

Entrust™ SC
Naturalyte™
Qalcova™ active



INSECTICIDE

A sustainable farm for a sustainable future

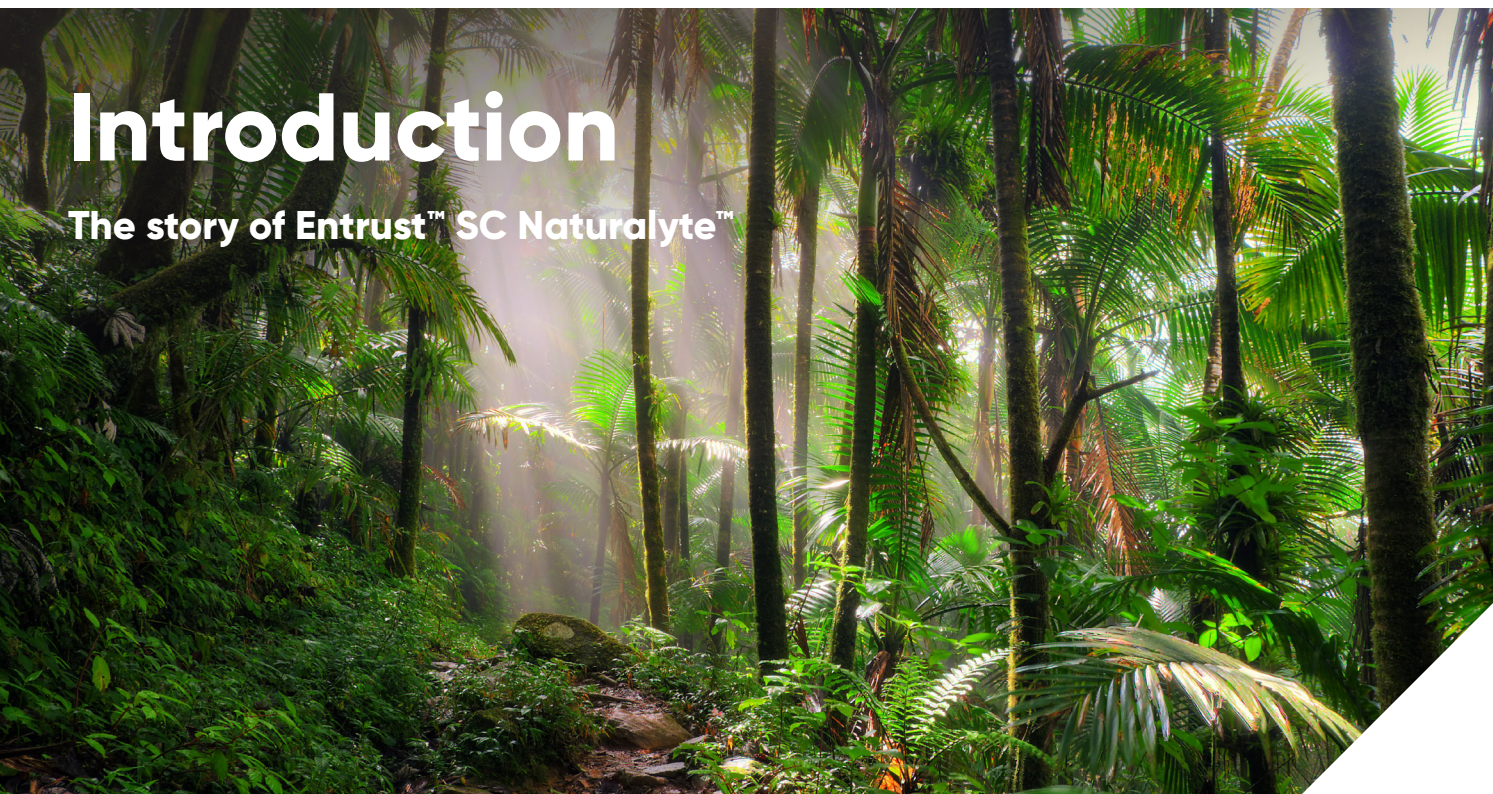


**Restore balance to your
crop protection program**

Entrust™ SC Naturalyte™ works alongside both conventional and organic technologies, delivering proven efficacy and sustainable productivity for your business.

