



Dominex® Duo

INSECTICIDE

POISON

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

EC

FORMULATION TYPE
Emulsifiable
Concentrate

ACTIVE CONSTITUENT:

100 g/L ALPHA-CYPERMETHRIN

CONTENTS:

1 L – 1000 L

SOLVENT:

741.9 g/L HYDROCARBON LIQUID

GROUP **3A** INSECTICIDE



Control insect pests of Cereals, Cotton, Grain Legumes, Oilseeds, Pastures, Pome and Stone fruits, Rice, Trees & Ornamentals, Tobacco & Vegetables, Eucalypt and Pinus spp. plantation as specified in the Directions For Use Table.

SAFETY DIRECTIONS

Harmful if swallowed. Will irritate the eyes and skin. Facial skin contact may cause temporary facial numbness. Avoid contact with eyes and skin. Avoid inhaling vapour or spray mist. When preparing spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and a face shield or goggles. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131 126. If swallowed, **DO NOT** induce vomiting. If in eyes wash out immediately with water.

SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet that can be obtained from www.fmccrop.com.au

GENERAL INSTRUCTIONS

Dominex® Duo Insecticide is a contact and residual insecticide. It can be used as a protective treatment when applied at regular intervals or as a knockdown treatment to control existing larvae. Best results will be obtained by spraying at egg hatch. Thorough coverage is essential to ensure adequate control. Apply during the cooler parts of the day or night.

The product can be applied mixed either with water or oil based bulking agents such as D-C-Tron* Spraying Oil or compatible ULV products.

RESISTANCE WARNING

GROUP **3A** INSECTICIDE

For insecticide resistance management Dominex® Duo Insecticide is a Group 3A insecticide. Some naturally occurring insect biotypes resistant to Dominex® Duo 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 Dominex® Duo or other Group 3A insecticides are used repeatedly. The effectiveness of Dominex® Duo on resistant

individuals could be significantly reduced.

Since occurrence of resistant individuals is difficult to detect prior to use, FMC accepts no liability for any losses that may result from the failure of Dominex® Duo to control resistant insects.

Dominex® Duo may be subject to specific resistance management strategies. For further information contact your local supplier, FMC representative or local agricultural department agronomist.

In NSW and Qld, application of this product to *Helicoverpa armigera* larvae longer than 5 mm may not only be ineffective but it may increase the level of synthetic pyrethroid resistance. This product should **NOT** be used to treat infestations that were not controlled by an earlier application of it or another synthetic pyrethroid. Infestations not controlled by this product should be treated with an insecticide from another chemical group. Application of this product with an insecticide from another chemical group will assist in the management of synthetic pyrethroid resistant *Helicoverpa armigera*.

MIXING

Low volume and high-volume applications by ground rig or aircraft when Dominex® Duo is applied with water

carrier.

Add the required quantity of Dominex® Duo Insecticide to water in the spray tank and mix thoroughly. Maintain agitation during mixing and application.

Ultra-low volume (ULV) applications by aircraft when Dominex® Duo is applied with oil based bulking agents.

This product can be mixed with D-C-Tron* Spraying oil or other compatible products (see compatibility section).

First add the mixing partner to the spray tank and then, with the agitator in motion, add the required quantity of Dominex® Duo Insecticide to the spray tank. **DO NOT** mix with water and ensure that no water is in the spraying system.

APPLICATION – GRAPEVINES, POME, AND STONE FRUIT

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 correct 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 be calculated the following way:

EXAMPLE ONLY

1. Dilute spray volume as determined above:
For example 1500 L/ha
 2. Your chosen concentrate spray volume:
For example 500 L/ha
 3. The concentration factor in this example is:
 $3 \times$ (i.e. $1500 \text{ L} / 500 \text{ L} = 3$)
 4. If the dilute label rate is 100 g/100 L, then the concentrate rate becomes 3×100 , that is 300 g/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.

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

APPLICATION – CROPS OTHER THAN GRAPE VINES, POME AND STONE FRUIT

Low volume and high-volume by ground rig or aircraft when Dominex® Duo is applied with water carrier.

Dominex® Duo Insecticide can be applied by ground or aircraft with a water carrier. Thorough coverage is essential to ensure adequate control. Always apply with a non-ionic surfactant unless detailed on the label of a tank mix partner. Apply during the cooler parts of the day or night.

Ground Application: (water carrier)

For low volume spraying of field crops with ground rigs, use a total volume of 50-200 L/ha except for sweet corn, tomatoes and tobacco where higher volumes should be used. Drop arms should be used on ground rigs in row crops taller than 30 cm. The application should be made as a fine spray, preferably using hollow cone nozzles and a droplet size of 150-200 microns.

Aerial Application: (water carrier)

DO NOT apply to trellis tomatoes by aircraft. Use a minimum spray volume of 20 L/ha. For spring/early summer applications to cereals, linola, canola, rice and to other dense crops, apply a total spray volume of 30 to 35 L/ha. If possible, spray in a cross wind. Avoid spraying in calm conditions or when wind is light and variable in direction. Apply as a spray of 100 – 150 microns VMD.

