



# DuPont™ Benevia®

## insecticide

### Technical Information

**Active Ingredient:**

100 g/L CYANTRANILIPROLE in the form of an oil dispersion.

**Pack Sizes:**

5 L

GROUP	<b>28</b>	INSECTICIDE
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**HARMFUL**

Keep out of reach of children

**ECOTOXIC**

FOR THE CONTROL OF CERTAIN INSECT PESTS IN ONIONS, POTATOES AND FIELD TOMATOES.

Registered pursuant to the ACVM Act 1997 No. P8571

See [www.nzfsa.govt.nz/acvm/](http://www.nzfsa.govt.nz/acvm/) for registration conditions.

Approved pursuant to the HSNO Act 1996 Code HSR100856

READ LABEL BEFORE MIXING AND APPLYING

**HAZARD CLASSIFICATION**

6.5B, 6.9B, 9.1A, 9.4B

**APPROVED HANDLER**

This product must be under the control of an approved handler during use.

Use of this product in any manner contrary to this label may be an offence under the HSNO Act.

**HARMFUL**

May cause an allergic skin reaction. May cause damage to the liver or thyroid through prolonged or repeated exposure.

**ECOTOXIC**

Very toxic to aquatic organisms. Toxic to terrestrial invertebrates.

**PRECAUTIONS**

Keep out of reach of children. Avoid skin contact. **DO NOT** breathe concentrate or spray mist. When mixing or applying wear protective gloves. **DO NOT** eat, drink or smoke while using. Wash hands and face thoroughly before meals and after work. Wash contaminated clothing before re-use.

**DO NOT** apply into/onto water. Avoid contamination of any water supply with product or empty container. **DO NOT** allow spray drift outside the target area.

Store in original container, tightly closed and under lock and key. **DO NOT** store with Class 1, 2, 3.2, 4 or 5 substances or feed, seeds or foodstuffs. Stores containing more than 100 L of this product require secondary containment and are subject to signage.

**DISPOSAL**

Container disposal: Ensure container is empty. Triple rinse, and add rinsate to the spray tank. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, burn if circumstances, especially wind direction permit, otherwise bury in an approved landfill. **DO NOT** reuse container. Dispose of this product only by using according to this label. Always follow local authority requirements.

**FIRST AID**

If on the skin wash with plenty of soap and water. For advice, contact the National Poisons Centre 0800 POISON (0800 764766) or a doctor if feeling unwell.

**SPILLAGE**

Wear appropriate protective clothing. Prevent liquid from entering sewers or bodies of water. Absorb spills in earth or sand and sweep up. Dispose of waste material at an approved landfill.

## GENERAL INSTRUCTIONS

DuPont™ Benevia® insecticide is an anthranilic diamide insecticide in the form of an oil dispersion, to be mixed with water and applied as a foliar spray. DuPont™ Benevia® insecticide is particularly active on both sucking and chewing (Lepidopteran) insect pests, and is specially formulated for maximum performance by foliar applications in onions, potatoes and tomatoes.

Before application monitor insect populations to determine whether or not there is a need for application of DuPont™ Benevia® insecticide based on locally determined economic thresholds. More than one treatment of DuPont™ Benevia® insecticide may be required to control a population of pests.

DuPont™ Benevia® insecticide enters larvae primarily by ingestion, but also by contact. Exposure of the pest species typically results in rapid feeding cessation within a few hours of exposure, however the time to death may take 3 to 6 days, depending upon the species.

### BEE SAFETY

Spray DuPont™ Benevia® insecticide in flowering crops only after daily honeybee flights.

Ensure flowering weeds are removed before spraying DuPont™ Benevia® insecticide to avoid potential exposure of honeybees.

Ensure spray drift is avoided into flowering off-crop habitats during the application of DuPont™ Benevia® insecticide.

### INSECTICIDE RESISTANCE WARNING

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

Some naturally occurring insect biotypes resistant to DuPont™ Benevia® 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 DuPont™ Benevia® insecticide and other Group 28 insecticides are used repeatedly. The effectiveness of DuPont™ Benevia® insecticide on resistant individuals could be significantly reduced. Since the occurrence of resistant individuals is difficult to detect prior to use DuPont™ Benevia® insecticide accepts no liability for any losses that may result from the failure of DuPont™ Benevia® insecticide to control resistant insects.

DuPont™ Benevia® insecticide may be subject to specific resistance management strategies. To help prevent the development of resistance to DuPont™ Benevia® insecticide observe the following instructions:

- Use DuPont™ Benevia® insecticide in accordance with the current Insecticide Resistance Management (IRM) strategy for your region.
- Apply DuPont™ Benevia® 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 DuPont™ Benevia® insecticide or other Group 28 insecticides are acceptable if they are used to treat a single insect generation.

- Following a “window” of DuPont™ Benevia® 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 further information contact your farm chemical supplier, consultant, or local DuPont Representative.

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

Fill spray tank to ¼ to ½ full of water. Measure the amount of DuPont™ Benevia® insecticide required for the area to be sprayed. Add DuPont™ Benevia® 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.

### ACIDIFICATION OF THE SPRAY TANK

If the pH of the spray tank after all products have been added and mixed is above pH 8, adjust to pH 8 or less using a registered acidifying agent. If the spray tank pH is 8 or less no adjustment of the spray tank pH is necessary. Spray tanks of pH 8 or less can be held for up to 8 hours before spraying. **DO NOT** store the spray mixture overnight in the spray tank.