Introduction

The story of Entrust™ SC Naturalyte™



In the summer of 1982, a research scientist took a well-earned holiday in the sunny Caribbean. While touring the local sights with his wife, he visited an abandoned rum distillery on a tiny tropical island.

Quietly wandering through the old buildings, he was struck by the ghostly, eerie silence. In a climate where the incessant buzz of insect life droned 24 hours a day, the sudden quiet was deafening.

Intrigued, he took some soil samples and transported them back to the United States for testing. What he and his team discovered was a unique soil bacterium that produces active metabolites (spinosyns) that gave excellent control of certain insect pests.

Years of development and exhaustive testing followed, culminating in the release of Entrust SC Naturalyte, a product characterised by its efficacy equivalent to synthetic insecticides, but with the safety and environmental profile of a biological.

Spinosad, trademarked by Corteva Agriscience as Qalcova™ active, sets a new standard for safe, effective and sustainable protection from insects in a range of conventional and organic crops.

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Scan the QR code to access the full product label






Product overview

Entrust™ SC Naturalyte™ Qalcova™ active

INSECTICIDE

			
Derived from nature	IPM compatible	Highly active at low rates	Fast acting

 240 g/L spinosad as a suspension concentrate (SC) formulation
 Contact or ingestion – 2 modes of entry for increased control
 Group 5 insecticide; spinosyns

Key features & benefits

- Bio-Gro Organic certification for use in both conventional and organic cropping systems
- Excellent safety and environmental profiles
- Fast acting – pests stop feeding almost immediately after exposure
- Effectively controls eggs and all larval growth stages of caterpillars. For best results target neonates and early instar larvae
- Contact and ingestion – two modes of entry for increased control. Spinosad has contact activity on all life stages including egg, larva, and adult. Eggs must be sprayed directly but larvae and adults can be effectively dosed through contact with treated surfaces. Spinosad is most effective when ingested
- Translaminar activity – moves through the leaf surface to control pests feeding on the underside, plus reduces wash-off from the leaf surface

Entrust SC Naturalyte uniquely provides the benefits of biological insect control with efficacy equivalent to synthetic insecticides.

Target pests

Highly effective on:

- Caterpillars including potato tuber moth, leaf roller, tomato fruitworm, diamond back moth and white butterfly
- Thrips, including Kelly's citrus thrips
- Cherry slug and pear slug

How to use

- Apply as a foliar spray
- Use as part of an Integrated Pest Management (IPM) Programme. Biological and cultural controls can aid in maintaining pest numbers below economic thresholds

Do **not** spray when bees or wasps are actively foraging. Time applications for when these pollinators are not foraging e.g. early in the morning or after dusk. Entrust SC will not interfere with the activity of pollinators once the spray has dried. At least 3 hours drying time should occur before bee foraging is expected



Caterpillars:
Entrust will also control eggs that have been directly sprayed.



