

blank page

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

Apparent 

Deltamethrin Duo

INSECTICIDE

ACTIVE CONSTITUENT: 27.5 g/L DELTAMETHRIN
SOLVENT: 807 g/L LIQUID HYDROCARBON

GROUP 3A INSECTICIDE

For the control of *Heliothis* (*Helicoverpa* spp.) and other specified pests in cotton and various other crops as specified in the Directions for Use.
IMPORTANT: Read this booklet before use.

APVMA Approval No: 67007/84940

APPARENT PTY LTD A.C.N. 143 724 136
Suite G.08 | 762 Toorak Road, Hawthorn East VIC 3123 Australia
T +61 3 9822 1321 F +61 3 9817 7845 E enquiries@apparentag.com.au www.apparentag.com.au 

DIRECTIONS FOR USE:

CROP	PEST	STATE	RATE	WHP
Berry vegetables, cape goose-berries, rosella	Native budworm (heliiothis, <i>Helicoverpa</i> spp.)	Qld, WA only	50 mL/100L	1 day
Cereals	Native budworm, corn earworm (heliiothis)	All States	500 mL/ha	7days
	Southern and common armyworm			
	Webworm (<i>Hednota pedionoma</i>)	WA only	200 mL/ha	
	Cutworms (<i>Agrotis</i> spp.)	NSW only	200 mL/ha	
		WA only		
Chickpeas, faba beans, lentils, linseed, canola (oilseed rape), safflower.	Cutworms (<i>Agrotis</i> spp.)	NSW, WA only	200 mL/ha	7 days
Cole crops: cabbage, cauliflower, brussels sprout, broccoli etc.	Cabbage white butterfly, cabbage moth, cabbage centre grub	Qld, NSW, NT only	High Volume: 50 mL/100 L or Low Volume: 500 mL/ha	2 days
		Vic, Tas, SA, WA only	High Volume: 40 to 50 mL/100 L or Low Volume: 400 to 500 mL/ha	
Cotton	Native budworm (<i>H. punctigera</i>), cotton bollworm (<i>H. armigera</i>)	Qld, NSW, WA, NT only	700 mL/ha	7 days
			600 mL/ha	
			500 mL/ha	
	Pink spotted bollworm	Qld, WA only	500 to 600 mL/ha	
	Green mirid	Qld, NSW, WA, NT only	180 mL/ha	

CRITICAL COMMENTS
Apply as thorough spray. Use sufficient water to ensure adequate penetration and coverage. Repeat sprays at 7 to 14 day intervals, depending upon pest incidence.
Apply at first sign of infestation, before larvae are 5 mm, for best results.
Apply when larvae numbers exceed threshold.
Pre-seeding: Apparent Deltamethrin Duo may be tank mixed with knock down herbicides and applied prior to seeding. Apply once larvae have emerged, i.e. from last week in May onwards. Closely graze pasture prior to application. To ensure good penetration, use high water volume, i.e. 100 L/ha. Do not apply on dense pasture.
Post crop emergence: Inspect crop regularly from seeding onwards, and spray at first sign of damage. Check with local Department of Agriculture adviser for further details.
Check emerging and establishing crops in the late afternoon or evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray in the late afternoon or evening.
Apply at first sign of infestation, before larvae are 10 mm long, for best results.
Check emerging and establishing crops in the late afternoon or evening for caterpillars crawling on the soil surface and feeding on the seedling. Spray in the late afternoon or evening.
High Volume: Apply thorough spray to ensure even coverage, using at least 600 to 1000 L water/ha.
Low Volume: Apply in sufficient water to obtain even and thorough coverage. Repeat sprays at 7 to 14 day intervals depending upon pest incidence.
The addition of a wetting agent is recommended for both high and low volume spraying.
Apply as above. Use the lower rate under low infestation levels.
Use when insect reinfestation pressure is high (i.e. moderate to heavy egg laying is occurring and small to medium larvae are present).
Use when low to moderate egg laying is occurring and only few small to very small larvae are present (see 'note' below).
Use when egg laying is low and larvae are just about to hatch (see 'note' below).
Apply at first sign of activity before larvae enter boll. Repeat as necessary.
Suppression of green mirids. Apply when commercial thresholds are exceeded.

