

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



**ACTIVE CONSTITUENT: 250g/L BIFENTHRIN**  
**SOLVENT: 640g/L HYDROCARBON LIQUID**

**GROUP 3A INSECTICIDE**

Controls insect pests and mites of apricots, bananas, barley, canola, citrus, clover, cotton, cucurbits, faba beans, field peas, grapes, lucerne, lucerne seed crops, lupins, navy beans, nectarines, peaches, pears, plums, poppies, subterranean clover, sugarcane, sweet potatoes, tomatoes and wheat as specified in Directions for Use table.



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Net Contents: 1-200 Litres

APVMA Approval No.: 68017/57278

#### 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 or preferably pressure rinse empty 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 designated collection point. If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. Do not burn empty containers or product.

#### SAFETY DIRECTIONS

Attacks eyes. Poisonous if swallowed. Harmful if inhaled. Will irritate the skin. Avoid contact with eyes and skin. Do not inhale vapour. When opening the container and preparing spray wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow-length PVC gloves and goggles. If applying by hand, wear cotton overalls over normal clothing, buttoned to the neck and wrist and a washable hat and elbow length PVC gloves. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, goggles and contaminated clothing.

#### FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If swallowed, do NOT induce vomiting. Give a glass of water.

#### ADDITIONAL STATEMENTS (WHS REGULATIONS 2011)

May cause an allergic skin reaction. Suspected of causing cancer. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing spray. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. IF SWALLOWED: Rinse mouth. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If skin irritation or rash occurs: Get medical advice/attention.

#### SAFETY DATA SHEET

For further information refer to the Safety Data Sheet (SDS), which can be obtained from your supplier or from the Nufarm website – [www.nufarm.com.au](http://www.nufarm.com.au)

In case of emergency: Phone 1800 033 498 Ask for shift supervisor. Toll free 24 hours.

**CONDITIONS OF SALE**

"Any provisions or rights under the Competition and Consumer Act 2010 or relevant state legislation which cannot be excluded by those statutes or by law are not intended to be excluded by these conditions of sale. Subject to the foregoing, all warranties, conditions, rights and remedies, expressed or implied under common law, statute or otherwise, in relation to the sale, supply, use or application of this product, are excluded. Nufarm Australia Limited and/or its affiliates ("Nufarm") shall not accept any liability whatsoever (including consequential loss), or howsoever arising (including negligence) for any damage, injury or death connected with the sale, supply, use or application of this product except for liability which cannot be excluded by statute."

BN / DOM / Barcode / /



UN No. 3352	PYRETHROID PESTICIDE, LIQUID, TOXIC (contains 25% BIFENTHRIN)
In a Transport Emergency Dial 000 Police or Fire Brigade	SPECIALIST ADVICE IN EMERGENCY ONLY 1800 033 498 ALL HOURS – AUSTRALIA WIDE
PG III	HAZCHEM 2X

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**DIRECTIONS FOR USE**

**RESTRAINTS**

DO NOT use as a foliar spray in banana plantations and orchards where mite predators or other beneficials are established and providing effective mite control and/or other pest control.

DO NOT apply as a foliar treatment if rainfall is expected before spray deposits dry on leaf surfaces.

DO NOT apply to bananas by aircraft.

DO NOT use on cucurbit crops grown in covered or protected situations such as glasshouses, greenhouses or plastic tunnels.

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Bananas	Banana weevil borer ( <i>Cosmopolites sordidus</i> )  Banana rust thrips ( <i>Chaetanaphothrips signipennis</i> )	Qld, NSW, WA & NT only	<u>Seasonal Program</u> <u>Stool Treatment Method</u> 100-130mL/100L twice per year OR 265mL/100L once per year  <u>Band Treatment Method</u> 100mL/100L twice per year  <u>Monitoring Program</u> <u>Stool Treatment Method</u> 130mL/100L <u>Band Treatment Method</u> 100mL/100L	1 day	<u>Seasonal Program</u> <u>Twice per year Timing</u> Apply in October/November (spring/early summer) and March/April (late summer/autumn). Use the higher rate (concentration) when borer pressure or damage is high. <u>Once per year Timing</u> Apply in October/November OR March/April. <u>Monitoring Program</u> Monitor weevil borer populations carefully by trap counts and/or corm damage ratings, beginning in September when pest activity is on the increase and continue until April. Apply treatment when banana weevil borers reach or exceed acceptable threshold levels. Monitor borer control after application and re-treat as required. <b>Banana weevil borer:</b> Application should be made after rain or irrigation during periods of high adult borer activity. <b>Banana rust thrips:</b> Application against banana weevil borer will give coincident rust thrips control, particularly when application is made when thrips activity is on the increase usually beginning September and into the summer months.