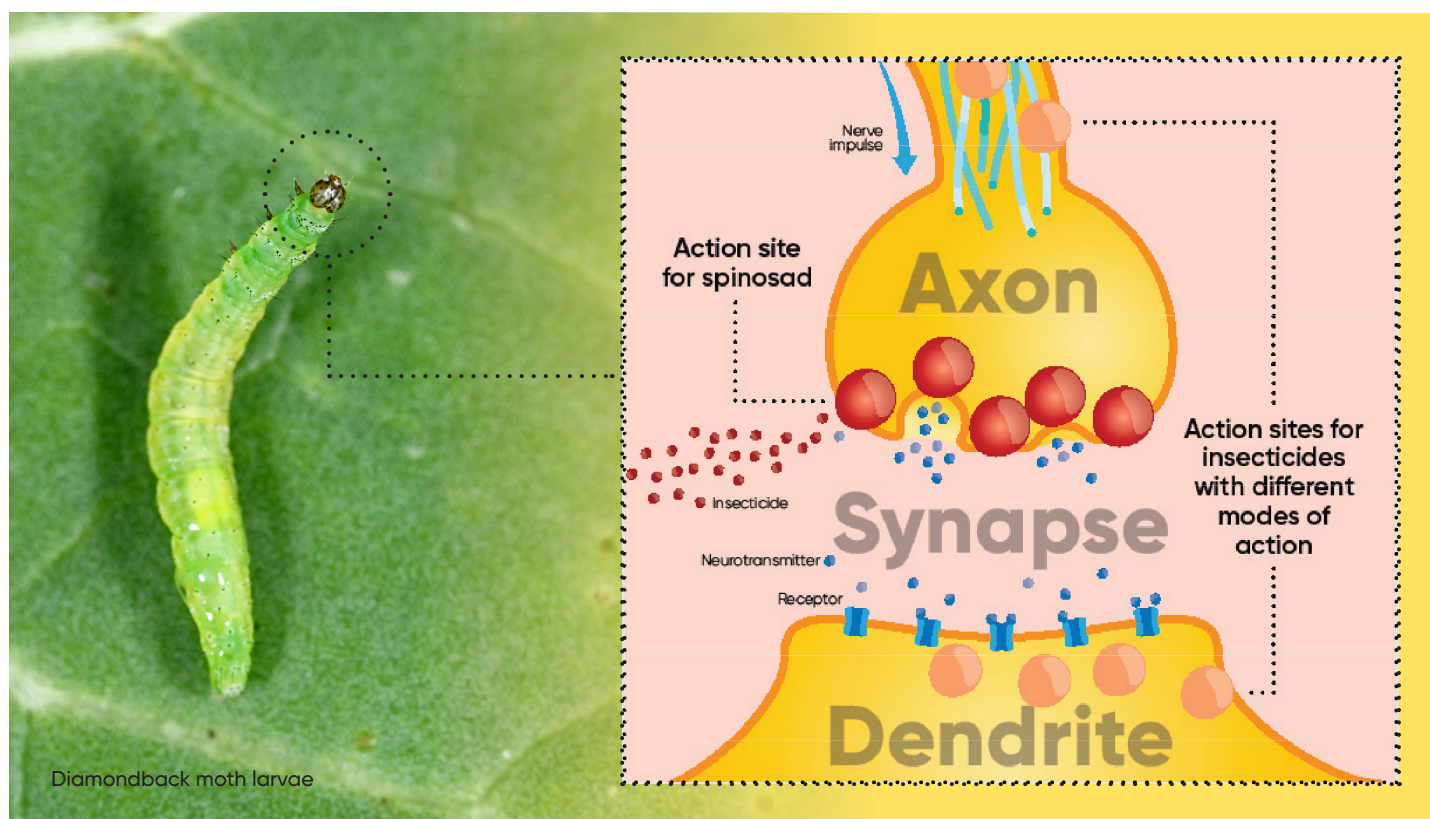
Thrips:
Kelly Citrus Thrips



Cherry and pear slugs

How Entrust™ SC Naturalyte™ works

Mode of Action



Diamondback moth larvae

Entrust SC Naturalyte contains Qalcova active which, once ingested or absorbed, affects the insect's nervous system.

Under normal conditions, nerve impulses reach the synapse and release neurotransmitters which

travel across the synapse triggering a new impulse in the dendrite.

Qalcova active disrupts the insect's normal neural activity by binding to the axon terminal and over stimulating certain sites within the nervous system.

Resistance Management Strategy

The Mode of Action of Entrust SC Naturalyte is distinct from all other organic insect pest control products.

As a Group 5 insecticide, Entrust SC Naturalyte should be rotated with actives from other groups as part of an insecticide resistance management strategy. Refer to the label for appropriate product use and maximum number of applications per season in specific crops.

Entrust SC Naturalyte's Qalcova active has a totally unique action site to all other organically certified insecticides in New Zealand.

Application

Use Entrust™ SC Naturalyte™ to protect:



Vegetables



Tree crops



Vine crops



Forage crops

* Refer to the label for specific crops.



