily infested heads already showing severe damage, will be slow and may be incomplete.

**GENERAL INSTRUCTIONS
(AGRICULTURAL APPLICATIONS)**

GROUP 4A INSECTICIDE

Insecticide Resistance Warning

For insecticide resistance management, Protect-us MultiAg Insecticide is a Group 4A insecticide. Some naturally occurring insect biotypes resistant to Protect-us MultiAg Insecticide and other Group 4A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Protect-us MultiAg Insecticide and other Group 4A insecticides are used repeatedly. The effectiveness of Protect-us MultiAg Insecticide on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Protect-us Australia Pty Ltd accepts no liability for any losses that may result from the failure of Protect-us MultiAg Insecticide to control resistant insects. Protect-us MultiAg Insecticide may be subject to specific resistance management strategies. For further information contact your local supplier, Protect-us representative or local agricultural department agronomist.

Insecticide Resistance Management Strategy for cotton aphid in cotton: Observe the cotton industry insecticide resistance management strategy (IRMS).

Insecticide Resistance Management Strategy for aphids, whitefly and melon thrips: Do not apply Protect-us MultiAg Insecticide (or other group 4A insecticides) in consecutive sprays within and between seasons. Rotate with registered insecticides from other mode of action groups.

Confined environments such as glasshouses

Annuals: Do not apply more than one spray of Protect-us MultiAg Insecticide to any one crop.
Perennials: Rotate with registered insecticides from other groups. Use a maximum of three Protect-us MultiAg (or other group 4A insecticide) sprays in any 12 month period.

MIXING/APPLICATION

Prior to pouring, shake container vigorously, then add the required quantity of Protect-us MultiAg Insecticide to water in the spray vat while stirring or with agitators in motion.

Dilute Spraying (stone fruit)

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 (stone fruit)

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

- Dilute spray volume as determined above: For example 1500 L/ha
- Your chosen concentrate spray volume: For example 500 L/ha
- The concentration factor in this example is: 3 X (ie 1500 L ÷ 500 L = 3)
- As the dilute label rate is 25 mL/100 L for stone fruit, then the concentrate rate becomes 3 x 25, which is 75 mL/100 L of concentrate spray.

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.

Do not use a concentrate rate higher than that specified in the Critical Comments.

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

APPLICATION (COTTON)

Thorough coverage of cotton plants is essential to achieve maximum performance from Protect-us MultiAg Insecticide plus Reactor. Equipment should be calibrated to achieve a minimum of **60 droplets/cm² on the target foliage**. A droplet **Volume Median Diameter (VMD)** for optimum performance from Protect-us MultiAg Insecticide plus Reactor is dependent on equipment and is defined below.

Do not apply when unfavourable environmental conditions may reduce the quality of spray coverage.

Ground Application (Cotton)

Application using ground equipment should be made using **hollow cone nozzles** with a **minimum spray volume of 100 L/ha**. Hollow cone nozzles are recommended but if flat fan nozzles are used, higher water volumes will be required and nozzles should be configured to ensure thorough coverage. A droplet **VMD of 50 - 100 microns** must be used. Where multiple nozzles per row are used, they should be of the same specification to ensure that each nozzle contributes an equal proportion of the required dose. Where multiple nozzles per row are used (particularly for banded applications) ensure the correct nozzle overlap pattern is achieved on the target foliage. **Banded applications less than 100% are not recommended beyond the 15 node crop stage.**

Aerial Application (Cotton)

Apply in a **minimum spray volume of 25 L/ha**. A droplet **VMD of 120 - 150 microns** must be used. Do not exaggerate swath width or exceed a swath width of 20 to 22 m. Do not apply Protect-us MultiAg Insecticide plus Reactor using Ultra Low Volume (ULV) methods. The use of large droplet placement equipment is not recommended.

APPLICATION (APPLES)

During late summer or autumn, apple trees with woolly aphid colonies or damage should be identified and marked for treatment the following season. At green tip to petal fall, **apply 1 litre of the prepared product mixture** to moist soil immediately around the base of the tree trunk. Ensure the mixture infiltrates the soil around the trunk and does not run off the soil. Control weeds before application. Do not disturb or remove the soil around the trunk during the season.

Export of Treated Produce

Growers should note that suitable MRLs or import tolerances may not be established in all markets for edible produce treated with Protect-us MultiAg Insecticide. If you are growing edible produce for export, please check with the supplier for the latest information on MRLs and export tolerances before using Protect-us MultiAg Insecticide.

Note on Ornamentals

Protect-us MultiAg Insecticide has been used on a wide range of ornamental plant species without damage. However, some species and varieties are particularly sensitive to chemical sprays and as this is often related to local conditions it is advisable to treat only a small number of plants first, in order to ascertain their reaction before treating the whole crop.

Compatibility

Protect-us MultiAg Insecticide is compatible with Antracol®, Baycor®, and Nitofol®. Do not mix concentrates together but add each to the spray tank separately. As formulations of other manufacturers' products are beyond the control of the supplier, all mixtures should be tested prior to mixing commercial quantities. As changes in climatic conditions can alter the sensitivity of plants to mixtures of sprays, Protect-us Australia Pty Ltd cannot be responsible for the behaviour of such mixtures.