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
(cont.)					<p><b>Application Method</b></p> <p><b>Stool Treatment Application</b> Remove trash from the base of stools and apply 500 - 750mL of spray solution to each stool, depending on stool size. Treat the bottom 30cm of each stool as well as the soil in a 30cm band around each stool, ensuring thorough treatment of both butt(s) and follower(s). Use the lower spray volume of 500mL on small stools less than 50cm across the entire base.</p> <p><b>Band Treatment Application</b> Apply as a band application with a side delivery boom and offset nozzles on both sides of the row with the spray pattern positioned to spray 30cm of soil on either side of the row and 30cm in height. Aim to apply a total spray volume of 1L/stool area. For single sucker row configurations apply 28L of solution per 100 metres of row in a band 0.5m wide on each side of the row overlapping in the centre. For double sucker row configurations apply 56L of solution per 100 metres of row in a band 1m wide on each side of the double row with the spray pattern overlapping between the rows.</p>
	Strawberry spider mite ( <i>Tetranychus lambi</i> )	Qld & WA only	16mL/100L	8 days	Monitor mite population on old leaves particularly during hot dry conditions. Apply ASTRAL 250EC as a preventative rather than a curative treatment before damage occurs, and before mite numbers build up to damaging levels. Follow up applications may be required at 10 - 14 day intervals. Thorough coverage of the lower leaf surface is essential to ensure good control. Use a total spray volume of 300 – 500L/ha.
Cotton	Native budworm ( <i>Helicoverpa punctigera</i> ) Cotton bollworm ( <i>Helicoverpa armigera</i> ) Two spotted mite ( <i>Tetranychus urticae</i> ) Green mirid ( <i>Creontiades dilutus</i> ) Apple dimpling bug ( <i>Campylomma liebknechti</i> )	Qld, NSW & WA only	240-320mL/ha	14 days (H)  <b>DO NOT GRAZE OR CUT FOR STOCK-FEED.</b>  <b>DO NOT FEED COTTON TRASH TO LIVE-STOCK.</b>	Apply as indicated by field checks. Use the higher rate when pest pressure is high, conditions favour pest development and when increased residual protection is required. <b>Budworm and Bollworm:</b> Applications should be timed to coincide with egg hatch and when small larvae up to 5mm are present. Do not apply this product to <i>Helicoverpa</i> (= <i>Heliothis</i> ) <i>armigera</i> larvae larger than 5mm in length. <b>Two spotted mite:</b> Applications against <i>Helicoverpa</i> spp will give good control of coincident two spotted mite, particularly when applied on low mite populations (around 10% leaf infestation). If conditions continue to favour mite development a second application may be required 14 - 20 days later. <b>Green mirid &amp; Apple dimpling bug:</b> Apply at recommended threshold levels as indicated by field checks. Use the higher rate for increased pest pressure and longer residual protection.
	Silverleaf whitefly ( <i>Bemisia tabaci</i> ) Biotype B		320mL/ha		Apply as indicated by field checks before populations reach damaging levels. Thorough coverage of the crop canopy is essential. The adult stage of silverleaf whitefly should be targeted. Do not spray crops with a high population of the juvenile stages of silverleaf whitefly unless using with another insecticide that is effective against these stages.



CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Cucurbits (field grown only)	Native budworm ( <i>Helicoverpa punctigera</i> ) Corn earworm ( <i>Helicoverpa armigera</i> ) Cucumber moth ( <i>Diaphania indica</i> )	All States	High Volume 16-24mL/100L  or  Low Volume 160-240mL/ha	1 day	<p><b>Crop Monitoring Program</b> Apply as indicated by field checks. Applications should be timed to coincide with egg hatch and when small larvae up to 5mm are present. Do not apply this product to <i>Helicoverpa (=Heliopsis) armigera</i> larvae larger than 5mm in length.</p> <p><b>Schedule Spray Program</b> If fields are not checked during pest infestation periods, apply on a 7-10 day alternating program. Use the higher rate and shorter interval when pest infestations are more severe and when increased residual protection is required. Do not apply this product to <i>Helicoverpa armigera</i> larvae larger than 5mm in length. Use ASTRAL 250EC in rotation with insecticides from at least 2 other non-pyrethroid insecticide groups that are registered or permitted for use against <i>Heliopsis</i> in cucurbits. Do not apply more than 2 applications of ASTRAL 250EC per crop.</p>
	Silverleaf whitefly ( <i>Bemisia tabaci</i> ) Biotype B	Qld, NSW, NT & WA only	High Volume 24-32mL/100L  or  Low Volume 240-320mL/ha		<p>Apply as indicated by field checks before populations reach damaging levels. The higher rate should be used where moderate to high populations are present. When applying as a dilute spray use a minimum water volume of 500L/ha increasing to 1500L/ha as crops grow. Thorough coverage of all leaf surfaces is important to obtain good control. The adult stage of silverleaf whitefly should be targeted. Do not spray crops with a high population of the juvenile stages of silverleaf whitefly unless using with another insecticide that is effective against these stages. Use ASTRAL 250EC in rotation with insecticides from at least 2 other insecticide groups that are registered or permitted for use against silverleaf whitefly in cucurbits. Do not apply more than 2 applications of ASTRAL 250EC per crop. If an approved Resistance Management Strategy is in place for a particular area (eg. Silverleaf Whitefly in the Burdekin and Bowen Districts of central Queensland), this should be followed. Tank mixes of ASTRAL 250EC with Synergy® Insecticide Synergist may improve control of silverleaf whitefly. <b>Crop Safety:</b> Because of the large number of cucurbit varieties available, it is not possible to evaluate the crop safety of ASTRAL 250EC and Synergy mixtures on all these varieties. Growers are strongly advised to check the crop safety of ASTRAL 250EC and Synergy mixtures before applying to a cucurbit variety on which they have not previously used the mixture. Damage to zucchini varieties Blackjack and Vaquer has occurred in some trials. Refer to Synergy label for further information.</p>
Grapes	Fig longicorn ( <i>Acalolepta vastator</i> )	NSW, ACT & WA only	400mL/100L	-	<p>The application MUST be made at late dormancy after pruning and before bud burst. Apply a single high volume spray, with nozzles directing the spray solution to the trunk and cordons (arms) of grape vines to achieve thorough wetting of the bark. Total spray volume should be about 500mL/vine achieved by hand application.</p>