Ultra Low Volume (ULV) application by aircraft

Dominex® Duo, mixed with D-C-Tron* spraying oil or compatible products should be applied in a minimum total spray volume of 1.5 L/ha. The minimum application volume in cotton should be 3 L/ha. It should only be applied by aircraft with suitable equipment to provide a droplet size of approximately 80-100 microns VMD. Applications should be made during the cooler parts of the day or at night. Avoid application in calm or very windy conditions. Preferably apply in light to moderate cross winds.

COMPATIBILITY

Low volume and high-volume applications made by ground rig or aircraft when Dominex® Duo is applied with water carrier

This product is compatible with D-C-TRATE*, D-C-Tron* Cotton spray oil, Synerrol*, Ulvapon* Dithane* M45, Fusilade*, Fusion*, Kocide* Kelthane* MF, Bullet, Ensign*, Pix*, Sabre* Insecticide, dicamba, Copper Hydroxide, Lannate* L, Nudrin* Insecticide, Nudrin* 225, Crop Care Methyl Parathion 500 Insecticide, Predator* 300, Ridomil*, Wuxal* Select*, Saboteur*, dimethoate Gramoxone*, Spray.Seed*, paraquat, diquat, Glyphosate, Tigrex*, Jaguar*, Simazine, Spinnaker* Coptrel* 2, 4-D amine and ester, 2,4-DB and MCPA.

DO NOT mix Dominex® Duo with wettable powders and water dispersible granules BEFORE addition to the spray tank.

Dominex® Duo can be mixed with Dithane* WDG providing

the mixture is agitated efficiently and used immediately.

Ultra-low volume (ULV) application by aircraft

This product should be mixed only with specific ULV formulations of other insecticides and PBO synergists when mixed according to the directions on the PBO synergist labels.

NOTICE:

Helicoverpa armigera resistance Northern NSW and QLD. To help contain pyrethroid resistance in *Helicoverpa armigera*, the Summer Crop Insecticide Strategy as developed by the Avcare Insecticide Resistance Action Committee, Qld Department of Primary Industries and the NSW Department of Agriculture and Fisheries should be adhered to. Failure to observe the strategy may result in widespread resistance affecting the future viability of summer cropping.

PROTECTION OF LIVESTOCK

Dangerous to bees. DO NOT spray on any plants in flower while bees are foraging. Dominex® Duo is known to have a deterrent effect on foraging bees for a short period of time after spraying. Risk to bees is reduced by spraying in early morning and late evening while bees are not foraging.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Very highly toxic to fish and aquatic life such as yabbies. DO NOT contaminate streams, rivers or waterways with chemical or used containers. Water from treated rice fields must not be released off-farm until the retention period specified by local irrigation authorities has been met.

DO NOT apply or allow spray drift onto adjacent non-target aquatic areas. Allow sufficient buffer distance between downwind non-target water bodies and the sprayed area. Runoff from areas must be prevented from entering drains or waterways.

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 designated collection point.

If not recycling, break, crush or puncture and deliver 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. Empty containers and product should **NOT** be burnt.

Refillable containers:

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

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

DIRECTIONS FOR USE

RESTRAINTS:

DO NOT apply if rainfall is expected within 6 hours of application.

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Cereals					
Winter cereals	Cutworms (<i>Agrotis</i> spp.)	Vic, SA and WA only	75 mL/ha	7 days (harvest) 14 days (stubble grazing)	DO NOT apply more than a total of 540 mL/ha per season to any one crop. For ULTRA LOW VOLUME use, see ULV application section in this label. Check emerging and establishing crops in the late afternoon and evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray in the late afternoon or evening. In NSW DO NOT apply before May or after August.
		NSW, ACT & Qld only	75 or 150 mL/ha		Use the higher rate when the infestation is severe, or when there are larvae longer than 10 mm, or when longer residual activity is required.
	Pasture webworm	NSW, ACT, Vic, SA & WA only	75 mL/ha		DO NOT use as a ULV application. <u>Pre-planting:</u> Dominex® Duo may be applied with knockdown herbicides prior to planting. Apply from the last week in May when the larvae have emerged. Pasture should be closely grazed to ensure good spray penetration. Use high water volumes eg. 100 L/ha. DO NOT apply on dense pasture. <u>Post crop emergence:</u> Inspect crop regularly from emergence and spray at first sign of pest activity. Repeat as required.
	Common armyworm (<i>Mythimna convecta</i>) Southern armyworm (<i>Persectania ewingii</i>)	All states	240 mL/ha		Apply before "head lopping" occurs when larval numbers exceed two or more per square metre. Spray on the cool of the day (late afternoon) when larvae are most active. Spray to achieve good crop penetration. This rate is effective against small (6 mm) and large (20 mm) grubs. Monitor crop closely and retreat if necessary. Poor control may occur on crops that have lodged. See application section for correct water rates.
	Redlegged earth mite (<i>Halotydeus destructor</i>)	NSW, ACT, Vic, SA, Tas & WA only	100 mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor red legged earth mite numbers and re-treat if necessary. DO NOT apply as a ULV application.
	Redlegged earth mite (<i>Halotydeus destructor</i>) Blue Oat Mite (<i>Penthaleus major</i>)		50 mL/ha		Apply when mite numbers reach damaging levels. Spray seedling crops if silvering or whitening (bleaching) of leaves is causing a reduction in crop growth. If possible, spray on a mild morning when mites are actively feeding on crop leaves. DO NOT apply as a bare earth treatment. DO NOT use as a ULV application.

