

# POISON

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

## Ospray Bifenthrin 100 EC Insecticide/Miticide

ACTIVE CONSTITUENT : 100 g/L BIFENTHRIN  
SOLVENT : 754 g/L LIQUID HYDROCARBONS

GROUP **3A** INSECTICIDE

For the control of *Helicoverpa* spp. in cotton, tomatoes, lucerne seed crops, navy beans; carpophilus beetle in stone fruit (except cherries); certain species of mites in bananas, cotton and tomatoes; longtailed mealy bug in pears; banana weevil borer and banana rust thrips in bananas; mirids in cotton; whitefly in tomatoes; and redlegged earth mite, blue oat mite, bryobia mite, webworm and brown pasture looper in faba beans, subtterranean clover, clover, canola, wheat, barley, field peas, lupins and lucerne; and certain species of wireworms in cotton and sugarcane; fig longicorn in grapes and citrus leafeating weevil in citrus as per the directions for use.

IMPORTANT: READ THIS LEAFLET BEFORE USE

APVMA APPROVAL  
NO: 59440/0406



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### MIXING

Add the required amount of Ospray Bifenthrin 100 EC Insecticide/Miticide to water in the spray tank and mix thoroughly. Maintain agitation during mixing and application.

### Compatibility

Ospray Bifenthrin 100 EC Insecticide/Miticide is compatible with commonly used fungicides such as Dithane M45™, Antracol™, Chlorothalonil and the herbicides - Paraquat, Broadstrike™, Spinnaker™, Simazine 900 WG, Metolachlor, Chlorsulfuron, Logran™ and Pendimethalin.

### Surfactants

Ospray Bifenthrin 100 EC Insecticide/Miticide 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 **3A** INSECTICIDE

For insecticide resistance management Ospray Bifenthrin 100 EC Insecticide/Miticide is a Group 3A insecticide. Some naturally occurring insect biotypes resistant to Ospray Bifenthrin 100 EC Insecticide/Miticide 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 Ospray Bifenthrin 100 EC Insecticide/Miticide or other Group 3A insecticides are used repeatedly. The effectiveness of Ospray Bifenthrin 100 EC Insecticide/Miticide on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Ospray Pty Ltd accepts no liability for any losses that may result from the failure of Ospray Bifenthrin 100 EC Insecticide/Miticide to control resistant insects.

Ospray Bifenthrin 100 EC Insecticide/Miticide may be subject to specific resistance management strategies. For further information contact your local supplier, Ospray Pty Ltd 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 Ospray Pty Ltd 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** re-enter treated field/crop until spray deposits have dried, unless wearing suitable protective clothing (i.e. waterproof hat, overalls, boots and gloves).

### PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND THE ENVIRONMENT

Dangerous to fish and aquatic organisms. **DO NOT** contaminate dams, rivers, streams, waterways or drains with product or the used container. 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 when 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 bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

**For Refillable Containers:** Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

**For 1000 L Containers only:** Store this tightly closed minibulk container in a safe and secure place away from children, animals, food and feedstuffs. Storage must be secure so that contents cannot be tampered with. All locks and/or seals must be in order. If locks or seals are broken prior to initial use then the integrity of this product cannot be assured. If this occurs Ospray Pty Ltd should be advised immediately.

### DIRECTIONS FOR USE

#### RESTRAINTS

**DO NOT** use as a foliar spray in banana plantations, or in situations and orchards where mite predators are established and providing effective mite 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.