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Lucerne seed crops	Native budworm ( <i>Helicoverpa punctigera</i> )	All States	160-240mL/ha	-	Do not treat lucerne seed crops for alfalfa sprout production. Apply as indicated by field checks after the commencement of flowering. Use the higher rate when pest pressure is high, conditions favour pest development and when increased residual protection is required. <b>Native Budworm:</b> Applications should be timed to coincide with egg hatch and when small larvae up to 5mm are present.
Navy beans	Native budworm ( <i>Helicoverpa punctigera</i> ) Corn earworm ( <i>Helicoverpa armigera</i> )	All States	240-320mL/ha	14 days (harvest and grazing)	Apply as indicated by field checks from flowering onwards. Use the higher rate when pest pressure is high, conditions favour pest development and when increased residual protection is required. Budworm and Earworm: Applications should be timed to coincide with egg hatch and when small larvae up to 5mm are present. Do not apply this product to <i>Helicoverpa</i> (= <i>Heliothis</i> ) <i>armigera</i> larvae larger than 5mm in length.
Peaches Nectarines Plums Apricots	Carpophilus beetles ( <i>Carpophilus</i> spp.)	All States	Dilute spraying 20mL/100L  Concentrate spraying Refer to the Mixing/ Application section	1 day	Monitor stone fruit orchards for Carpophilus beetle as fruit approach maturity and become susceptible to attack. Apply ASTRAL 250EC as a dilute spray before beetles reach damaging levels. Apply to the foliage and fruit of trees. Continue to monitor beetle numbers and if necessary reapply ASTRAL 250EC up to 1 day before harvest or use another insecticide registered for this purpose. Apply no more than 2 applications per season. <b>There must be a minimum of 10 days between the re-treatment and the initial application.</b>  Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods. Do not use at rates greater than 40mL per 100L of water when using concentrate spraying.  Cultural control methods (eg. destruction of fallen fruit by mulching) should be used to prevent excessive build up of carpophilus beetle.
Pears	Longtailed mealybug ( <i>Pseudococcus longispinus</i> )	Vic. & WA only	10mL/100L plus Ampol DC Tron at 1L/100L	14 days	Examine wood for the presence of overwintering longtailed mealy bugs but do not spray until large numbers of young nymphs emerge in spring. Apply this mixture to near the point of runoff to all above ground parts of the tree between green tip to commencement of flowering. Do not spray after flowering has commenced.
Poppies	Redlegged earth mite ( <i>Halotydeus destructor</i> )	Tas. only	20-40mL/ha	-	Apply as a broadcast ground rig application in a total water volume of 50-200L/ha or by air in a minimum total water volume of 20L/ha. Apply to bare soil after conventional cultivation and sowing or onto well grazed or sprayed pasture after direct drilling. Treat infested paddocks after sowing and before or soon after seedling emergence. Use the higher rate on heavier infestations and for longer residual protection. ASTRAL 250EC is compatible with some herbicides. See compatibility statement for details.

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Sugarcane	Sugarcane wireworm ( <i>Agrypnus</i> spp.) Symphylans ( <i>Hanseniella</i> spp.)	Qld, NSW & WA only	150mL/ha* or 2.25mL/100m of row	-	Apply as a spray into the furrow at planting. Use a spray nozzle which will deliver a coarse spray in a total volume of 60 – 100L/ha in a band 20 - 30cm wide over the base of the furrow on top of the setts and before covering soil is brought in by tyres. * The rate is based on single row cane with a 1.5m row spacing. If row spacing varies from 1.5m then apply at the use rate according to mL/100m of row.
Sweet potato	Wireworm ( <i>Heteroderes</i> spp.)	Qld, NSW, SA, WA & NT only	2L/ha	-	Apply as a soil surface spray in a total volume of 200 to 500L/ha in front of a rotary hoe working to a depth of 30cm prior to or during the bed forming process 1-5 days before planting. <b>Summer Planted or Short Season Crops</b> ASTRAL 250EC will provide up to 110 days protection from wireworm damage on red loam soils and up to 140 days protection from wireworm damage on sandy loam soils. If longer protection is required, additional measures may be required to protect the crop. <b>Autumn Planted or Long Season Crops</b> ASTRAL 250EC will provide up to 200 days protection from wireworm damage. If longer protection is required additional measures may be required to protect the crop.
	Sweet potato weevil ( <i>Cylas formicarius</i> )		24mL/100L		Apply as a dilute application with a high volume boom spray, so that the crowns and runners in contact with the soil are sprayed to runoff. An application volume of 500L/ha (applied as a 25% band over the establishing plants) early in the life of the crop should be sequentially increased up to 2000L/ha to provide full cover when the crop is at full maturity. (This is equivalent to 200mL/sprayed m <sup>2</sup> through the life of the crop.) Commence applications once sweet potato weevil are first found in the crop and repeat at monthly intervals until 4 weeks before crop maturity. Under heavy pest pressure more frequent applications (14 day intervals) may be required.
Tomatoes	Native budworm ( <i>Helicoverpa punctigera</i> ) Corn earworm ( <i>Helicoverpa armigera</i> ) Two spotted mite ( <i>Tetranychus urticae</i> ) Tomato russet mite ( <i>Aculops lycopersici</i> )	All States	High Volume 16-24mL/100L  or  Low Volume 240mL/ha	1 day	Do not use low volume ground or air application on trellis tomatoes. <b>Crop Monitoring Program</b> <i>Helicoverpa</i> spp: Apply as indicated by field checks. Applications should be timed to coincide with egg hatch and when small larvae up to 5mm are present. Do not apply this product to <i>Helicoverpa</i> (= <i>Heliothis</i> ) <i>armigera</i> larvae larger than 5mm in length. <b>Mites:</b> Applications against <i>Helicoverpa</i> spp will give good control of coincident mites, particularly when applied on low mite populations. If conditions continue to favour mite development, a second application may be required 14-20 days later. <b>Schedule Spray Program</b> If fields are not checked during pest infestation periods, apply on a 7-10 day alternating program with a non pyrethroid insecticide. Use the higher rate (high volume application) and shorter interval when pest infestation is more severe and when increased residual protection is required. Do not apply this product to <i>Helicoverpa armigera</i> larvae larger than 5mm in length.



CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Tomatoes <i>cont.</i>	Silverleaf whitefly ( <i>Bemisia tabaci</i> ) Biotype B	Qld, NSW, NT & WA only	High Volume 24-32mL/100L  or  Low Volume 240-320mL/ha	1 day	Apply as indicated by field checks before populations reach damaging levels. The higher rate should be used where moderate to high populations are present. When applying as a dilute spray use a minimum water volume of 500L/ha increasing to 1500L/ha as crops grow. Thorough coverage of all leaf surfaces is important to obtain good control. The adult stage of silverleaf whitefly should be targeted. Do not spray crops with a high population of the juvenile stages of silverleaf whitefly unless using with another insecticide that is effective against these stages. Use ASTRAL 250EC in rotation with insecticides from at least 2 other insecticide groups that are registered or permitted for use against silverleaf whitefly in tomatoes. Do not apply more than 2 applications of ASTRAL 250EC per crop. If an approved Resistance Management Strategy is in place for a particular area (eg. Silverleaf Whitefly in the Burdekin and Bowen Districts of central Queensland), this should be followed. Tank mixes of ASTRAL 250EC with Synergy® Insecticide Synergist may improve control of silverleaf whitefly.
	Whitefly ( <i>Trialeurodes vaporariorum</i> )	All States	12mL/100L water		Apply as indicated by pest incidence and repeat as necessary. Use a total spray volume of 2500L/ha.

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

**WITHHOLDING PERIOD**

Apricots, Cucurbits, Nectarines, Peaches, Plums, Tomatoes: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

Bananas: For Ground Applications - DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.  
For Foliar Applications - DO NOT HARVEST FOR 8 DAYS AFTER APPLICATION.

Cotton: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.  
DO NOT GRAZE OR CUT FOR STOCKFEED.  
DO NOT FEED COTTON TRASH TO LIVESTOCK.

Pears: DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

Navy Beans: DO NOT HARVEST, GRAZE OR CUT FOR STOCK FOOD FOR 14 DAYS AFTER APPLICATION.

Barley, Canola, Clover, Faba beans, Field peas, Lucerne, Lupins, Subterranean Clover, Wheat:  
DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 4 WEEKS AFTER APPLICATION.  
HARVEST WHP: NOT REQUIRED WHEN USED AS DIRECTED.

Citrus, Grapes, Poppies, Sugarcane, Sweet potatoes: NOT REQUIRED WHEN USED AS DIRECTED.

**GENERAL INSTRUCTIONS**

ASTRAL 250EC Insecticide/Miticide is a contact and residual insecticide/miticide. It can be used as a protective treatment when applied at regular intervals or as a knockdown treatment to control existing pests. Best results are obtained when ASTRAL 250 EC is applied before pest populations build up to damaging levels.