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
	Aphid Control to prevent Barley yellow Dwarf Virus transmission.		125 mL/ha		Apply at 5 to 6 weeks after sowing. Repeat the application 4 to 5 weeks later to maintain protection against aphid transmission to BYDV until after stem elongation.
Maize	* Corn earworm (<i>Helicoverpa armigera</i>)	Vic, NSW, Qld, ACT, WA & NT only	300 or 400 mL/ha	7 days (Harvest)	For ULTRA LOW VOLUME use, see ULV application section in this label. Thoroughly and regularly check the crop. Apply at early silking according to pest incidence. Use the higher rate if larvae longer than 10 mm are present. To help contain pyrethroid resistance in <i>Helicoverpa armigera</i> in summer crops, DO NOT apply to larvae > 5 mm in Northern Qld NT, and NSW.
	Native Budworm (<i>Helicoverpa punctigera</i>)	All states			Thoroughly and regularly check the crop. Apply when the infestation reaches an economically damaging level and repeat if necessary. Best results will be obtained by applying at egg hatch. Use the higher rate if larvae longer than 10 mm are present.
Rice (both aerial and drill sown rice)	Common armyworm (<i>Mythimna convecta</i>)	NSW & WA only	200 mL/ha	7 days	DO NOT use more than 400 mL/ha per season. Apply to drained fields only. Inspect crop regularly for grubs. Apply by aircraft in 20-30 litres of water/ha. Spray in the cool of the day (early morning or late afternoon) when larvae are active. Monitor crop closely and re-treat if necessary. Poor control may occur in crops that have lodged. See application section for correct water rates.
	Bloodworm		100 mL/ha		Apply to water immediately after sowing using helicopter or fixed-wing aircraft. A second treatment may be required approximately 10 to 14 days later. Plants are not vulnerable to bloodworm damage after secondary roots have developed. DO NOT release water from treated areas off-farm until the retention period specified by local irrigation authorities have been met.
Sorghum	* Corn earworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>)	Qld, NSW, ACT, WA & NT only	300 or 400 mL/ha	7 days (Harvest)	For ULTRA LOW VOLUME use, see ULV application section in this label. DO NOT apply to tight headed varieties. Apply when there are 2 or more actively feeding larvae per head, or when numbers are sufficient to cause economic damage. Use the higher rate if longer residual control is required. Preferably apply to eggs. Repeat as required. To help contain pyrethroid resistance in <i>Helicoverpa armigera</i> in summer crops, DO NOT apply to larvae > 5 mm in Northern Qld and NSW.
	Sorghum midge (<i>Contarinia sorghicola</i>)		100 or 200 mL/ha		Apply when midge numbers reach 1-2 per head, from emergence to completion of flowering. Use the higher rate for increased residual protection.

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS			
Cotton								
Cotton	Native budworm (<i>Helicoverpa punctigera</i>)	Qld, NSW, WA & NT only	300 mL/ha	14 days (Harvest)	For ULTRA LOW VOLUME use, see ULV application section in this label. Apply as indicated by field checks. Application should be timed to coincide with egg hatching before larvae are in protected feeding sites. Apply when egg laying is light i.e. 5-20 brown eggs/m or 2-5 newly hatched larvae per 100 terminals.			
			400 mL/ha		Apply when egg laying is heavy and/or larvae are up to 5 mm in length.			
			500 mL/ha		Apply when egg laying is continuous, larvae are up to 5 mm in length and longer residual protection is required.			
	*Cotton bollworm (<i>Helicoverpa armigera</i>)		300 mL/ha		Apply as indicated by field checks. Application should be timed to coincide with egg hatching, before larvae are in protected feeding sites. Apply when egg laying is light i.e. 5-20 brown eggs/m or 2-5 newly hatched larvae per 100 terminals.			
			400 mL/ha		Apply when egg laying is heavy and/or larvae are up to 5 mm in length.			
			500 mL/ha		Apply when egg laying is continuous, larvae are up to 5 mm in length and longer residual protection is required.			
	Rough bollworm (<i>Earias huegeli</i>)		300 or 400 mL/ha		Apply when an average of 2 or more larvae are present per 100 bolls. It is essential to detect and treat infestations in the early stages before larvae are established or concealed in bolls deep in the canopy. Use the higher rate if larvae greater than 10 mm are present. Best results will be obtained by applying at egg hatch.			
	Green mirid (<i>Creontiades dilutus</i>) Apply dimpling bug (<i>Campylomma liebknechti</i>)		300 or 400 mL/ha		Apply at recommended threshold levels as indicated by field checks. Use higher rate when pest pressure is high and when increased residual protection is required.			
	Grain Legumes							
	Chickpeas		Native budworm (<i>Helicoverpa punctigera</i>)		NSW, QLD, ACT, Vic, Tas, SA & WA only	200 or 300 mL/ha	21 days (Harvest) 5 weeks (Grazing)	Apply when damaging pest numbers first appear on the crop and repeat if necessary. Use the higher rate if larvae larger than 10 mm are present. Best results will be obtained by spraying at egg hatch.
Native budworm (<i>Helicoverpa punctigera</i>)		WA only	160 mL/ha	Apply to open, less dense crops when numbers of newly hatched larvae first appear on the crop and repeat as necessary.				
Cutworm		NSW,	75 mL/ha	Check emerging and establishing crops in				