Timing

Carefully monitor crops for eggs and larvae of pest species by regular field scouting.

Target sprays against mature eggs and newly-hatched larvae when numbers exceed spray threshold.

Apply repeat applications at intervals, specified under the product label critical comments, as new infestations occur.

Always refer to the product label for application directions. Scan the QR code to be directed to the label on our website.

Scan the QR code to access the full product label



Key considerations

- Entrust SC Naturalyte has strong translaminar activity but is not systemic. Repeat applications are required to ensure new growth is protected
- Thorough coverage of the crop is essential
- Avoid applications when rain is expected within 6 hours of spraying
- Ground application - apply a minimum 200 L/ha water
- The use of an appropriate adjuvant can improve efficacy in some crops (refer to label)
- Entrust SC Naturalyte is compatible with most other commonly used pesticides including lime sulphur. Where the physical compatibility of two or more products are unknown, conduct a simple bucket test by mixing products and water at proportionate rates and allow to stand for 30 min
- Water with pH between 6-8 is optimum

Safety profile

Spinosad is a highly selective insect control product with high potency for target insects but low toxicity toward mammals and other non-target organisms.

User safety

Qalcova™ active is classified as a reduced risk by the U.S. EPA due to its:

- Low acute mammalian toxicity*
- Low toxicity to Fish and Wildlife
- Safety to beneficials and compatibility to IPM

Spinosyns have a wide margin of safety for farm workers and they may re-enter treated crops once the spray is dry

* When label directions are followed.

PPE advice for spraying



Use eye protection, gloves, rubber boots and overalls

Environmental safety

Entrust SC Naturalyte's environmental profile is very favourable – spinosyns are non-persistent and are immobile in the soil.

- Safe to earth worms
- Major breakdown by UV light on plant and soil surface
- Microbial breakdown in soil – half-life is 9–17 days
- Broken down to CO₂ and water
- Binds to soil – will not leach
- Non-volatile



Ladybird

Spider









Safety to beneficial species

Spinosyns have low impact on predatory arthropods including ladybird beetles, lacewings, big-eyed bugs, pirate bugs, damsel bugs, apple dimpling bugs, and spiders.

These beneficial arthropods can aid in the extended natural control of insect pests and reduce the likelihood of secondary pest outbreaks.

Spinosyns are toxic when sprayed directly onto parasitoid wasps and honeybees, but once this spray has dried, residues on treated surfaces have negligible effect.

Withholding periods

 Crop		Withhold for:*
Stonefruit		1 day
Pipfruit, avocados, vegetable brassica and tomatoes		3 days
Potatoes		7 days
Citrus and Kiwifruit		14 days
Grapes		42 days †
 Grazing		
Fodder brassica		7 days
Orchards	Do not graze	
Vineyards	Do not graze stock other than sheep in vineyards that have been treated with Entrust SC Naturallyte. Sheep may be grazed in vineyards for the purpose of leaf plucking providing they are not slaughtered for 2 months after leaving the vineyard.	

*When used according to the label. Check the label for specific crop registrations..

† Refer to export industry withholding period charts for export produce

Resistance management

An integrated approach to pest management (IPM) will help to reduce the dependence on insecticides for pest control, thereby helping to prevent the early onset of resistance.

Label Statement

Entrust™ SC Naturallyte™ Insect Control is a spinosyn insecticide (Group 5). Some naturally occurring individual insects may become resistant when excessive use of the same insecticide occurs. To maximize the effectiveness of insecticides, products containing alternate modes of action should be used in the spray program. Read the label and consult <http://resistance.nzpps.org/> for alternate modes of action and the details of resistance management strategies (if any) for the crops listed on the label.

Resistance to this product may develop from excessive use. To minimise this risk use strictly in accordance with label instructions. Entrust SC Naturallyte Insect Control has a unique mode of action and controls pest species that are resistant to conventional insecticides. To help prevent the development of resistance DO NOT apply more than 4 applications of Entrust SC Naturallyte Insect Control to any crop in any one season. Use insecticides from a different chemical group if more than 4 applications are required.