This product is not suitable for use in Integrated Pest Management (IPM) programs where mite or other insect predators or parasites are established and providing effective mite and other insect control.

**APPLICATION**

ASTRAL 250 EC may be applied by either ground rig or aircraft. Thorough coverage is essential to ensure adequate control. Do not apply as a fog or mist.

**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:**

- (a) 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.
- (b) Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen water volume.
- (c) Determine an appropriate dilute spray volume (See Dilute Spraying above) for the crop canopy. This is needed to calculate the concentrate mixing rate.
- (d) 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 1000L/ha.
  2. Your chosen concentrate spray volume: For example 500L/ha.
  3. The concentration factor in this example is:  $2 \times$  (ie.  $1000L \div 500L = 2$ ).
  4. If the dilute label rate is 50mL/100L, then the concentrate rate becomes  $2 \times 50$ , that is 100mL/100L of concentrate spray.
- (e) 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.
  - (f) For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry Best Practices.

**Ground Application:**

Applications should be made as a fine spray preferably using hollow cone nozzles and a droplet size of 150 to 200 microns. The application volume will depend on the type of crop to be treated. The following are suggested:

Low volume broadcast applications to - e.g. cereals, canola, grain legumes, lucerne, poppies, subterranean clover: 50-200L/ha.

Low volume row crops applications to cotton, cucurbits, tomatoes, navy beans: 50-200L/ha.

High volume applications to row crops - e.g. trellised tomatoes, cucurbits: 200 - 1500L/ha except as noted in critical comments. Use 200L/ha from transplanting increasing to 1500L/ha at maturity.

**High volume directed spray:**

Grapes: Apply by hand application, using a high volume coarse spray of 500mL/vine. (e.g. at approx. 2500 vines/ha = 1250L/ha).

Foliar sprays to bananas: 300 to 500L/ha.

High volume application to stone fruit: 1000 to 2000L/ha.

**Soil Applied Sprays:**High volume application**Bananas:**

Stool treatment: Apply as a coarse spray at 500-750mL per stool.

Band treatment: Apply as a band application with a side delivery boom and offset nozzles - 1L of spray solution per stool.

**Citrus:** Apply as a high volume, directed spray to the ground under each tree. For optimum control apply to both sides of the tree. Total spray volume should be 5 to 10L/tree (e.g. at 250 trees/ha = 1250 to 2500L/ha).

In furrow applications:

**Cotton & Sugarcane:** Use a coarse spray: 60 to 100L/ha as a band over the seed or sett before covering with soil - refer to critical comments for details.

**Aerial Application:**

Use at least 20L/ha of total spray volume. Spray during the cooler parts of the day or night. To reduce possibility of drift avoid spraying in calm conditions or when wind is light and variable. Preferably, spray in a crosswind. Use suitable application equipment and/or nozzles to deliver a fine spray with a droplet size of 150 to 200 microns.

A spraydrift minimisation strategy should be employed at all times when aerially applying sprays to, or near, sensitive areas. The strategy envisaged is best exemplified by the cotton industry's Best Management Practice manual.



[spraywisedecisions.com.au](http://spraywisedecisions.com.au) is an online weather forecasting program and is recommended for use when planning your pesticide application.

**MONITORING**

Post-emergence monitoring of Citrus leafeating weevil populations: At first sign of major beetle emergence in mid October commence monitoring at 1 to 2 week intervals. Place polystyrene fruit box (330 x 480mm) under tree, shake branches vigorously, repeat on ten randomly selected trees throughout orchard. If 25 beetles or more are recorded in consecutive counts, treatment is required.

**MIXING**

Add the required quantity of ASTRAL 250EC to water in the spray tank and mix thoroughly. Maintain agitation during mixing and application.

**COMPATIBILITY**

ASTRAL 250EC is compatible with commonly used fungicides such as Dithane M45\*, Antracol\*, Barrack®, Bravo\* and the herbicides – Spray•Seed\*, Broadstrike\*, Spinnaker\*, Simagranz®, Dual\*, Sencor\*, Glean\*, Logran\*, Stomp® and Romper® and the insecticides Imidan\* and Saboteur\*.

