



DuPont™ Coragen®

INSECTICIDE

Technical Information

Active Constituent:
200 g/L CHLORANTRANILIPROLE

Pack Sizes:
1 L
5 L

GROUP **28** INSECTICIDE



For the control of Lepidopteran species of insect pests in certain vegetables, as per the Directions for Use

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26.

SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet available from www.cropprotection.dupont.com.au

GENERAL INSTRUCTIONS

DuPont™ Coragen® insecticide has been specifically designed for use in Integrated Pest Management (IPM) schemes. Coragen® insecticide is an anthranilic diamide insecticide in the form of a suspension concentrate. Coragen® insecticide is particularly active on Lepidopteran insect pests, primarily as a larvicide. Before application monitor insect populations to determine whether or not there is a need for application of Coragen® insecticide based on locally determined economic thresholds. More than one treatment of Coragen® insecticide may be required to control a population of pests.

INSECTICIDE RESISTANCE WARNING

For insecticide resistance management DuPont™ Coragen® insecticide is a Group 28 insecticide.

Some naturally occurring insect biotypes resistant to Coragen® insecticide and other Group 28 insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if Coragen® and other Group 28 insecticides are used repeatedly. The effectiveness of Coragen® insecticide on resistant individuals could be significantly reduced. Since the occurrence of resistant individuals is difficult to detect prior to use DuPont accepts no liability for any losses that may result from the failure of Coragen® insecticide to control resistant insects.

DuPont™ Coragen® may be subject to specific resistance management strategies. For further information refer to the Insecticide Resistance Management (IRM) section of this label, contact your farm chemical supplier, consultant, local Department of Agriculture or Primary Industries, or local DuPont Representative.

INSECTICIDE RESISTANCE MANAGEMENT (IRM)

DuPont™ Coragen® insecticide contains chlorantraniliprole, a Group 28 Insecticide.

Unless directed otherwise in the specific crop/insect sections of the label, the following practices are recommended to prevent or delay the development of insecticide resistance to Coragen® insecticide and to Group 28 insecticides:

- Apply Coragen® insecticide or other Group 28 insecticides using a “window” approach to avoid exposure of consecutive insect pest generations to the same mode of action. Multiple successive applications of Coragen® or other Group 28 insecticides are acceptable if they are used to treat a single insect generation.
- Following a “window” of Coragen® insecticide or other Group 28 insecticides, rotate to a “window” of applications of effective insecticides with a different mode of action.
- The total exposure period of all “Group 28-active windows” applied throughout the crop cycle (from seedling to harvest) should not exceed 50% of the crop cycle.
- Incorporate IPM techniques into the overall pest management program.
- Monitor insect populations for loss of field efficacy.

For additional information on insect resistance, modes of action and monitoring visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irac-online.org>

MIXING

Spray equipment must be clean and free of previous pesticide deposits before applying Coragen® insecticide. Fill spray tank to ¼ to ½ full of water. Measure the amount of Coragen® insecticide required for the area to be sprayed. Add Coragen® insecticide directly to the spray tank with the agitation engaged. Mix thoroughly to disperse the insecticide. Once dispersed, the material must be kept in suspension at all times by continuous agitation. Use mechanical or hydraulic means, DO NOT use air agitation, premix or slurry.

If spray solution is left standing, ensure thorough re-agitation of the spray mix until fully resuspended. **DO NOT** allow spray mix to sit overnight, as resuspension may be difficult.

The mixing sequence recommended is: water soluble bags, dry flowable or water dispersible granules, wettable powders, water based suspension concentrates (Coragen® insecticide), water soluble concentrates, oil based suspension concentrates, emulsifiable concentrates, adjuvants and surfactants, soluble fertilisers and drift retardants. Allow time for complete mixing and dispersion after addition of each product.

Compatibility

Since formulations may be changed and new ones introduced, it is recommended that users premix a small quantity of the desired tank mix and observe possible adverse changes (settling out, flocculation etc). Avoid complex tank mixtures of several products or very concentrated spray mixtures. Coragen® insecticide is compatible with Captan*, Dextrolac*, Delan*, Fulasin*, mancozeb, Omite*, Polyram* and Systhane*.

SURFACTANT/WETTING AGENT

For Brassica vegetable, Brassica leafy vegetable, Stalk & Stem vegetables, Leafy vegetables, Lettuce, Fruiting vegetables (Cucurbits), Legume vegetables, Sweet corn use a non-ionic surfactant/wetting agent at 15 g active/100 L, (e.g. Agral* 600 @ 25 mL/100 L).

DO NOT use BS1000* or Activator* as it may cause crop phytotoxicity.

DO NOT add a non-ionic surfactant/wetting agent if:

- mixing with another product which already contains a surfactant and/or the product label advises not to add a surfactant.
- mixing with a liquid fertiliser.

APPLICATION

Use enough water to ensure thorough coverage of the crop. Adjust water volumes to crop stage.

A spray drift minimisation strategy should be employed at all times when applying this product. The interaction of many equipment and weather-related factors determines the potential for spray drift.