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
	(<i>Agrotis</i> spp.)	ACT, Vic, Tas, SA & WA only			the late afternoon and evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray late afternoon or evening.
	Redlegged earth mite (<i>Halotydeus destructor</i>)		100 mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor red legged earth mite numbers and re-treat if necessary. DO NOT apply as a ULV application.
	Redlegged earth mite (<i>Halotydeus destructor</i>) Blue oat mite (<i>Penthaleus major</i>)		50 mL/ha		Apply when mite numbers reach damaging levels. DO NOT apply as a pre-emergence treatment. DO NOT use as a ULV application.
Faba beans	Native budworm (<i>Helicoverpa punctigera</i>)	NSW, ACT, Vic, Tas, SA & WA only	200 or 300 mL/ha	4 weeks (harvest) 5 weeks (grazing)	Apply when damaging pest numbers first appear on the crop and repeat if necessary. Use the higher rate if larvae larger than 10 mm are present. Best results will be obtained by applying at egg hatch.
	Native budworm (<i>Helicoverpa punctigera</i>)		WA only		160 mL/ha
	Cutworm (<i>Agrotis</i> spp.)	NSW, ACT, Vic, Tas, SA & WA only	75 mL/ha		Check emerging and establishing crops in the late afternoon and evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray late afternoon or evening.
	Redlegged earth mite (<i>Halotydeus destructor</i>)		100 mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor red legged earth mite numbers and re-treat if necessary. DO NOT apply as a ULV application
	Redlegged earth mite (<i>Halotydeus destructor</i>) Blue oat mite (<i>Penthaleus major</i>)		50 mL/ha		Apply when mite numbers reach damaging levels. DO NOT apply as a pre-emergence treatment. DO NOT use as a ULV application.
Lupins	Native budworm (<i>Helicoverpa punctigera</i>)	NSW, ACT, Vic, SA only	200 or 300 mL/ha	4 weeks (Harvest)	DO NOT apply more than a total of 600 mL/ha per season to any one lupin crop. For ULTRA LOW VOLUME use, see ULV application section in this label. Apply when damaging pest numbers first appear on the crop and repeat if necessary. Use the higher rate if larvae larger than 10 mm are present. Best results will be obtained by applying at egg hatch.
		WA only	120 mL or		Spraying should be timed to precede the