CROP	PEST	STATE	RATE	WHP
Field Peas	Corn earworm and native budworm (heliiothis)	NSW, Vic, SA, WA only	250 to 500 mL/ha	7 days
	Pea weevil	NSW only	400 to 500 mL/ha	
		Vic, SA only	300 to 500 mL/ha	
	Cutworms (<i>Agrotis</i> spp.)	NSW, WA only	200 mL/ha	
Lupins	Native budworm (<i>H. punctigera</i>)	NSW, Vic, SA only	200 to 500 mL/ha	7 days
		WA only		
		Qld, Tas, NT		
	Cutworms (<i>Agrotis</i> spp.)	NSW, WA only	200 mL/ha	
	Corn earworm (heliiothis) and looper	All States	500 mL/ha	
	Green vegetable bug	Qld, NSW, Tas, SA, WA, NT only		
Maize	Corn earworm and native budworm (heliiothis)	All States	Low Volume: 500 mL/ha or High Volume: 50 mL/100 L	7 days
Sweetcorn				5 days
Sorghum	Corn earworm and native budworm (heliiothis)	All States	500 mL/ha	7 days
	Sorghum midge	Vic, SA, WA only	200 to 400 mL/ha	
		Qld, NSW, NT only		
Soybeans, navy beans, mung beans, and other seed and pod crops (eg. linseed, canola (oilseed rape), safflower, faba beans, vetch, lentils, chickpeas, cereals)	Corn earworm and native budworm (heliiothis), looper	All States	500 mL/ha	7 days
	Green vegetable bug	Qld, NSW, Tas, SA, WA, NT only		

CRITICAL COMMENTS
Inspect crops regularly and particularly at flowering and early podding. Apply as soon as infestation occurs. Use lower rates only when infestation is low and majority of larvae are young (ie. Less than 5 mm). Large larvae are often not readily controlled.
From start of flowering onwards check crops every 2 to 3 days with sweep net. If any pea weevil are present spray before first pods form. Check again 3 days after spraying and respray if necessary. Apply the higher rate under high infestation pressure.
Check emerging and establishing crops in the late afternoon or evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray in the late afternoon or evening. Thorough coverage is required for effective control.
Apply lower rate on small (5mm) larvae and higher rate on dense canopies and/or larger larvae.
Apply as above. Small caterpillars do not normally damage pods and numbers usually decline rapidly. Spraying is usually only necessary when caterpillars are about 20 mm in length. Apply thoroughly to ensure good penetration of lupin canopy.
Inspect crops regularly from early terminal development (4-leaf stage) onwards. Apply before heliothis are 5 mm long.
Check emerging and establishing crops in the late afternoon or evening for caterpillars crawling on the soil surface and feeding on the seedlings. Spray in the late afternoon or evening.
Inspect crops regularly from early terminal development (4-leaf stage) onwards. Apply before heliothis or looper are 5 mm long.
Apply as soon as adult green vegetable bugs are seen, before there is a build up of nymphs.
Apply at tasselling and before silk emergence when larvae are small (less than 5 mm) and before they enter cob. Repeat sprays at 3 to 5 day intervals may be necessary, particularly for sweetcorn. For High Volume: apply as a thorough spray using 600 to 1000 L spray/ha, depending on plant size.
Apply at first sign of pest, generally from head emergence onward. In tight head varieties, heliothis may be protected and not readily controlled. Repeat sprays as necessary.
Apply at first sign of infestation from head emergence and during flowering. Use rates towards the lower end of the range when infestation is light (1 to 2 midge/head) for knock-down effect late in the flowering period of sorghum. Use rates towards the higher end of the range when infestation occurs early in the period and/or under heavier infestation levels.
Inspect crops regularly from early terminal development (4-leaf stage) onwards. Apply before heliothis or looper are 5 mm long.
Apply as soon as adult green vegetable bugs are seen, before there is a build up of nymphs.

