

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

DELFIN[®] WG

BIOLOGICAL INSECTICIDE

Active Constituent: *Bacillus thuringiensis* subspecies *kurstaki* strain SA-11 (Manufactured by Thermo Trilogy Corporation, Columbia, USA) active solids and solubles.

A water dispersible granule for the control of a range of caterpillars in Vegetables, Tomatoes, Vines, Fruit Trees, Kiwifruit, Tobacco and Ornamentals as per the Directions for Use table.

GROUP 11C INSECTICIDE

NRA Approval No: 45608/0899

Pack size: 1 kg, 5 kg

GENERAL INSTRUCTIONS

DELFIN WG is a biological insecticide based on the SA-11 strain of *Bacillus thuringiensis* (Bt) subspecies *kurstaki*. (Bt) is a spore-forming bacterium which produces, in addition to spores, crystals of a protein endotoxin. This endotoxin is specifically toxic to lepidopteran larvae.

DELFIN WG acts within the gut of the target larvae. DELFIN WG causes feeding inhibition within a few minutes of ingestion. Eventually disintegration of the gut wall and larval death occur. Dying larvae can be expected to be found for several days after application.

DELFIN WG is a selective agent that provides fast and effective control of lepidopteran larvae, without harmful effects on humans, domestic animals, honey-bees, wildlife, fish and beneficials.

Thorough spray coverage is essential as DELFIN WG is active only if ingested by the caterpillar. Coverage of the underside of the leaf is important.

Insecticide Resistance Warning

Some naturally occurring insect biotypes resistant to DELFIN WG and other Group 11C insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if DELFIN WG or other Group 11C insecticides are used repeatedly. The effectiveness of DELFIN WG on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Syngenta Crop Protection Pty Ltd accepts no liability for any losses that may result from the failure of DELFIN WG to control resistant insects.

Mixing

MEASURE CUPS are included.

5 kg pack: when filled to the 1,250 mL level, this measure cup holds approximately 500 g of DELFIN WG.

1 kg pack: when filled to the 250 mL level, this measure cup holds approximately 100 g of DELFIN WG.

Half fill the spray tank with water, start agitation. Pour the required quantity of DELFIN WG while maintaining agitation; add other spray material (if any) and add balance of water. Maintain agitation throughout preparation and spraying operations.

Maintain the agitation throughout the mixing, standing and spraying operations.

DO NOT allow diluted sprays to remain in the tank for more than 24 hours.

DELFIN WG is formulated to provide desirable coverage and adhesion on leaf surfaces.

Application

1. High Volume (Dilute) Sprays: fully wet plant foliage to the point of run-off and typically utilise a minimum water volume of 1000 L/ha.

2. Low Volume Sprays: Broadacre applications – When applying by ground boom spray use the highest practical water volume. DO NOT apply less than 200 L total spray volume per hectare, unless otherwise stated.

As this product must be ingested, thorough spray coverage is essential. If rain falls shortly after treatment, re-treatment may be necessary. To obtain maximum assistance from beneficial insects, avoid use of broad spectrum insecticides during a program of the above sprays.

For most consistent control, apply at first sign of newly hatched larvae.

Re-apply as necessary under a pest management program that includes frequent scouting.

In situations of dense crop foliage and rapid crop growth, increasing water volumes will provide more complete crop coverage and may improve DELFIN WG performance.

During periods of high temperatures, larvae will progress through early instars very rapidly and early application timing is necessary for control.

To be effective, DELFIN WG spray must be deposited at the larval feeding site. In tomatoes when plant cover is dense and larvae are feeding in the lower 2/3 portion of the plant, aerial application of DELFIN WG may not provide adequate control.

Compatibility

Commonly used acaricides, insecticides and fungicides are compatible with DELFIN WG if mixed in the spray tank and used promptly.

As it is impossible to know all the commercial products on sale, we cannot assume any responsibility for tank-mix compatibility. We can only recommend to the user that a preliminary compatibility test be carried out with the planned mixture to observe the physical aspect of the spray and the reaction it may produce on the plants. Larval behaviour may also be modified by some products.

PROTECTION OF LIVESTOCK, WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Avoid contamination of any water course (ponds, waterways or drains) during handling, spraying, disposing of the product or its container and during cleaning of the equipment. DO NOT apply where run-off is likely to occur. DO NOT apply when weather conditions favour drift from areas treated.

DELFIN[®] WG

STORAGE AND DISPOSAL

KEEP OUT OF REACH OF CHILDREN.

Store in the closed, original container in a dry, cool, well ventilated area out of direct sunlight. As DELFIN WG is a biological insecticide, it can be damaged by heat and so should be protected at all times from high temperature. Single rinse before disposal. Add rinsings to the spray tank. DO NOT dispose of undiluted chemicals on site. Puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SAFETY DIRECTIONS

Will irritate the eyes and skin. Avoid contact with eyes, skin and open wounds. DO NOT inhale spray mist. When preparing spray and using the prepared spray, wear:

- cotton overalls buttoned to the neck and wrist;
- a washable hat;
- elbow-length PVC gloves; and
- face shield or goggles.