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	<b>Seasonal Program</b> <u>Stool Treatment Method</u> 250-330 mL/100L twice per year OR 660 mL/100L Once per year  <u>Band Treatment Method</u> 250 mL/100L twice per year  <b>Monitoring Program</b> <u>Stool Treatment Method</u> 330 mL/100L <u>Band Treatment Method</u> 250 mL/100L	1 day	<b>Seasonal Program</b> <b>Twice per year Timing:</b> 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. <b>Once per year Timing:</b> Apply in October/November OR March/April. <b>Monitoring Program:</b> 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 <b>after rain or irrigation</b> 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. <b>Application Method: Stool Treatment Application:</b> Remove trash from the base of stools and apply 500 - 750 mL of spray solution to each stool, depending on stool size. Treat the bottom 30 cm of each stool as well as the soil in a 30 cm band around each stool, ensuring thorough treatment of both butt(s) and follower(s). Use the lower spray volume of 500 mL on small stools less than 50 cm across the entire base. <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 30 cm of soil on either side of the row and 30 cm 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.
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> )  False wireworm ( <i>Pterohlaeus alternatus</i> ) Sugarcane wireworm ( <i>Agrypnus variabilis</i> )	QLD, NSW & WA only	600-800 mL/ha          375 mL/ha <sup>1</sup> or 3.8 mL/100m of row	14 days <b>DO NOT GRAZE OR CUT FOR STOCKFEED, DO NOT FEED COTTON TRASH TO LIVESTOCK</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 5 mm are present. <b>Do not</b> apply this product to <i>Helicoverpa</i> (= <i>Heliothis</i> ) <i>armigera</i> larvae larger than 5 mm 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. <b>Wireworms:</b> 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 - 100 L/ha in a 10 cm band over the seed before soil is brought in behind covering tyres in front of the press wheel. <sup>1</sup> The rate is based on a 1m row spacing. If row spacing varies from 1m then apply at the use rate according to mL/100m of row.
Canola, Faba Beans, Subterranean Clover, Clover, Barley, Field Peas, Lupins, Lucerne & Wheat	Redlegged Earth Mite ( <i>Halotydeus destructor</i> ) Brown pasture looper ( <i>Ciampa arietaria</i> )  Blue oat mite ( <i>Penthaleus major</i> ) Pasture webworm ( <i>Hednota spp.</i> ) Bryobia mites ( <i>Bryobia spp.</i> )	All States	50-100 mL/ha          100 mL/ha       200 mL/ha	4 weeks (grazing)	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 20 L/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. Use the higher rate on heavier infestations and for longer residual protection. Ospray Bifenthrin 100 EC Insecticide/Miticide is compatible with some herbicides. See compatibility statement for details.

This minibulk container is reusable and remains the property of Ospray Pty Ltd. **DO NOT** rinse empty container. Empty contents fully into application equipment. Close all valves and return to the point of supply for refill or storage. No other liquid, solid or pesticide product should be put into it. When empty return to Ospray Pty Ltd for cleaning, relabelling and refilling.

### SAFETY DIRECTIONS

Poisonous if swallowed. Attacks eyes. Will irritate the skin. Avoid contact with eyes and skin. If product in eyes, wash it out immediately with water. **Do not** inhale spray mist. When preparing spray, wear cotton overalls buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and goggles. When using the prepared spray with hand held application equipment in bananas and grapes wear cotton overalls buttoned to the neck and wrist and elbow length PVC gloves. 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. Tel: (13 11 26). If swallowed, **do NOT** induce vomiting, give a glass of water.

### MATERIAL SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet which can be obtained from the supplier.

### DISCLAIMER

Ospray Pty Ltd warrants only that the material contained within this container at the time of filling is in accordance with the contents as listed above. Due to the nature of use, Ospray Pty Ltd and its nominated agents makes no other express or implied warranty. The directions are believed to be reliable and based on professional field testing and experimentation.

**Dithane M45 - Registered Trademark of Rhohm & Haas Australia Pty Ltd**  
**Antracol - Registered Trademark of Bayer Australia Pty Ltd**  
**Broadstrike - Registered Trademark of DowElanco Australia Ltd**  
**Spinnaker - Registered Trademark of Cyanamid Agriculture Pty Ltd**  
**Logran - Registered Trademark of Novartis Crop Protection Australasia Ltd**