CROP	PEST	STATE	RATE	WHP
Sunflower	Corn earworm, native budworm (heliiothis), Rutherglen bug, jassids	All States	500 mL/ha	7 days
Tobacco	Tobacco budworm, native budworm (heliiothis), tobacco looper, tobacco stem borer	Qld, NSW, WA only	50 mL/100 L	7 days
		Vic only	40 to 50 mL/100 L	

CRITICAL COMMENTS
Apply at first sign of pest activity. Critical period is from bud stage/face opening onward. At later growth stages, pests may be partially protected by heads or bracts. Heliiothis should be sprayed before they are 5 mm long for best results. Repeat sprays as necessary. If flowering has started and bees are active, application should be deferred until after flowering is complete but before the heads turn down. If treatment is unavoidable during flowering, spraying must take place in the very early morning or very late afternoon.
Apply as thorough spray using 600 to 1000 L spray/ha depending on plant size. Repeat in 7 to 14 days or as required.
Apply as above. Use lower rate under low infestation levels.

FRUIT CROPS

CROP	PEST	STATE	RATE	WHP
Tomatoes	Tomato grub and native budworm (heliiothis)	Qld, NSW, NT only	High Volume: 50 mL/100 L or Low Volume: 500 mL/ha	3 days
		Tas, WA only	High volume: 40 to 50 mL/100 L or Low volume: 400 to 500 mL/ha	
		Vic, SA only	Program Application: Low Volume: 300 to 500 mL/ha High Volume: 30 to 50 mL/100 L Established infestations Low volume: 500 mL/ha High Volume: 50 mL/100 L	
	Thrips	Vic, SA, WA only	300 mL/ha	

CRITICAL COMMENTS
Apply as thorough spray. Repeat sprays at 7 to 14 day intervals, depending upon pest incidence. High Volume: Use 600 to 1000 L spray/ha depending on plant size. Low Volume: Use sufficient water to ensure adequate penetration and coverage.
Apply as above. Use lower rate under low infestation levels.
Apply at first sign of pest activity. Repeat sprays at 7 to 14 day intervals depending on pest incidence. Use the higher rate when large larvae are present, and when reinfestation (egg-laying) is intense. Use also when insect re-infestation pressure is high. High Volume: Apply thorough spray to ensure even coverage, using at least 600 to 1000 L water/ha. Low Volume: Apply in sufficient water to obtain even and thorough coverage.
Apply at first sign of infestation and repeat if necessary. Repeat applications may be necessary to control re-infestations, as residual control is limited.

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

WITHHOLDING PERIODS (WHP)

Berry vegetables: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

Cole Crops: DO NOT HARVEST FOR 2 DAYS AFTER APPLICATION.

Tomatoes: DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.

Sweetcorn: DO NOT HARVEST FOR 5 DAYS AFTER APPLICATION.

Canola (oilseed rape), cereals, chickpeas, cotton, faba beans, field peas, lentils, linseed, lupins, maize, mung beans, navy beans, safflower, sorghum, soybeans, sunflower, sweetcorn, tobacco, vetch and other seed and pod crops:

DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

Note:

Larvae Size – Larvae greater than 5 mm are often not controlled satisfactorily as they are harder to kill and they are often protected from spray by the plant.

GENERAL INSTRUCTIONS

Insecticide Resistance Warning

GROUP 3A INSECTICIDE

For insecticide resistance management, Apparent Deltamethrin Duo Insecticide is a Group 3A insecticide.

Some naturally occurring insect biotypes resistant to Apparent Deltamethrin 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 Apparent Deltamethrin Duo or other Group 3A insecticides are used repeatedly. The effectiveness of Apparent Deltamethrin Duo on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Apparent Pty Ltd accepts no liability for any losses that may result from the failure of Apparent Deltamethrin Duo to control resistant insects.

The user should seek advice, and monitor the performance, and if the results are not in accordance with expectations, contact the manufacturer immediately. Apparent resistance however, should not be confused with poor application, coverage or timing techniques.

Apparent Deltamethrin Duo may be subject to specific resistance management strategies. For further information contact your local supplier, Apparent Pty Ltd representative or local agricultural department agronomist.