GENERAL INSTRUCTIONS (TERMITE TREATMENTS)

Protect-us MultiAg should be considered as part of a program involving the following steps:

- Locate nest and treat where possible.
- Repair or recommend repairs to leaks and drainage as a condition of warranty.
- Improve or recommend improvements to ventilation underneath structures.
- Ensure or recommend subfloor areas be kept free of stored or waste timber.
- Application of Protect-us MultiAg treated zone to soil.
- Advice to property owner or manager, that disturbing the soil treated zone eg with subsequent additions, alterations or landscaping etc, may render the treatment ineffective unless reapplied or other actions undertaken.
- Continuing efforts to locate and treat the colony in the nest if not eliminated before application of soil treated zone.
- Post-treatment inspection to confirm successful treatment.
- Ongoing inspections, at least annually, as recommended by AS-3660 Series.

The purpose of a non-repellent chemical soil treatment for termite control is to establish a continuous chemical treated zone (horizontal and/or vertical as required) between the structure and termite colonies in the soil. The treated zone impedes and discourages concealed termite entry for the service period. A great deal of care needs to be taken to understand the construction of the building and to apply the spray solution in a manner which ensures a complete treated zone. If the treated zone is not complete or is breached, then concealed termite entry may occur. It is sometimes not possible to form a complete treated zone around an existing structure. In these cases other termite management options and/or more frequent inspections will be required.

Alterations to buildings to increase effectiveness of treatments

Alterations include improvements to drainage and sub-floor ventilation, the removal of soil-timber contact eg railway sleeper retaining walls, and the provision of access to areas for regular inspection. Poor drainage including rainwater flowing around structure perimeter may compromise the soil treated zone. **Drainage, ventilation and timber/soil contact problems need to be addressed before treatment.**

Mixing

To ensure good mixing:

- Thoroughly clean the spray equipment to remove residues of other formulations from the equipment before using Protect-us MultiAg for the first time; and
- Prior to pouring, shake container vigorously. Then premix the required quantity of Protect-us MultiAg with water in a clean bucket before adding it to the half filled spray tank then top up to full volume. Allow the contents of the tank to be recirculated.

SOIL PREPARATION

Some soils will be difficult to wet (e.g. heavy clay soils) and there will be a greater chance of run-off of liquid from the surface; in these situations it will be necessary to loosen the soil to allow spray solution to percolate to form the treated zone; the soil should be scarified to a depth of at least 80 mm for horizontal barrier-type treatments and below the top of the footing for vertical barrier-type treatments, creating a trench to confine the spray solution to the area to be treated.

In situations with very heavy soils the complete removal and replacement of the soil with a loam type is recommended in order to form the treated zone. Sandy soils or those based on decomposed granite (i.e. soils with very low organic matter) should not be used as the replacement material since it is unlikely that optimal residual activity will occur.

In situations where the surface of the soil is very dry or with sandy or porous soils it may be necessary to moisten the soil prior to application of the chemical to prevent loss through piping or excessive percolation. Soil rodding in heavy clay soil can result in uneven distribution of chemical; the preferred method of installing a treated zone under such circumstances is to trench and backfill (and consider the replacement of soil if necessary).

It is recommended that application volumes given in the Directions for Use table be used wherever possible. However where soil conditions will not accept application of 100 L/m², the concentration of Protect-us MultiAg in the solution should be doubled to 500-1000 mL per 100 L and then apply 50 L/m² spray solution. When applying by injection through concrete to such soils, drill hole spacing should be reduced to 150 mm (1.5 litres per hole) before resorting to the application of higher concentrations in lower volumes.

TREATMENT OF EXISTING BUILDINGS

Persons applying Protect-us MultiAg Insecticide should be familiar with the Australian Standard AS 3660 Series, especially the section which specifies the procedures used to provide a chemical soil barrier and/or the appendix which shows the areas where barrier treatments should be applied to ensure no gaps in the treatment.

TREATMENT OF NEW BUILDINGS

Protect-us MultiAg Insecticide cannot be used for the application of horizontal barrier-type treated zones prior to pouring a slab unless used in a reticulation system certified for that purpose. The initial underslab treatment shall be applied through the reticulation system as soon as possible after the placement of the slab, and not more than 60 days after placement.

RETICULATION SYSTEMS

The reticulation system must be certified and be capable of establishing and maintaining complete and continuous treated zones around building perimeters, service penetrations and other possible termite entry points between the structure and the termite colonies in the soil according to the product label and the Australian Standard AS 3660 Series. Reticulation systems suitable for this purpose are certified as meeting AS3660 by suitable persons or organisations with the relevant expertise in the area of termite management and engineering construction. The system must allow the application of a minimum 100 mm thick treated zone.

It is strongly recommended that the product user communicates with the builder and sub-contractor to ensure that the reticulation system is, or has been, installed according to the systems manufacturer's specifications and Australian Standard AS3660 series.

Reticulation systems which have been incorrectly installed are likely to increase the chances of a breach of the treated zone being compromised by termites.

THICKNESS OF TREATED ZONE

It is recommended that the minimum thickness of any soil treated zone is 100 mm.

HORIZONTAL BARRIER-TYPE TREATMENTS

This section describes the application of a treated zone intended to fulfil the treatment requirements of a horizontal barrier as per the Australian Standard AS3660. (Refer to 'Service period' information) Horizontal treated zones are to be applied to deter termites from gaining concealed vertical access to the building sub-structure. Their application may not be necessary if the building construction is slab on ground and

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