**SURFACTANTS**

ASTRAL 250EC contains a surfactant. Additional surfactant may only be necessary on hard to wet plants and in high volume situations.

**\* NOTICE \***

*Helicoverpa* (= *Heliothis*) *armigera* resistance in Northern NSW and Qld. To help contain pyrethroid resistance in *H. armigera*, the Summer Crop Insecticide strategy as developed by the Qld Department of Primary Industries and NSW Agriculture should be adhered to. Failure to observe the strategy may result in widespread resistance affecting the future viability of summer cropping.

**INSECTICIDE RESISTANCE WARNING**

GROUP	<b>3A</b>	HERBICIDE
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For insecticide resistance management ASTRAL 250EC is a Group 3A insecticide. Some naturally occurring insect biotypes resistant to ASTRAL 250EC and other Group 3A insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if ASTRAL 250EC or other Group 3A insecticides are used repeatedly. The effectiveness of ASTRAL 250EC on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Nufarm Australia Limited accepts no liability for any losses that may result from the failure of ASTRAL 250EC to control resistant insects.

ASTRAL 250EC may be subject to specific resistance management strategies. For further information contact your local supplier, Nufarm Australia Limited representative or local agricultural department agronomist.

**STONE FRUIT EXPORT ADVICE**

Export of Treated Stone Fruit – Some export markets do not have suitable Maximum Residue Limits or import tolerances in place. Please contact Nufarm Australia Limited or the Australian Fresh Stone Fruit Growers Association prior to using this product on crops destined for export.

**RE-ENTRY TO TREATED FIELDS/CROPS**

Do not allow entry into treated areas until spray has dried, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

**PRECAUTION**

Do not use human flaggers/workers unless they are protected by engineering controls such as enclosed cabs.

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

Dangerous to fish and aquatic organisms. DO NOT contaminate streams, rivers or waterways with the product or the used containers. Tail drains which flow from treated areas should be prevented from entering river systems.

**PROTECTION OF LIVESTOCK**

Dangerous to bees. DO NOT spray any plants in flower while bees are foraging. Spray in the early morning when bees are not actively foraging.

**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 or preferably pressure rinse empty 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 designated collection point. If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. Do not burn empty containers or product.

**SAFETY DIRECTIONS**

Attacks eyes. Poisonous if swallowed. Harmful if inhaled. Will irritate the skin. Avoid contact with eyes and skin. Do not inhale vapour. When opening the container and preparing spray wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow-length PVC gloves and goggles. If applying by hand, wear cotton overalls over normal clothing, buttoned to the neck and wrist and a washable hat and elbow length PVC gloves. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, goggles and contaminated clothing.

**FIRST AID**

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If swallowed, do NOT induce vomiting. Give a glass of water.

**ADDITIONAL STATEMENTS (WHS REGULATIONS 2011)**

May cause an allergic skin reaction. Suspected of causing cancer. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing spray. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. IF SWALLOWED: Rinse mouth. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If skin irritation or rash occurs: Get medical advice/attention.

**SAFETY DATA SHEET**

For further information refer to the Safety Data Sheet (SDS) which can be obtained from your supplier or from the Nufarm website – [www.nufarm.com.au](http://www.nufarm.com.au)

**In case of emergency: Phone 1800 033 498** Ask for shift supervisor. Toll free 24 hours.

**CONDITIONS OF SALE**

"Any provisions or rights under the Competition and Consumer Act 2010 or relevant state legislation which cannot be excluded by those statutes or by law are not intended to be excluded by these conditions of sale. Subject to the foregoing, all warranties, conditions, rights and remedies, expressed or implied under common law, statute or otherwise, in relation to the sale, supply, use or application of this product, are excluded. Nufarm Australia Limited and/or its affiliates ("Nufarm") shall not accept any liability whatsoever (including consequential loss), or howsoever arising (including negligence) for any damage, injury or death connected with the sale, supply, use or application of this product except for liability which cannot be excluded by statute."

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