Export of Treated Produce

Growers should note that suitable MRLs or import tolerances may not be established in all markets for produce treated with Apparent Deltamethrin Duo Insecticide. If you are growing produce for export, please check with Apparent Pty Ltd for the latest information on MRLs and import tolerances BEFORE using Apparent Deltamethrin Duo Insecticide.

Application and Equipment

Apparent Deltamethrin Duo is a contact spray. Thorough, even coverage is essential. Residual control of Apparent Deltamethrin Duo may be reduced if heavy rainfall is received within 48 hours of application. Apparent Deltamethrin Duo can be applied using water as a carrier, and from aircraft can also be applied ULV when in combination with a compatible ULV insecticide and/or oil as bulking agent.

Ground Spray

Standard low volume boom or high volume equipment may be used.

Aircraft

Applied with water - Apparent Deltamethrin Duo may be applied by aircraft using water as a carrier. Water volumes of 20 to 30 L/ha have given satisfactory results.

Applied ULV - Apparent Deltamethrin Duo may also be used without dilution in mixture with some ULV products, as listed under Compatibility, or applied ULV in combination with D-C-Tron® Cotton Spray Oil, D-C-Trate® Anti-Evaporative Spray Oil or Ulvapron® Oil. A minimum spray volume, insecticide mixture partner and/or compatible oil as the bulking agent.

DO NOT add water – use direct from the container.

FOR ANIMAL FEEDS

CROP	PEST	MINIMUM TOTAL SPRAY VOLUME FOR ULV APPLICATION
Cereals	Native budworm, corn earworm (<i>heliiothis</i>)	2.5 L/ha
	Southern and common armyworm	2 L/ha
	Webworm (<i>Hednota pedionoma</i>)	1 L/ha
	Cutworms (<i>Agrotis</i> spp.)	
Chickpeas, faba beans, lentils, linseed, canola (oilseed rape), safflower	Cutworms (<i>Agrotis</i> spp.)	1 L/ha
Cotton	Native budworm (<i>H.punctigera</i>), cotton bollworm (<i>H. armigera</i>)	3 L/ha
	Pink spotted bollworm	2.5 L/ha
	Green mirid	2.5 L/ha
Field peas	Corn earworm and native budworm (<i>heliiothis</i>)	1.25 L/ha
	Pea weevil (NSW only)	2 L/ha
	Pea weevil (Vic, SA only)	1.5 L/ha
	Cutworms (<i>Agrotis</i> spp.)	1 L/ha
Lupins	Native budworm (<i>H. punctigera</i>) (NSW, Vic, SA, WA only)	1 L/ha
	Cutworms (<i>Agrotis</i> spp.)	
	Native budworm (<i>H. punctigera</i>) (Qld, Tas, NT)	2.5 L/ha
	Corn earworm (<i>heliiothis</i>) and looper	2.5 L/ha
	Green vegetable bug	
Maize	Corn earworm and native budworm	2.5 L/ha
Sweetcorn	(<i>heliiothis</i>)	
Sorghum	Corn earworm and native budworm (<i>heliiothis</i>)	2.5 L/ha
	Sorghum midge (Vic, SA, WA only)	
	Sorghum midge (Qld, NSW, NT only)	1 L/ha
Soybeans, navy beans, mung beans, and other seed and pod crops (eg. linseed, canola (oilseed rape), safflower, faba beans, vetch, lentils, chickpeas)	Corn earworm and native budworm (<i>heliiothis</i>)	2.5 L/ha
	Green vegetable bug	
Sunflower	Corn earworm, native budworm (<i>heliiothis</i>), Rutherglen bug, jassids	2.5 L/ha

Please note: Berry vegetables (cape gooseberries, rosella), Cole crops (cabbage, cauliflower, Brussels sprouts, broccoli), Tobacco and Tomatoes should not be treated by ULV application.