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
			200 mL/ha		first visible damage to the pods. Use the higher rate when the infestation is severe, or when residual activity is required.
	Cutworm (<i>Agrotis</i> spp.)	NSW, ACT, Vic, Tas, SA & WA only	75 mL/ha		Check emerging and establishing crops in the late afternoon and evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray late afternoon or evening.
	Common armyworm (<i>Mythimna convecta</i>) Southern armyworm (<i>Persectania ewingii</i>)	NSW, WA & ACT only	240 mL/ha		Spray in the cool of the day (late afternoon) when larvae are most active.
	Redlegged earth mite (<i>Halotydeus destructor</i>)	NSW, ACT, Vic, SA, Tas & WA only	100 mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor red legged earth mite numbers and re-treat if necessary. DO NOT apply as a ULV application.
	Redlegged earth mite (<i>Halotydeus destructor</i>) Blue oat mite (<i>Penthaleus major</i>)		50 mL/ha		Apply when mite numbers reach damaging levels. DO NOT apply as a pre-emergence treatment. DO NOT use as a ULV application.
Peas (field)	Pea weevil (<i>Bruchus pisorum</i>)	NSW, ACT, Vic, SA & WA only	160 or 200 mL/ha	4 weeks (Harvest)	For ULTRA LOW VOLUME use, see ULV application section in this label. Check crops for adult weevils every three to four days from the beginning of flowering. Apply during flowering prior to egg laying when the weevil population reaches one or more/25 sweeps of a sweep net.
	Native budworm (<i>Helicoverpa punctigera</i>)	SA, WA, NSW, Vic	160 mL/ha		Check crops for larvae every three to four days from the beginning of flowering. Apply to open, less dense crops when damaging numbers of newly hatched larvae first appear on the crop and repeat as necessary.
		Tas & ACT only	200 or 300 mL / ha		Check crops for larvae every three to four days from the beginning of flowering. Apply when damaging pest numbers first appear on the crop and repeat as necessary. Use the higher rate if larvae longer than 10 mm are present. Best results will be obtained by applying at egg hatch.
	Cutworm (<i>Agrotis</i> spp.)	NSW, ACT, Vic, SA & WA only	75 mL/ha		Check emerging and established crops in the late afternoon and evening for caterpillars crawling on the soil surface. Spray later afternoon or evening.
	Redlegged earth mite	NSW, ACT,	100 mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
	<i>(Halotydeus destructor)</i>	Vic, SA, Tas & WA only			prior to crop emergence when soil is moist. Monitor redlegged earth mite numbers and re-treat if necessary. DO NOT apply as a ULV application.
	Redlegged earth mite <i>(Halotydeus destructor)</i> Blue oat mite <i>(Penthaleus major)</i>	NSW, Vic, Tas, SA & WA only	50 mL/ha		Apply to established crops when mites reach damaging levels. DO NOT apply as a bare earth treatment. DO NOT use as a ULV application.
Soybeans	Native budworm <i>(Helicoverpa punctigera)</i> *Corn earworm <i>(Helicoverpa armigera)</i>	Qld, NSW, ACT, WA & NT only	300 or 400 mL/ha	7 days (Harvest)	For ULTRA LOW VOLUME use, see ULV application section in this label. Apply when flower or pod feeding numbers reach 1-2 per metre of row. Apply the higher rate when canopy is dense or if longer residual control is required. To help contain pyrethroid resistance in <i>Helicoverpa armigera</i> in summer crops, DO NOT apply to Corn earworm larvae > 5 mm in Northern NSW & Qld. Best results will be obtained by applying at egg hatch.
Grapevines					
Grapevines (non-bearing)	Pink cutworm <i>(Agrotis munda)</i> Apple weevil (Curculio beetle) <i>(Otiorhynchus cribricollis)</i> Garden weevil <i>(Phlyctinus callosus)</i>	NSW, Vic, Tas, SA & WA only	Dilute spraying: 100 mL/100 L Concentrate spraying: Refer to the application section	-	Monitor young vines during Spring and early Summer and apply at the first sign of leaf damage. Spray the leaves, canes and the soil around each vine to a diameter of 30 cm, 70-80 mL of dilute spray should be sufficient for each vine. If pest infestations persist, a second application may be required after three weeks. 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.
Oil Seeds					
Canola	Native budworm <i>(Helicoverpa punctigera)</i>	NSW, ACT Vic, Tas, SA & WA only	200 or 300 mL/ha	21 days (cutting for harvest or stockfeed or grazing)	DO NOT use more than a total of 400 mL/ha per season. For ULTRA LOW VOLUME use, see ULV application section in this label. Inspect the crop regularly during and immediately after flowering. Apply when damaging pest numbers first appear on the crop. For aerial application, use a total volume of 30-35 L/ha and apply in cooler part of the day. Use the higher rate if larvae larger than 10 mm are present.
	Tobacco looper <i>(Chrysodeixis argentifera)</i>				
	Vegetable weevil <i>(Listroderes difficilis)</i>		400 mL/ha		

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
					cotyledons and leaves are being eaten.
	Cabbage white butterfly (<i>Pieris rapae</i>) Cabbage moth (<i>Plutella xylostella</i>).		400 mL/ha		Apply according to pest pressure.
	Redlegged earth mite (<i>Halotydeus destructor</i>)		100 mL/ha		Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor redlegged earth mite numbers and re-treat if necessary. DO NOT apply as a ULV application
	Redlegged earth mite (<i>Halotydeus destructor</i>) Blue oat mite (<i>Penthaleus major</i>)		50 mL/ha		Apply when mite numbers reach damaging levels. DO NOT apply as a pre-emergence treatment.
Linola	Native budworm (<i>Helicoverpa punctigera</i>)	NSW, Vic, Tas, SA & WA only	160 or 200 mL/ha	12 weeks (Harvest)	DO NOT use more than a total of 400 mL/ha per season to any one crop. For ULTRA LOW VOLUME use, see ULV application section in this label. Inspect the crop regularly during and immediately after flowering. Apply when damaging pest numbers first appear on the crop. For aerial application, apply during the cooler part of the day in a total volume of 30-35 L/ha. Use the higher rate if larvae is larger than 10 mm are present.
Linseed	Native budworm (<i>Helicoverpa punctigera</i>)	WA, NSW, ACT, Tas, SA & Vic only	200 or 300 mL/ha	14 days (Harvest)	For ULTRA LOW VOLUME use, see ULV application section in this label. Inspect the crop regularly during and immediately after flowering. Apply when damaging pest numbers first appear on the crop and repeat if necessary. Use the higher rate if larvae is larger than 10mm are present. Best results will be obtained by applying at egg hatch.
	Cutworms (<i>Agrotis</i> spp.)		75 mL/ha		Check emerging and establishing crops in the late afternoon and evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray late afternoon or evening.
Sunflowers	Native budworm (<i>Helicoverpa punctigera</i>) *Corn earworm (<i>Helicoverpa armigera</i>)	Qld, Vic, NSW, NT, WA & ACT only	300 or 400 mL/ha	21 days (Harvest)	TO PROTECT BEES and ensure adequate pollination, application during flowering should be avoided. If application is necessary at flowering, apply early morning or late afternoon when bees are not actively foraging. For ULTRA LOW VOLUME use, see ULV application section in this label. Apply when an average 2-3 larvae are present per head or when larvae are damaging plants. Best results will be