Application equipment should be accurately calibrated to apply at least sixty (60) droplets per cm² of target foliage. Droplet VMD should be of MEDIUM spray quality according to ASAE S572 Standard or the BCPC guidelines.

APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVOURABLE ENVIRONMENTAL CONDITIONS.

Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size, and DOES NOT improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

Ground application

When applying Coragen® insecticide by ground application apply in water volumes 200 – 1000 L/ha.

Aerial application (by fixed wing aircraft or helicopter)

Apply a minimum total spray volume of 40 L/ha with appropriate nozzles (e.g. Micronaire* rotary atomisers, CP nozzles or conventional hydraulic nozzles). **DO NOT** apply Coragen® insecticide using Ultra Low Volume (ULV) methods.

SPRAY EQUIPMENT CLEANOUT

Prior to application, start with clean, well-maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove. Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom, and nozzles with clean water.

Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. **DO NOT** clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Very toxic to aquatic life. **DO NOT** contaminate wetlands or watercourses with this product or used containers.

STORAGE AND DISPOSAL

KEEP OUT OF REACH OF CHILDREN.

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 the spray tank. **DO NOT** dispose of undiluted chemicals on site. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. **DO NOT** burn empty container or product.

NOTICE TO BUYER

To the extent permitted by the Competition and Consumer Act (2010) or any relevant legislation of any State or Territory (the "Legislation") all conditions and warranties and statutory or other rights of action, whether arising in contract or tort or whether due to the negligence of DuPont or Seller, which buyer or any other user may have against DuPont or Seller are hereby excluded provided however that any rights of the buyer pursuant to non-excludable conditions or warranties of the Legislation are expressly preserved. DuPont hereby gives notice to buyer and other users that to the extent permitted by the Legislation it will not accept responsibility for any indirect or consequential loss of whatsoever nature arising from the storage, handling or use of this Product. Where permitted by the Legislation DuPont's liability

shall in all circumstances be limited to the replacement of the product, or a refund of the purchase price paid therefor.

The Product must be used and applied strictly in accordance with the label instructions and other directions for use. It is impossible to eliminate all risks associated with the use of this product. Such risks may arise from factors such as weather conditions, soil factors, off-target movement, unconventional technique, presence

of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of DuPont or the Seller. Buyer accepts these risks.

APVMA Approval: 61519/59346

DIRECTIONS FOR USE

RESTRAINTS:

DO NOT apply if rainfall is expected within 2 hours of application.

DO NOT use on container or hydroponic grown crops.

SPRAY DRIFT RESTRAINTS

DO NOT apply with spray droplets smaller than a MEDIUM spray droplet size category according to nozzle manufacture specifications that refer to ASAE S572 Standard or the BCPC guidelines.

DO NOT apply when wind speed is less than 3 or more than 20 kilometres per hour at the application site.

DO NOT apply during surface temperature inversion conditions at the application site.

Users of this product **MUST** make an accurate written record of the details of each spray application within 24 hours following application and **KEEP** this record for a minimum of 2 years.

The spray application details that must be recorded are:

1. date with start and finish times of application;
2. location address and paddock/s sprayed;
3. full name of this product;
4. amount of product used per hectare and number of hectares applied to;
5. crop/situation and weed/pest;
6. wind speed and direction during application;
7. air temperature and relative humidity during application;
8. nozzle brand, type, spray angle, nozzle capacity and spray system pressure measured during application;
9. name and address of person applying this product.

(Additional record details may be required by the state or territory where this product is used.)

MANDATORY NO-SPRAY ZONES

DO NOT apply if there are aquatic or wetland areas including aquacultural ponds downwind from the application area and within the **mandatory no-spray zones** shown in Table 1 below:

Table 1 – No-Spray Zones for Protection of the Aquatic Environment		
FOR AERIAL APPLICATION		
Wind Speed Range at Time of Application	Downwind Mandatory No-Spray Zone	
	Fixed-Wing	Helicopter
from 3 to 8 kilometres per hour	200 metres	200 metres
from 8 to 14 kilometres per hour		
from 14 to 20 kilometres per hour		
FOR GROUND APPLICATION		
Usage	Applications per season	Downwind Mandatory No-Spray Zone
Vegetables	3	15 metres

For use in all States where appropriate for the crop and/or insect pest.