### DIRECTIONS FOR USE (cont)

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Bananas (cont)	Strawberry spider mite ( <i>Tetranychus lambi</i> )	QLD & WA only	40 mL /100L	8 days	Monitor mite population on old leaves particularly during hot dry conditions. Apply Ospray Bifenthrin 100 EC Insecticide/Miticide 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 - 500 L/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> )  False wireworm ( <i>Pterohlaeus alternatus</i> ) Sugarcane wireworm ( <i>Agrypnus variabilis</i> )	QLD, NSW & WA only	600-800 mL/ha          375 mL/ha <sup>1</sup> or 3.8 mL/100m of row	14 days <b>DO NOT GRAZE OR CUT FOR STOCKFEED, DO NOT FEED COTTON TRASH TO LIVESTOCK</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 5 mm are present. <b>Do not</b> apply this product to <i>Helicoverpa</i> (= <i>Heliothis</i> ) <i>armigera</i> larvae larger than 5 mm 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. <b>Wireworms:</b> 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 - 100 L/ha in a 10 cm band over the seed before soil is brought in behind covering tyres in front of the press wheel. <sup>1</sup> The rate is based on a 1m row spacing. If row spacing varies from 1m then apply at the use rate according to mL/100m of row.
Canola, Faba Beans, Subterranean Clover, Clover, Barley, Field Peas, Lupins, Lucerne & Wheat	Redlegged Earth Mite ( <i>Halotydeus destructor</i> ) Brown pasture looper ( <i>Ciampa arietaria</i> )  Blue oat mite ( <i>Penthaleus major</i> ) Pasture webworm ( <i>Hednota spp.</i> ) Bryobia mites ( <i>Bryobia spp.</i> )	All States	50-100 mL/ha          100 mL/ha       200 mL/ha	4 weeks (grazing)	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 20 L/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. Use the higher rate on heavier infestations and for longer residual protection. Ospray Bifenthrin 100 EC Insecticide/Miticide is compatible with some herbicides. See compatibility statement for details.

**DIRECTIONS FOR USE (cont)**

CROP	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Canola	Vegetable Weevil ( <i>Listroderes difficilis</i> )	All States	100 – 200 mL/ha		Use the 100 mL rate when pest pressure is low. Monitor adjacent habitat and edges of the field for the presence of vegetable weevil prior to making a decision to spray.
Peaches, Nectarines, Plums, Apricots	Carpophilus beetles ( <i>Carpophilus spp.</i> )	All States	<u>Dilute spraying</u> 50 mL/100L  <u>Concentrate spraying</u> Refer to Mixing/ Application section	1 day	Monitor stone fruit orchards for Carpophilus beetle as fruit approach maturity and become susceptible to attack. Apply Ospray Bifenthrin 100 EC Insecticide/Miticide as a dilute spray before beetle reach damaging levels. Apply to the foliage and fruit of trees. Continue to monitor beetle numbers and if necessary reapply Ospray Bifenthrin 100 EC Insecticide/Miticide 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. <b>Do not</b> use at rates greater than 100 mL per 100 L of water when using the concentrate spraying.  Cultural control methods (e.g. destruction of fallen fruit by mulching) should be used to prevent excessive build up of carpophilus beetle.
Citrus	Leafeating weevil ( <i>Eutinophaea bicristata</i> )	All States	<u>Pre-emergence program</u> 12.5 or 25 mL/tree  <b>Post-emergence monitoring program</b> 6 mL/tree	-	Apply as a high volume band application in a 1.5 to 2 metres wide swath, to the ground, both sides of the row, under each tree. Aim to apply a total spray volume of 5 to 10L/tree (e.g. at 250 trees/ha = 1250 to 2500L/ha).  <b>Pre-emergence program:</b> Apply just prior to, or at the first sign of major beetle emergence in mid-October. Use the higher rate in blocks with a history of high beetle numbers or when longer residual control is required.  <b>Post-emergence monitoring program:</b> Apply at peak beetle emergence in October / November as indicated by field monitoring. (Refer to monitoring statement on label) Follow up treatment maybe necessary based on a threshold of 25 beetles per 10 sites per orchard in consecutive counts 1-2 weeks apart.
Grapes	Fig longicorn ( <i>Acalolepta vastator</i> )	NSW, WA & ACT only	1000 mL/100L	-	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 grapevines to achieve thorough wetting of the bark. Total spray volume should be about 500 mL/vine achieved by hand application.
Lucerne seed crops	Native budworm ( <i>Helicoverpa punctigera</i> )	All States	400-600 mL/ha	-	<b>Do not</b> 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 5 mm are present.
Navy Beans	Native budworm, ( <i>Helicoverpa punctigera</i> ) Corn earworm ( <i>Helicoverpa armigera</i> )	All States	600-800 mL/ha	14 days (Harvest & 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. <b>Budworm and Earworm:</b> Applications should be timed to coincide with egg hatch and when small larvae up to 5 mm are present. <b>Do not</b> apply this product to <i>Helicoverpa (= Heliothis) armigera</i> larvae larger than 5 mm in length.
Pears	Longtailed mealybug ( <i>Pseudococcus longispinus</i> )	VIC & WA only	25 mL/100 L plus Minder Spray Oil at 1L/100L	14 days	Examine wood for the presence of over wintering longtailed mealy bugs but <b>do not</b> 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. <b>Do not</b> spray after flowering has commenced.
Sugarcane	Sugarcane wireworm ( <i>Agrypnus spp.</i> )	Qld, NSW & WA	375 mL/ha <sup>2</sup> or 5.6 mL/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 - 100 L/ha in a band 20 - 30 cm wide over the base of the furrow on top of the setts and before covering soil is brought in by tynes. <sup>2</sup> The rate is based on 1.5m row spacing. If row spacing varies from 1.5m then apply at the use rate according to mL/100m of row.
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 40-60 mL/100L or Low Volume 600 mL/ha	1 day	<b>Do not</b> use low volume ground or air application on trellis tomatoes. <b>Crop Monitoring Program:</b> <b>Helicoverpa spp:</b> Apply as indicated by field checks. Applications should be timed to coincide with egg hatch and when small larvae up to 5 mm are present. <b>Do not</b> apply this product to <i>Helicoverpa (= Heliothis) armigera</i> larvae larger than 5 mm 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. <b>Do not</b> apply this product to <i>Helicoverpa armigera</i> larvae larger than 5 mm in length.
	Whitefly ( <i>Trialeurodes vaporariorum</i> )		30 mL/100L water		Apply as indicated by pest incidence and repeat as necessary. Use a total spray volume of 2500 L/ha.