### SURFACTANT/WETTING AGENT

Use a non-ionic surfactant/wetting agent at the highest rate recommended for hard to wet crops.

**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.
- a liquid fertiliser

## COMPATIBILITY

DuPont™ Benevia® insecticide is compatible with many commonly used fungicides, liquid fertilisers, herbicides, insecticides, and biological control products. However, since the formulations of products are always changing, it is advisable to test the physical compatibility of desired tank mixes and check for adverse effects like settling out or flocculation. To determine the physical compatibility, add the recommended proportions of the tank mix products to water, mix thoroughly and allow to stand for 20 minutes. If the combination remains mixed, or can be re-mixed readily, it is considered physically compatible. Avoid complex tank mixtures of several products or very concentrated spray mixtures.

The crop safety of all potential tank-mixes, including additives and other pesticides, on all crops has not been tested. Before applying any tank-mixture not specifically recommended on this label or other DuPont supplemental labelling, the safety to the target crop must be confirmed. To test for crop safety, apply the combination to a small area of the target crop in accordance with the label instructions to ensure that a phytotoxic response will not occur.

The **mixing sequence recommended is:** water soluble bags, dry flowable or water dispersible granules, wettable powders, water based suspension concentrates, water soluble concentrates, oil dispersion concentrates (DuPont™ Benevia® insecticide), emulsifiable concentrates, adjuvants and surfactants, soluble fertilisers.

## CROPS CULTIVARS NOT TESTED

Not all crops within a crop group, and not all varieties, cultivars or hybrids of crops have been individually tested for crop safety. It is not possible to evaluate for crop safety all applications of DuPont™ Benevia® insecticide on all crops within a crop group, on all varieties, cultivars, or hybrids of those crops, or under all environmental conditions and growing circumstances. To test for crop safety, apply the product in accordance with the label instructions to a small area of the target crop to ensure that a phytotoxic response will not occur, especially where the application is a new use of the product by the applicator.

## APPLICATION

Apply using clean, well maintained and accurately calibrated ground-based spray equipment (only). Set the boom low and use coarser nozzles and lower pressures to avoid spray drift.

### Minimising Spray Drift

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator must consider all these factors when making application decisions. The most effective way to reduce drift potential is to apply large droplets (volume mean diameter (VMD) > 250 - 300 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT MINIMISE DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVOURABLE ENVIRONMENTAL CONDITIONS.** When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

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

## Spray Equipment Cleanout

Immediately following application, thoroughly clean all spray equipment to reduce the risk of hardened deposits forming 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.

## RECORD KEEPING

Records of use, as described in The New Zealand Management of Agrichemicals (NZS8049) must be kept.

## NOTICE TO BUYER

DuPont warrants that this product conforms to the chemical description on the label thereof and if reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use of application, all of which are beyond the control of DuPont. To the extent permitted at law, DuPont shall not be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the buyer.

**TO THE EXTENT PERMITTED AT LAW, DUPONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.**

**This product should not be used off label.**

## DIRECTIONS FOR USE

**It is an offence to use this product on animals.**

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

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

CROP	PEST	RATE/HA	CRITICAL COMMENTS
Potatoes, Field tomatoes	Tomato/potato psyllid ( <i>Bactericera cockerelli</i> )	500 mL + non-ionic surfactant  (Refer to Surfactant/Wetting agent section)	Regularly scout crops to monitor pest levels. Make three (3) applications at 7 – 10 day intervals as part of a full programme. Use the shorter spray interval under conditions of high insect pressure. Ensure complete and thorough spray coverage. <b>DO NOT</b> apply more than three (3) applications to any one crop per season. Further treatments should be made with alternative mode of action insecticides.
	Potato tuber moth ( <i>Phthorimaea operculella</i> )		Apply at first sightings of moths or first appearance of foliage mining and repeat at 7 - 14 day intervals. <b>DO NOT</b> apply more than three (3) applications per season. Further treatments should be made with alternative mode of action insecticides. Moth larvae in the soil or within stems will not be controlled. Control of tuber moth is assisted by maintaining soil moisture at an adequate level by irrigation and good soil coverage over the developing tubers.
	Green peach aphid ( <i>Myzus persicae</i> )		Apply at first sign of insect presence and make sequential applications 7 - 10 days later if required. <b>DO NOT</b> apply more than three (3) applications to any one crop per season. Further treatments should be made with alternative mode of action insecticides.
	Tomato fruit worm (Heloithis) ( <i>Helicoverpa armigera</i> )		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. Further treatments should be made with alternative mode of action insecticides.
Onions	Thrips ( <i>Thrips tabaci</i> )		Regularly scout crops to monitor pest levels. Apply the first spray when pest thresholds have been reached and repeat at 7 - 10 day intervals. Use the shorter interval under conditions of high insect pressure. Ensure complete and thorough spray coverage. <b>DO NOT</b> use more than three (3) applications per crop per season. Further treatments should be made with appropriate alternative mode of action insecticides. Follow the "Onions NZ Industry thrips control strategy".

## WITHHOLDING PERIODS

### HARVEST

Onions, Potatoes: **DO NOT** apply later than 14 days before harvest.

Field tomatoes: **DO NOT** apply later than 3 days before harvest.

### GRAZING

**DO NOT** graze or feed treated produce to stock.

**It is an offence for users of this product to cause residues exceeding the relevant MRL in the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards**

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