FARMALINX

# **Bifentin 100EC**

**INSECTICIDE / MITICIDE** 

### DIRECTIONS FOR USE: Restraints:

DO NOT use as a foliar spray in banana plantations, or in situations 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.

# 1. TREE AND VINE CROPS

This table	RATE shows rates for dilute sprayin refer to the Mixing/Applic	g. For conce ation section	CRITICAL COMMENTS For all uses in this table: Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this			
CROP	PEST		RATE	product by dilute or concentrate spraying methods.		
Citrus	Leafeating Weevil (Eutinophaea bicristata)	All States		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 10 L/tree.		
			Pre-emergence program 12.5 or 25 mL/tree	<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.		
			Post-emergence monitoring program 6 mL/tree	<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 may be necessary based on a threshold of 25 beetles per 10 sites per orchard in consecutive counts 1-2 weeks apart.		
Grapes	Fig Longicorn (Acalotepta vastator)	NSW, ACT, WA only	1000 mL/100 L	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 500 mL/vine achieved by hand application.		
Pears	Longtailed Mealybug (Pseudococcus longispinus)	Vic, WA only	25 mL/100 L plus Ampol DC Tron at 1 L/100 L	Examine wood for the presence of over wintering Longtailed Mealybugs but do not spray until large numbers of young nymphs emerge in Spring. Apply this mixture to near the point of run-off to all above ground parts of the tree between green tip to commencement of flowering. D0 NOT spray after flowering has commenced.		
Peaches, nectarines, plums, apricots	Carpophilus Beetle ( <i>Carpophilus</i> spp.)	All States	Dilute Spraying 50 mL/100 L Concentrate Spraying Refer to the Mixing/Application section	Monitor stone fruit orchards for Carphophilus Beetle as fruit approach maturity and become susceptible to attack. Apply FARMALINX Bifentin 100EC Insecticide/Miticide 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 FARMALINX Bifentin 100EC 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. D0 NOT use at rates greater than 100 mL per 100 L 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.		

# 2. OTHER CROPS CRO

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CROP	PEST	STATE	RATE	CRITICAL COMMENTS	CROP	PEST	STATE	RATE	CRITICAL COMMENTS
Bananas	(Cosmopolites sordidus),	WA, NT only	Stool Treatment Program 250-330 mL/100 L twice per yearTwice per year 	Banana Weevil Borer: Application should be made after rain or irrigation during periods of high adult borer activity. Banana Rust Thrips: Application against banana	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 liebknecht</i> )	Qld, NSW, WA only	600-800 mL/ha	<ul> <li>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.</li> <li>Budworm and Bollworm: Applications should be timed to coincide with egg hatch and when small larvae up to 5 mm are present.</li> <li>DO NOT apply this product to <i>Helicoverpa</i> (= Heliothis) <i>armigera</i> larvae larger than 5 mm in length.</li> <li>Two Spotted Mite: 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.</li> <li>Green Mirid &amp; Apple Dimpling Bug: Apply at recommended threshold levels as indicated by field checks. Use the higher rate for increased pest pressure and longer residual protection.</li> </ul>
				<ul> <li>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.</li> <li>Application Method</li> <li>Stool Treatment Program: 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, 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.</li> <li>Band Treatment Application: 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 and 30 cm in height. Aim to apply a total spray volume of 1 L/stool area. For single sucker row configurations apply 28 L of solution per 100 metres of row in a band 0.5 m wide on each side of the row with the spray pattern. For double sucker row configurations apply 28 L of solution per 100 metres of row in a band 0.5 m wide on each side of the row with the spray pattern overlapping between the rows.</li> <li>Monitor mite population and old leaves particularly during hot dry conditions. Apply FARMALINX Bifentin 100EC Insecticide/Miticide as a preventative rather than a curative treatment before damage occurs, and before mite numbers build up to damaging levels.</li> <li>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</li> </ul>		False Wireworm ( <i>Pterohlaeus alternatus</i> ), Sugarcane Wireworm ( <i>Agrypnus variabilis</i> )			Wireworms: 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 1 m row spacing. If row spacing varies from 1 m then apply at the use rate according to mL/100 m of row.
					Canola, faba beans, subterranean clover, barley, field peas, lupins, lucerne, wheat	( <i>Halotydeus destructor</i> ), Brown Pasture Looper ( <i>Ciampa arietaria</i> )	200		Apply as a broadcast ground rig application in a total water volume of 50-200 L/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. FARMALINX Bifentin 100EC Insecticide/Miticide is compatible with some herbicides. See compatibility statement for details.
						Blue Oat Mite ( <i>Penthaleus major</i> ), Pasture Webworm ( <i>Hednota</i> spp.)		100 mL/ha	
						Bryobria Mite ( <i>Bryobia</i> spp.)		200 mL/ha	
					Canola	Vegetable Weevil ( <i>Listroderes</i> difficils)	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 whether to spray.
	Strawberry Spider Mite ( <i>Tetranychus lambi</i> )	QId, WA only	40 mL/100 L		Lucerne seed crops	Native Budworm ( <i>Helicoverpa punctigera</i> )	All States	400-600 mL/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> Application should be timed to coincide with egg hatch and when small larvae up to 5 mm are present.
				volume of 300-500 L/ha.				www.fa	armalinx.com
									CONTINUED OVERLEAF