For ULV application, Apparent Deltamethrin Duo must only be applied by aircraft fitted with accurately calibrated ULV equipment, e.g. Micronair AU5000 atomisers. To minimise drift it is essential to produce a suitable spray droplet diameter (volume mean diameter) by controlling the rotational speed of the atomisers. It is recommended that the application parameters in terms of plane speed and blade angle settings are adjusted to deliver a maximum rotational speed of 3000 rpm and a resultant droplet diameter of approximately 100 microns. Rotational speed of the atomisers can be measured by the fitment and maintenance of transducers. Thorough coverage is essential.

Compatibility

Applied with water - Apparent Deltamethrin Duo may be mixed with most piperonyl butoxide formulations (eg. Pipbut® Synergist) and most formulations of fungicides and insecticides such as chlorothalonil, dimethoate, mancozeb, metalaxyl, methamidophos, methomyl, methyl parathion, pirimicarb, amitraz EC, Predator® 300 and Curacron® Flexi, where these products are required for additional insect control or for control of diseases. Apparent Deltamethrin Duo may also be mixed with other products including Mepiquat Chloride, Wuxal® Liquid Foliar Nutrient and most knockdown herbicides.

Applied ULV - When sprayed as a ULV product, Apparent Deltamethrin Duo is compatible with amitraz ULV, Pipbut Synergist, Predator 300 and Curacron Flexi, where these products are required for additional insect control. Apparent Deltamethrin Duo is also compatible with D-C-Tron Cotton Spray Oil, D-C-Trate Anti-Evaporative Spray Oil and Ulvapron Oil. For further information on ULV insecticide compatibilities contact Apparent Pty Ltd.

Warning: Apparent Deltamethrin Duo may be mixed with some organophosphate insecticides for additional insect control. Organophosphate insecticides can cause phytotoxicity, which may be exaggerated with multiple applications. The addition of Apparent Deltamethrin Duo to organophosphate insecticides does not affect the degree of phytotoxicity.

Mixing

Applied with water - Fill the spray tank to about ¾ full with clean water. Add the required quantity of Apparent Deltamethrin Duo to the spray tank with agitators in motion. Where other products are to be mixed, add these after Apparent Deltamethrin Duo is mixed in the tank. Top up the spray tank to the required volume with clean water, with agitators operating.

When mixing Apparent Deltamethrin Duo with Pipbut Synergist, add the required quantity of Apparent Deltamethrin Duo to the spray tank, followed by the Pipbut Synergist, then, with agitators operating, add the required quantity of clean water to the spray tank.

Applied ULV - When Apparent Deltamethrin Duo is to be applied as a ULV spray in combination with compatible ULV products (or oil), Apparent Deltamethrin Duo should be added after the ULV product (or oil), with agitators in motion. Ensure that there is no water, or products containing water, in this mixture, or in the spraying equipment.

PRECAUTIONS

Re-entry Period

Do not allow entry into treated areas until the spray deposits have dried. When prior entry is necessary, wear cotton overalls buttoned to the neck and wrist and elbow-length PVC gloves. Clothing must be laundered after each day's use.

PROTECTION OF LIVESTOCK

Dangerous to bees. DO NOT spray on any plants in flower while bees are foraging. Some repellent effect may be apparent for approximately 2 days.

DRIFT WARNING

DO NOT apply under weather conditions, or from spraying equipment, which could be expected to cause spray to drift onto adjacent crops, crop lands, pastures or livestock.

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

SAFETY DIRECTIONS

Product is poisonous if swallowed. Facial skin contact may cause temporary numbness. Will damage eyes and will irritate the skin. 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 and elbow length PVC gloves and face shield. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone 131 126. 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) which is available from the supplier.

CONDITIONS OF SALE

The use of Apparent Deltamethrin Duo Herbicide being beyond the control of the manufacturer no warranty expressed or implied is given by Apparent Pty Ltd regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Apparent Pty Ltd accepts with no responsibility for any consequences whatsoever resulting from the use of this product.

Curacron® is a Registered Trademark of Novartis AG, Basel, Switzerland.

Predator* is a Registered Trademark of Dow AgroSciences.

D-C-Trate® and D-C-Tron® are Registered Trademarks of Ampol

Ulvapron® is a Registered Trademark of The British Petroleum Company