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS		
					obtained by spraying at egg hatch. DO NOT apply <i>Helicoverpa armigera</i> larvae larger than 5 mm in NSW & Qld. Use the higher rate when insect pressure is heavier and when longer residual control is required. Best results will be obtained by applying at egg hatch.		
	Grey cluster bug (<i>Nysius clevelandensis</i>) Rutherglen bug (<i>Nysius vinitor</i>)	Qld, NSW, NT, Vic, Tas, WA & ACT only			Apply from budding when adult numbers per plant reach 10 to 15 in dryland crops, and 20-25 in irrigated crops. After flowering apply when adult numbers on the face of the head reach 20 to 25. Repeat as required. The highest rate should be used when numbers are very high.		
	Rutherglen bug (<i>Nysius vinitor</i>)	Vic, Tas & WA only	250 mL/ha		Apply from budding when adult numbers per plant reach 10 to 15 in dryland crops and 20 to 25 in irrigated crops. After flowering, apply when adult numbers on the face of heads reach 20 to 25. Repeat as required.		
Pastures							
Lucerne (Seed and Forage crops)	Native budworm (<i>Helicoverpa punctigera</i>)	NSW, ACT, Vic, Tas, SA & WA only	160 mL/ha	14 days (Grazing or cutting for stock feed)	For ULTRA LOW VOLUME use, see ULV application section in this label. DO NOT use more than 160 mL/ha per cut. Apply when pest populations reach economically damaging levels. Apply to larvae less than 5 mm in length.		
	Green mirid (<i>Creontiades dilutus</i>)				DO NOT apply more than one application per cut or grazing for animal feed. Apply when pest populations reach economically damaging levels.		
Pastures (Both legume & grass based pastures)	Wingless grasshopper (<i>Phaulacridium vittatum</i>)	All States	160 mL/ha	3 days (grazing) 14 days (cut for stock feed)	DO NOT use more than a total of 320 mL/ha per season. For ULTRA LOW VOLUME use, see ULV application section in this label. Apply to infested areas. Spraying is most effective on newly emerged hoppers before they begin dispersing. Later sprays should be applied before the start of egg laying. Good coverage is essential.		
	Brown pasture looper (<i>Ciampa arietara</i>)				NSW, ACT, SA, WA, Vic & Tas only	50 mL/ha	Apply when pest populations reach economically damaging levels.
	Blackheaded pasture cockchafer (<i>Aphodius tasmaniae</i>)					100 mL/ha	Spraying is most effective when larvae are detected and treated early. Suspect paddocks should be sampled by digging after the first substantial rain in April/May to ensure grubs are present in sufficient numbers to warrant treatment. Spraying after June will give poorer results.
	Redlegged earth mite (<i>Halotydeus destructor</i>)					100 mL/ha	Pre-emergence: Apply by ground rig only. Treat infested paddocks after sowing but prior to crop emergence when soil is moist. Monitor redlegged earth mite numbers and re-treat if necessary. DO NOT apply as a ULV application.

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
	Redlegged earth mite (<i>Halotydeus destructor</i>) Blue oat mite (<i>Penthaleus major</i>)		50 mL/ha		DO NOT use as a ULV application. <u>Autumn/Winter:</u> Apply after the opening rains in late autumn/early winter 2-3 weeks after egg hatch occurs. Dominex® Duo is rainfast after spraying deposits have dried on the leaf surface. Dominex® Duo can be mixed with herbicides used in the winter cleaning of sub-clover pastures. <u>Spring:</u> If RLEM/BOM mite numbers increase in the spring, spray again before diapause egg production begins. Dominex® Duo can be mixed with herbicides used for spraying topping pastures. DO NOT apply as a pre-emergence treatment.
Pome & Stonefruit					
Apples Pears	Apple Weevil (<i>Otiorhynchus cribricollis</i>) Garden Weevil (<i>Phlyctinus callosus</i>)	NSW, Vic, SA & WA only	Dilute spraying: 100 mL/ 100 L water Concentrate spraying: Refer to the application section	14 days (Harvest)	Spray approximately 1-2 litres of solution onto the crotch, trunk and the soil at the base of each tree at peak weevil emergence. This is usually late October - late November for garden weevil and late November - mid December for apple weevil. Monitor weevil emergence using a single sided cardboard trunk band. Continue monitoring after spraying as a second spray 3-4 weeks later may be needed. 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.
Apricots Nectarines Peaches Plums	Apple Weevil (<i>Otiorhynchus cribricollis</i>) Garden Weevil (<i>Phlyctinus callosus</i>)	WA only			
Trees & Ornamentals					
Eucalypts	Adults and larvae of Chrysomelid Leaf Beetle or Eucalyptus leaf beetle (<i>Chrysophtharta</i> spp.), Eucalyptus Weevil (<i>Gonipterus</i> spp.), Autumn Gum Moth (<i>Mnesampela</i> spp.), Bronzed Field Beetle (<i>Adelium</i> spp.), Adults of <i>Liparetrus</i> spp, <i>Cadmus</i> spp.	All states	250- 300 mL/ha		Ground or aerial applications depending on size of trees. Apply by fixed wing aircraft or by helicopter using hydraulic nozzles or micronair equipment, to the crowns of eucalypt trees. Micronair application in 5 litres of water/ha has proved effective. Apply before insect damage causes severe defoliation. Treatment will control small and large larvae as well as adult beetles. For ULTRA LOW VOLUME use, see ULV application section of this label.