# 2. OTHER CROPS

#### 2. OTHER CROPS – continued

CROP	PEST	STATE	RATE	CRITICAL COMMENTS		
Navy beans	Native Budworm ( <i>Helicoverpa punctigera</i> ), Corn Earworm ( <i>Helicoverpa</i> <i>armigera</i> )	All States	600-800 mL/ha	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>Budworm and Earworm:</b> Applications should be timed to coincide with egg hatch and when small larvae up to 5 mm are present. D0 NOT apply this product to <i>Helicoverpa</i> (= Heliothis) <i>armigera</i> larvae larger than 5 mm in length.		
Sugarcane	Sugarcane Wireworm ( <i>Agrypnus</i> spp.)	QId, NSW, WA only	375 mL/ha² OR 5.6 mL/100 m 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 a 1.5 m row spacing. If row spacing varies from 1.5 m then apply at the use rate according to mL/100 m of row.		
Tomatoes	Native Budworm ( <i>Helicoverpa punctigera</i> ), Corn Earworm ( <i>Helicoverpa armigera</i> ), Two Spotted Mite ( <i>Tetranychus urticue</i> ), Tomato Russet Mite ( <i>Aculops</i> <i>lycopersici</i> )	All States	High Volume 40-60 mL/100 L OR Low Volume 600 mL/ha	D0 N0T use low volume ground or air application on trellis tomatoes. <b>Crop Monitoring Program</b> <i>Helicoverpa</i> <b>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. D0 N0T apply this product to <i>Helicoverpa</i> (= Heliothis) <i>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. D0 NOT apply this product to <i>Helicoverpa armigera</i> larvae larger than 5 mm in length.		
	Whitefly ( <i>Trialeurodes vaporariorum</i> )	1	30 mL/100 L water	Apply as indicated by pest incident 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:

TOMATOES, PEACHES, NECTARINES	, PLUMS, APRICOTS: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.
BANANAS:	FOR GROUND APPLICATION – DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.
	FOR FOLIAR APPLICATION – 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.
	DO NOT GRAZE OR CUT FOR STOCK FEED. 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.
CANOLA, SUBTERRANEAN CLOVER,	CLOVER, FIELD PEAS, FABA BEANS, WHEAT, BARLEY, LUCERNE, 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.

**OR USING** POISON Keep out of reach of children read safety directions before o CIDE Ð 4 က် 8

#### SAFETY DIRECTIONS

Poisonous if swallowed. Attacks eyes. Will irritate the skin. Avoid contact with eyes and skin. 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. 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.