CROP	PEST	RATE/HA	WHP	CRITICAL COMMENTS	
CRITICAL COMMENTS - ALL CROPS					
Regularly scout crops to monitor for eggs and larvae. Target sprays against eggs and newly hatched larvae before they become entrenched. Apply as egg and larvae reach threshold numbers.					
A maximum of three (3) applications are to be applied to any one crop. No more than two (2) consecutive sprays per crop, with a minimum spray interval of 7 days (unless stated otherwise). Further treatments should be made with alternative mode of action insecticides.					
Use enough water to ensure thorough coverage of the crop. Adjust water volumes to crop stage (ground 200 – 1000 L/ha). For aerial application apply a minimum of 40 L/ha.					
Refer to Surfactant/Wetting agent section.					
Use in accordance with AIRAC Insecticide Resistance Management Strategy guidelines. As part of an Insecticide Resistance Management programme for Cotton bollworm, it is important to plough crops immediately after harvest.					
Brassica vegetables including: Broccoli Brussels sprout Cabbage Cauliflower	Cabbage-centre grub (<i>Hellula hydralis</i>) Cabbage cluster caterpillar (<i>Crociodolomia pavonana</i>) Cabbage leafminer (<i>Liriomyza brassicae</i>)	100 mL + 15 gai/100 L of non-ionic surfactant	7 days		
Brassica leafy vegetables including: Buk choy Chinese broccoli (Gai lum/Gai lan/Kai lan), Chinese cabbage (Pet sai/Wombok /Haksukai) Choy sum Gai choy/Am soy Kai choy Kale Mibuna Leafy mustard including Indian mustard and Mustard spinach (Komatsuma) Pak choy Tat soy	Cabbage white butterfly (<i>Pieris rapae</i>) Cluster caterpillar (<i>Spodoptera litura</i>) Cotton bollworm (<i>Helicoverpa armigera</i>) Diamondback moth (<i>Plutella xylostella</i>) Native budworm (<i>Helicoverpa punctigera</i>) Soybean looper (<i>Thysanoplusia orichalcea</i>)		3 days		
Stalk & Stem vegetables, including: Celery Rhubarb	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>)	100 mL + 15 gai/100 L of non-ionic surfactant			
Leafy vegetables (excluding lettuce), including: Cress Endive Silverbeet Spinach					
Lettuce (leaf and closed head varieties)		150 mL + 15 gai/100 L of non-ionic surfactant			
Fruiting vegetables (excluding Cucurbits), including: Capsicum Egg plant Peppers Tomato (trellis and field)	Cotton bollworm (<i>Helicoverpa armigera</i>) Native budworm (<i>Helicoverpa punctigera</i>) Tomato leaf miner (<i>Phthorimaea operculella</i>) Eggfruit caterpillar (<i>Sceliodes cordalis</i>)	100 mL or 10 mL/100 L (dilute)	3 days		
					Ensure spray timing coincides with egg laying/hatching. The pest hatches from the egg and burrows directly into fruit. Larvae entrenched in the fruit at the time of spraying will not be controlled.

CROP	PEST	RATE/HA	WHP	CRITICAL COMMENTS
Fruiting vegetables (Cucurbits), including: Cucumbers Melons Pumpkin Squash Zucchini	Cotton bollworm <i>(Helicoverpa armigera)</i> Native budworm <i>(Helicoverpa punctigera)</i> Cucumber moth <i>(Diaphania indica)</i>	100 mL + 15 gai/100 L of non-ionic surfactant or 10 mL/100 L (dilute) + 15 gai/100 L of non-ionic surfactant	1 day	Apply with a minimum spray interval of 5 days.
Legume vegetables including: Green beans Green peas Processing peas Snow peas Sugar snap peas	Cotton bollworm <i>(Helicoverpa armigera)</i> Native budworm <i>(Helicoverpa punctigera)</i>	100 mL + 15 gai/100 L of non-ionic surfactant	1 day	
Potatoes	Cotton bollworm <i>(Helicoverpa armigera)</i> Native budworm <i>(Helicoverpa punctigera)</i> Potato moth <i>(Phthorimaea operculella)</i>	100 mL	Not required	Only target foliar infestations of Potato moth. Moth larvae in the soil or within stems will not be controlled. Apply with a spray interval of 10 - 14 days.
Sweet corn	Cotton bollworm <i>(Helicoverpa armigera)</i>	100 mL + 15 gai/100 L of non-ionic surfactant	7 days	Ensure spray timing coincides with egg laying/hatching. Larvae entrenched in cobs at the time of spraying will not be controlled.

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

WITHHOLDING PERIODS

HARVEST

POTATOES: WITHHOLDING PERIOD NOT REQUIRED WHEN USED AS DIRECTED.

FRUITING VEGETABLES (CUCURBITS INCLUDING CUCUMBERS, MELONS, PUMPKIN, SQUASH, ZUCCHINI), LEGUME VEGETABLES: DO NOT HARVEST FOR 1 DAY AFTER APPLICATION.

BRASSICA LEAFY VEGETABLES, FRUITING VEGETABLES (excluding CUCURBITS), LEAFY VEGETABLES (including LETTUCE), STALK & STEM VEGETABLES: DO NOT HARVEST FOR 3 DAYS AFTER APPLICATION.

BRASSICA VEGETABLES (INCLUDING BROCCOLI, BRUSSELS SPROUT, CABBAGE, CAULIFLOWER), SWEET CORN: DO NOT HARVEST FOR 7 DAYS AFTER APPLICATION.

GRAZING

LEGUME VEGETABLES: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 1 DAY AFTER APPLICATION.

SWEET CORN: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION.

OTHER CROPS: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION.

TRADE ADVICE EXPORT STATEMENT: Import tolerances for produce treated with Coragen® insecticide may be pending in some countries. Consult with your exporter or DuPont before applying Coragen® insecticide to export crops.

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