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Eucalypt and Pinus spp. Plantations	Adults and larvae of Bronzed field beetle (<i>Adelium</i> spp.),				
	Wingless grasshopper (<i>Phaulacridium vittatum</i>)		160 mL/ha		
Banksias Ornamentals	Banksia moth (<i>Danima banksiae</i>)	WA only	20 mL/ 100 L		Apply on a regular programme at 2 week intervals at early flower development. Commence spraying when blooms are immature and continue until flowers are fully developed.
Tobacco					
Tobacco	Native Budworm (<i>Helicoverpa punctigera</i>) Tobacco Budworm (<i>Helicoverpa armigera</i>)	Vic, Qld & WA only	30 or 40 mL/ 100 L	7 days (Harvest)	Apply on a 7 to 10 day schedule from just after transplanting in a volume of 200 to 1,000 L/ha depending on crop heights. Use the higher rate when larvae greater than 10 mm are present or when egg laying is intense. Apply as a fine spray using hollow cone nozzles. The spray volume should be gradually increased as the plants grow, from 200 L/ha just after transplanting to 1000 L/ha at maturity. Use the higher rate when larvae longer than 10 mm are present or when egg laying is intense.
Vegetables					
Asparagus (Not for use on white asparagus)	Garden weevil (<i>Phlyctinus callosus</i>)	WA only	100 mL/ 100 L	1 day	Caution: Not for use on white asparagus, there have been reports of some phytotoxicity when using alpha-cypermethrin. Apply in spring after weevil emergence, at up to 500 L spray solution per ha. Day time spraying is effective but superior control may be achieved if spray is applied at night. Depending on pest pressure, repeat applications may be required. Application to fern, after spear harvest may reduce carry-over of Garden weevil for the following season.
Beans (Mung and Navy)	Native Budworm (<i>Helicoverpa punctigera</i>) *Corn Earworm (<i>Helicoverpa armigera</i>)	Qld, NSW, ACT, WA & NT only	300 or 400 mL/ ha	7 days (Harvest)	For ULTRA LOW VOLUME use, see ULV application section in this label. Apply when flower or pod feeding numbers reach 1-2 per metre of row. Use the higher rate when the canopy is dense. To help contain pyrethroid resistance in <i>Helicoverpa armigera</i> in summer crops, DO NOT apply to Corn Earworm larvae > 5 mm in Northern NSW and QLD. Best results will be obtained by applying at egg hatch.
Cabbages Cauliflowers	Cabbage white butterfly	All states	Low volume 400 mL/ ha	1 day (Harvest)	Apply when pest populations indicate. When reinfestation is continuous,

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Brussels Sprouts Broccoli Kale Kohlrabi Chinese Cabbage Turnips	<i>(Pieris rapae)</i> Cabbage moth <i>(Plutella xylostella)</i> <i>*Helicoverpa</i> spp. Cluster caterpillar <i>(Spodoptera litura)</i>		High volume 50 mL/ 100 L Ultra Low Volume 400 mL/ha		treatment every 7-10 days may be required. Add a non-ionic surfactant at registered label rates. LOW VOLUME: when applying by ground equipment use a fine spray with droplet size of 100 to 200 microns. Apply in 100 to 600 L water per hectare. For aerial application, apply in 20 to 60 L water/ha with a droplet size of 100 to 150 microns. HIGH VOLUME: use a medium spray with a droplet size of 200 to 400 microns. Apply 600 L spray mixture per hectare just after transplanting and increase gradually to 1000 L/ha toward maturity. ULTRA LOW VOLUME: see ULV application section in this label. To help contain pyrethroid resistance in <i>Helicoverpa armigera</i> in summer crops, DO NOT apply to Corn Earworm larvae > 5 mm in Northern NSW and QLD. Best results will be obtained by applying at egg hatch.
Cauliflowers	Staphylinid Beetle (up to 3 mm length)	WA only	High volume 50 mL/ 100 L Low volume 400 mL/ ha		Apply by Boomspray. Spray when pests first appear.
Lettuce	<i>*Helicoverpa</i> spp.	All States	Low volume: 400 mL/Ha High volume: 50 mL/Ha	3 days (Harvest)	Spray at first sign of activity. Good spray coverage is essential. Recheck crop at regular intervals, if no specific resistance strategy exists, DO NOT use chemicals from the same group for consecutive sprays. To help contain pyrethroid resistance in <i>Helicoverpa armigera</i> in summer crops, DO NOT apply to Corn Earworm larvae > 5 mm in Northern NSW and QLD.
Sweet corn	Corn earworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>)	All States	300 or 400 mL/ha	7 days (Harvest)	For ULTRA LOW VOLUME use, see ULV application section in this label. Cob damage tolerated is variable according to market requirements. For fresh market corn, spray at tassel emergence, then at intervals of 5 to 8 days until silks wither. For processing corn apply at early silking. As larvae in protected feeding sites are not effectively controlled, application should be before this occurs. To help contain pyrethroid resistance in <i>Helicoverpa armigera</i> in summer crops, DO NOT apply to larvae larger than 5 mm in NSW & Qld. Use higher rate when insect pressure is heavier and when longer residual control is required. Best results will be obtained by applying at egg hatch.
Tomatoes (Bush and	Native Budworm (<i>Helicoverpa</i>)	All states	Program Application:	1 day (Harvest)	DO NOT apply to trellis tomatoes by aircraft.