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

**WITHHOLDING PERIODS:**

**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 STOCKFEED FOR 14 DAYS AFTER APPLICATION.**

**TOMATOES, PEACHES, NECTARINES, PLUMS, APRICOTS: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.**

**SUBTERRANEAN CLOVER, CLOVER, CANOLA, FIELD PEAS, FABA BEANS, WHEAT,**

**BARLEY, LUCERNE, AND LUPINS: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 4 WEEKS AFTER APPLICATION.**

**: HARVEST WHP NOT REQUIRED WHEN USED AS DIRECTED**

**CITRUS, GRAPES, SUGARCANE: NOT REQUIRED WHEN USED AS DIRECTED.**

**GENERAL INSTRUCTIONS**

Ospray Bifenthrin 100 EC 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 Ospray Bifenthrin 100 EC Insecticide/Miticide 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 predators are established and providing effective mite control.

**APPLICATION**

Ospray Bifenthrin 100 EC Insecticide/Miticide 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 100 L of water. Spray to the point of run-off.
- The required dilute spray volume will change and the sprayer set up and operation may also need to be changed, as the crop grows.

**Concentrate Spraying**

- Use a sprayer designed and set up for 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 1000L/ha
2. Your chosen spray volume : For example 500L/ha
3. The concentration factor in this example is; 2X (ie. 1000L divided by 500L = 2)
4. If the dilute label rate is 50mL/100L, then the concentrate rate becomes 2 x 50, that is 100mL/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.

**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 broadacre applications to - e.g. cereals, canola, grain legumes, lucerne, subterranean clover: 50-200 L/ha.

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

High volume applications to row crops - e.g. trellised tomatoes: 200 - 1000 L/ha except as noted in critical comments. Use 200 L/ha from transplanting increasing to 1000L/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 500 L/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 10 L / tree (e.g. at 250 trees/ha = 1250 to 2500L/ha).

In furrow applications:

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

**Aerial Application:**

Use at least 20 L/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.

**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.