If product on skin, immediately wash area with soap and water. 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 131 126.

MATERIAL SAFETY DATA SHEET

If additional hazard information is required, refer to the Material Safety Data Sheet. For a copy phone 1800 025 931, or visit our website at www.syngenta.com.au

MANUFACTURER'S WARRANTY AND EXCLUSION OF LIABILITY

Syngenta has no control over storage, handling and manner of use of this product. Where this material is not stored, handled or used correctly and in accordance with directions, no express or implied representations or warranties concerning this product (other than non-excludable statutory warranties) will apply. Syngenta accepts no liability for any loss or damage arising from incorrect storage, handling or use.

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DIRECTIONS FOR USE (ALL STATES)

Crop	Pests	Rate		Critical Comments
		High Volume /100 L water	Low Volume /ha	
Cole Crops Cabbage, Cauliflower, Broccoli, Brussels Sprouts	Cabbage Moth (<i>Plutella xylostella</i>), Cabbage White Butterfly (<i>Pieris rapae</i>)	25 g	500 g	Apply at first sign of infestation and repeat at 7 to 10 day intervals or as required to maintain control of pests. Higher volume sprays will improve coverage and performance. For low volume applications, use a minimum of 400 L/ha of water.
Vines	Vine Moth (<i>Phalaenoides glycinae</i>) Lightbrown Apple Moth (<i>Epiphyas postvittana</i>)	12.5 g	–	Apply at first sign of infestation, as high volume spray and repeat as required to maintain control of pests, or apply as cover sprays complimentary to commonly used pesticides in an adequate spray program.
Fruit Trees	Lightbrown Apple Moth (<i>Epiphyas postvittana</i>)			
Tobacco	Tobacco Looper (<i>Chrysodeixis argentifera</i>)	25 g		Apply as required by presence of Loopers.
Kiwi Fruit	Leaf Roller Caterpillar (<i>Cryptoptila immersana</i>), Lightbrown Apple Moth (<i>Epiphyas postvittana</i>)	25 to 50 g		Use on early instar caterpillars. Use the higher rate on larger caterpillars. Apply after bud burst during periods of Lightbrown Apple Moth activity at 10 to 14 day intervals. Application during flowering is suitable as spray is non-toxic to bees.
Ornamentals	Loopers (<i>Chrysodeixis</i> spp.), Lightbrown Apple Moth (<i>Epiphyas postvittana</i>), Native Budworm (<i>Helicoverpa punctigera</i>), Corn Earworm (<i>Helicoverpa armigera</i>), Dayfeeding Armyworm (<i>Spodoptera exempta</i>), Lesser Armyworm (<i>Spodoptera exigua</i>), Cluster Caterpillar (<i>Spodoptera litura</i>)	25 g		Ensure a thorough coverage of the foliage at first sign of infestation and repeat at 10 to 14 day intervals or as required.
Strawberries	Loopers (<i>Chrysodeixis</i> spp.), Lightbrown Apple Moth (<i>Epiphyas postvittana</i>), Leaf Roller Caterpillar (<i>Cryptoptila immersana</i>), Budworms (<i>Helicoverpa</i> spp.), Native Budworm (<i>Helicoverpa punctigera</i>), Corn Earworm (<i>Helicoverpa armigera</i>), Dayfeeding Armyworm (<i>Spodoptera exempta</i>), Lesser Armyworm (<i>Spodoptera exigua</i>), Cluster Caterpillar (<i>Spodoptera litura</i>)	25 g		
Macadamias	Leaf Eating Caterpillars			Apply when monitoring reveals significant infestation. Repeat at 7 to 10 day intervals as necessary.

(continued)

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DIRECTIONS FOR USE (ALL STATES) – *continued*

Crop	Pests	Rate		Critical Comments
		High Volume /100 L water	Low Volume /ha	
Tomatoes	<i>Helicoverpa</i> spp.	50 to 100 g	0.5 to 1.0 kg	Use the higher rate when <i>Helicoverpa</i> spp. pressure is high. Apply at first sign of infestation and repeat at 4 to 7 day intervals while crop is susceptible to pest damage. Higher volume sprays will improve coverage and performance. For low volume applications, use a minimum of 200 L/ha of water.
		50 to 100 g plus 50 to 70 mL Larvin 375	0.5 to 1.0 kg plus 0.5 to 1.0 L Larvin 375	Use the higher rate when <i>Helicoverpa</i> spp. pressure is high. Add Larvin 375 with heavy egg pressure. Use the high rate of Larvin for larger larvae. Higher volume sprays will improve coverage and performance.
	Potato Moth (<i>Phthorimaea operculella</i>)	100 g	1 kg	The presence of the predatory wasp, <i>Copidosoma</i> spp., may improve Potato Moth control.

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

WITHHOLDING PERIOD: A WITHHOLDING PERIOD OF 1 DAY EXISTS WHEN TANK MIXES WITH LARVIN 375 ARE USED IN TOMATOES, OTHERWISE A NIL WITHHOLDING PERIOD IS REQUIRED.