CROP	PEST	STATE	RATE	WITHHOLDING PERIOD	CRITICAL COMMENTS
Trellis)	<i>punctigera</i> *Tomato Grub (<i>Helicoverpa armigera</i>)		Ultra Low Volume 300 mL/ha Low Volume 200 or 300 mL/ha High volume 20 or 30 mL/100 L Established Infestations: Low Volume & Ultra Low Volume 400 mL/ha High Volume 50 mL/100 L		PROGRAMME APPLICATION: Apply on a 7 to 10 day schedule whilst pests are active. Use the higher rate when egg laying is intense. Apply as a fine spray using hollow cone nozzles. For low volume application apply in 100 to 400 L/ha by ground or minimum of 10 L/ha by air. For high volume application apply 200L of spray mixture per hectare after transplanting and increase gradually to 1,000 L/ha at maturity. ESTABLISHED INFESTATIONS: Apply these rates to established infestations or escape situations. DO NOT apply to Tomato Grub larvae >5 mm in length. Ultra Low Volume: see ULV application section in this label. Low Volume: By ground-rig: apply in 100 to 400 L of water per hectare as a fine spray. By aircraft: apply in a minimum of 10 L of water per hectare as a spray of 100 to 150 microns VMD. High volume: Apply as a medium to fine spray. Gradually increase the spray volume as the plants grow, from 200 L/ha just after transplanting establishment to 1000 L/ha at maturity.
	Cluster Caterpillar (<i>Spodoptera litura</i>)	QLD, NSW, WA, ACT & NT only			
	Plague Thrips (<i>Thrips imaginis</i>)	All states	Ultra Low Volume 130 mL/ha Low volume 130 mL/ha High volume 18 mL/ 100 L		The crop should be frequently checked when it is flowering for the presence of the pest. Apply as required using the methods stated above in the critical comments section for control of native budworm, tomato grub and cluster caterpillar on tomatoes.

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

WITHHOLDING PERIODS

ASPARAGUS, BROCCOLI, BRUSSEL SPROUTS, CABBAGES, CAULIFLOWERS, CHINESE CABBAGE, KALE, KOHL RABI, TOMATOES & TURNIPS:

DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

LETTUCE:

DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.

PASTURES:

DO NOT GRAZE FOR 3 DAYS AFTER APPLICATION.

DO NOT CUT FOR STOCK FEED FOR 14 DAYS AFTER APPLICATION.

SORGHUM, SOYBEANS, MUNG BEANS, NAVY BEANS, SWEET CORN, MAIZE, RICE & TOBACCO:

DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

WINTER CEREALS:

DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

DO NOT GRAZE TREATED STUBBLE FOR 14 DAYS AFTER APPLICATION.

LUCERNE:

DO NOT GRAZE OR CUT FOR STOCK FEED FOR 14 DAYS AFTER APPLICATION.

COTTON, LINSEED, STONE & POME FRUIT:

DO NOT HARVEST FOR 14 DAYS AFTER APPLICATION.

SUNFLOWERS:

DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION.

CANOLA:

DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION.

DO NOT CUT AND WINDROW FOR HARVEST FOR 21 DAYS AFTER APPLICATION.

CHICKPEAS:

DO NOT HARVEST FOR 21 DAYS AFTER APPLICATION.

DO NOT GRAZE OR CUT FOR STOCK FEED FOR 35 DAYS AFTER APPLICATION.

FIELD PEAS & LUPINS:

DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.

FABA BEANS:

DO NOT HARVEST FOR 4 WEEKS AFTER APPLICATION.

DO NOT GRAZE OR CUT FOR STOCK FEED FOR 35 DAYS AFTER APPLICATION.

LINOLA:

DO NOT HARVEST FOR 12 WEEKS AFTER APPLICATION.

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Combustible liquid. May be fatal if swallowed and enters airways. May cause damage to organs through prolonged or repeated exposure.

Keep away from heat, sparks, open flames and hot surfaces. No smoking. Avoid breathing fumes, mists, vapours or spray. Wash contacted areas thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Immediately call a POISON CENTER/doctor. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin or eye irritation occurs: Get medical advice/attention.