#### MATERIAL SAFETY DATA SHEET

Additional information is listed in the material safety data sheet (MSDS). A material safety data sheet for FARMALINX Bifentin 100EC Insecticide/Miticide is available from FARMALINX Pty Ltd on request. Call Customer Service on 02 9389 2455.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use. No warranty (other than non-excludable statutory warranties) of merchantability or fitness for a particular purpose express or implied extends to the use of the product contrary to label instructions, or under off-label permits not endorsed by FARMALINX Ptv Ltd or under abnormal conditions. FARMALINX Pty Ltd accepts no liability for any loss or damage arising from incorrect storage, handling or use. \* Other trademarks



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#### GENERAL INSTRUCTIONS

FARMALINX Bifentin 100EC 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 FARMALINX Bifentin 100EC 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

FARMALINX Bifentin 100EC Insecticide/Miticide may be applied by either ground or aircraft. Thorough coverage is essential to ensure adequate control. DO NOT apply as a fog or mist.

## 1. TREE AND VINE CROPS

#### Dilute Spraying

- · Use a sprayer designed to apply high volumes of water up to the point of run-off and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover the crop to the point of run-off. Avoid excessive run-off
- The required water volume may be determined by applying different test volumes, using different settings on the sprayer, from industry guidelines or expert advice
- Add the amount of product specified in the Directions for Use table for each 100 L of water. Spray to the point of run-off.
- The required dilute spray volume will change and the sprayer set up and operation may also need to be changed, as the crop grows.

#### Concentrate Spraying

- · Use a sprayer designed and set up for concentrate spraying (that is a sprayer which applies water volumes less than those required to reach the point of runoff) 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: 3X (ie. 1500 L divided by 500 L = 3)
- 4. If the dilute label rate is 10 mL/100 L, then the concentrate rate becomes 3 x
- 10. that is 30 mL/100 L of concentrate 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.

#### 2. OTHER CROPS

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 1000 L/ha at maturity.

Grapes: Apply by hand application using a high volume coarse spray of 500mL/vine. (e.g. at approx. 2500 vines/ha = 1250 L/ha). High Volume to Stone Fruit: 1000 to 2000 L/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 500-750 mL per stool. Band treatment: Apply as a band application with a side delivery boom and offset nozzles - 1 L 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 2500 L/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 480 mm) 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 amount of FARMALINX Bifentin 100EC Insecticide/Miticide to water in the spray tank and mix thoroughly. Maintain agitation during mixing and annlication

#### COMPATIBILITY

FARMALINX Bifentin 100EC Insecticide/Miticide is compatible with commonly used fungicides such as Dithane M45\*, Antracol\*, Chlorothalonil and the herbicides - Paraguat, Broadstrike\*, Spinnaker\*, Simaguest 900 WG, Metolachlor, Chlorsulfuron, Logran\* and Pendimethalin.

#### Surfactants

Additional surfactant may only be necessary on hard to wet plants and in high volume situations. FARMALINX WetDrop Wetter is recommended at label rates.

\*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

For insecticide resistance management FARMALINX GROUP 3A INSECTICIDE Bifentin 100EC Insecticide/Miticide is a Group 3A

insecticide. Some naturally occurring insect biotypes resistant to FARMALINX Bifentin 100EC 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 FARMALINX Bifentin 100EC Insecticide/Miticide or other Group 3A insecticides are used repeatedly. The effectiveness of FARMALINX Bifentin 100EC Insecticide/Miticide on resistant individuals could be significantly reduced.

Since the occurrence of resistant insects is difficult to detect prior to use, FARMALINX Ptv Ltd accepts no liability for any losses that may result from the failure of FARMALINX Bifentin 100EC Insecticide/Miticide to control resistant insects

FARMALINX Bifentin 100EC Insecticide/Miticide may be subject to specific resistance management strategies. For further information contact your local supplier, FARMALINX 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 FARMALINX 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 aloves).

#### 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 rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or a designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations.

DO NOT burn empty containers or product.

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

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