Crop registration & controlled pests

Crop	Pest	Rate	Critical Comments
Avocados	Leafroller	20 mL/100 L as a dilute spray. Do not apply less than 400 mL/ha on mature trees	Apply at 21 day intervals as part of an IPM programme or when pest threshold is reached.
Brassicas - Fodder	Diamond back moth, White butterfly	200 mL/ha	Always apply in mixture with 100 mL/ha Uptake™ Spraying oil. Ensure thorough coverage of the target foliage. Repeat application as required.
Brassicas-vegetable	Diamond back moth, white butterfly	200 mL/ha plus wetter ¹	Closely monitor pest populations and time sprays to coincide with egg hatch. Repeat applications at 7-10 day intervals as new infestations occur. Use a minimum spray volume of 250L/ha water. Ensure thorough coverage of the target area by increasing water volume with crop growth stage.
Citrus	Kelly's Citrus Thrips	20 mL/100 L as a dilute spray Do not apply less than 400 mL/ha on mature trees	Add Latron B-1956 at 40 mL/100 litres of spraymix. Apply at 100% petal fall with up to three further sprays at two week intervals depending on larval appearance. Ensure thorough coverage.
Field tomatoes	Tomato fruitworm	200 mL/ha plus wetter ¹	Closely monitor pest populations and time sprays to coincide with egg hatch. Repeat applications at 7-10 day intervals as new infestations occur. Use a minimum spray volume of 250L/ha water. Ensure thorough coverage of the target area by increasing water volume with crop growth stage.
Grapes	Leafroller	20 mL/100 L plus a wetter ¹ as a dilute spray. Do not apply less than 200 mL/ha	Apply at capfall and again at pre-bunch closure when pest thresholds are reached. Ensure thorough coverage.
Kiwifruit	Leafroller	10-20 mL/100 L as a dilute spray. Do not apply less than 200 mL/ha under moderate pressure and 400 mL/ha under severe pest pressure	Post petal fall Apply up to 2 sprays within the first 3 weeks after fruit set. Use the higher rate when pest pressure is severe. Pre harvest One further spray can be applied to the crop if needed and provided it is applied more than 14 days before harvest. Use the higher rate when pest pressure is severe. For export crops refer to the Zespri Crop Protection Programme or consult your exporter. Ensure thorough coverage Do Not apply in mixture with mineral oil.
Pipfruit	Leafroller, Pearslug	20 mL/100 L as a dilute spray. Do not apply less than 400 mL/ha on mature trees	Use as part of an Integrated Pest Management (IPM) Programme. Apply every 14 days or when pest threshold is reached. Increase water as leaf canopy increases. Ensure thorough coverage Note to minimise adverse effects if the woolly apple aphid parasitoid <i>Aphelinus mali</i> , or predatory mite <i>T Pyri</i> are being used, apply late in the season or when activity is low.
Potatoes	Potato tuber moth	200 mL/ha plus wetter ¹	Only target foliar infestations of tuber moth. Potato tuber moth larvae in tubers or below the soil surface will not be controlled. Carefully monitor crops for eggs and larvae by regular field scouting. Target sprays at first sign of larvae in foliage. Repeat applications at 14-21 day intervals as new infestations occur. Use a minimum spray volume of 500 L/ha water. Adequate soil moisture as well as covering exposed tubers with soil will assist in reducing infestation of Potato tuber moth in tubers.
Stone fruit	Leafroller (except Golden Queen peaches)	20 mL/100 L as a dilute spray. Do not apply less than 400 mL/ha on mature trees	Apply every 14 days or when pest threshold is reached
	Thrips		Apply from flowering until shuckfall at 10 - 14 day intervals, or when pest threshold is reached. Pre Harvest: Apply twice at 7 day intervals with the last application 1-3 days before harvest. Both timings: Add Latron B-1956 surfactant at 25ml/100L of spray mix. Ensure thorough coverage.
	Cherryslug		Apply when larvae occur in large numbers.

¹For grapes, potatoes and all vegetable brassica crops, add a non-ionic wetting agent at the recommended rate