



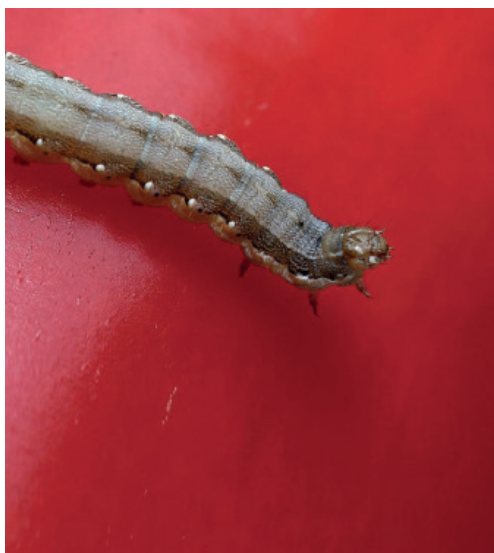
# *Delfin*<sup>®</sup> WG

Reg. No. L9761, Act No. 36 of 1947. N-AR 1805.

Bio Crop Protection



**Andermatt**  
Madumbi



## **Delfin® WG**

Reg. No. L9761, Act No. 36 of 1947. N-AR 1805.

A granule formulation of *Bacillus thuringiensis* subspecies *kurstaki* strain SA-11, solids, spores and lepidopteran active toxins, for the suppression of a wide range of lepidopteran pests. **Delfin® WG** is a biological larvicide for resistance and residue management.

### Why use **Delfin® WG**?

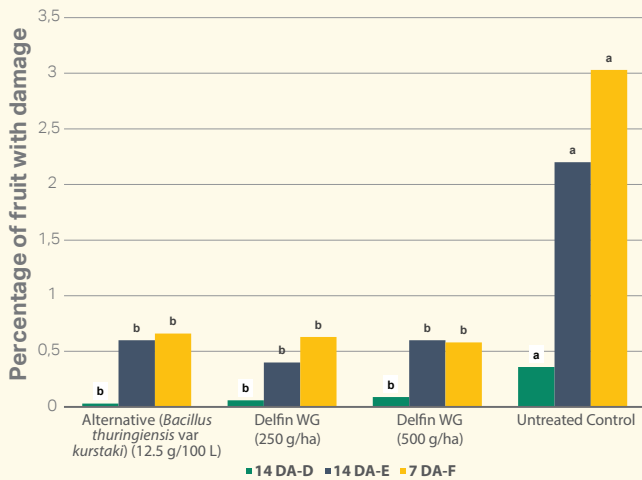
A natural biological larvicide highly effective for management of lepidopteran larvae.

Features	Benefits
<i>Bacillus thuringiensis</i> (Bt) is a beneficial soil bacteria highly adaptive to different environments	Delfin® WG can be used in a wide range of areas and environments
Based on one of the first commercialised biocontrol actives	Well established and recognised biocontrol active
Manufactured by bioproduct specialists Certis Biologicals	Excellent formulation and extensively researched and tested. Ensures a high quality isolate with proven successful results
Internationally recognised product	Delfin® WG has an extensive international label for the suppression and management of a wide range of lepidopteran larvae
Versatile application, excellent compatibility and shelf life	Delfin® WG is very user friendly and easy to integrate into existing spray programs
Isolate SA-11 contains an extensive cry toxin profile and potency factors	Delfin® WG is faster acting and more effective than Bt products with a less extensive profile
Active compounds produced by Bt in Delfin® WG are specifically toxic to lepidopteran larvae	Delfin® WG is target specific and has no effect on non-target beneficial insects
Unique mode of action different from synthetic chemistry	Delfin® WG is an ideal tool for resistance management and IPM programs
Non-toxic, completely natural and OMRI listed	Safe for applicators, consumers and the environment, has no withholding period and can be used in organic operations

### How does **Delfin® WG** work?

Biological insecticides, or Bt bio-larvicides (based on *Bacillus thuringiensis*), are the most proven, widely used and successful of the known biological pesticides. Each Bt cell produces a unique crystalline proteins known as Cry toxins. These toxins cause mortality when ingested by pest larvae. Very specific gut enzymes, which only function in the alkaline conditions of the caterpillar gut, dissolve the crystals to form the toxin. This disrupts the pest's digestive tract causing the pest to stop eating and then die due to paralysis of the mid gut, osmotic shock and septicaemia. This process is depicted on the right.

### Delfin® WG suppression of Citrus Flower Moth on Citrus



**Figure 1 (above):** Number of fruit with Citrus Flower Moth Larvae damage on treated and untreated lemon trees. Data is presented per evaluation date, fourteen days after each treatment.

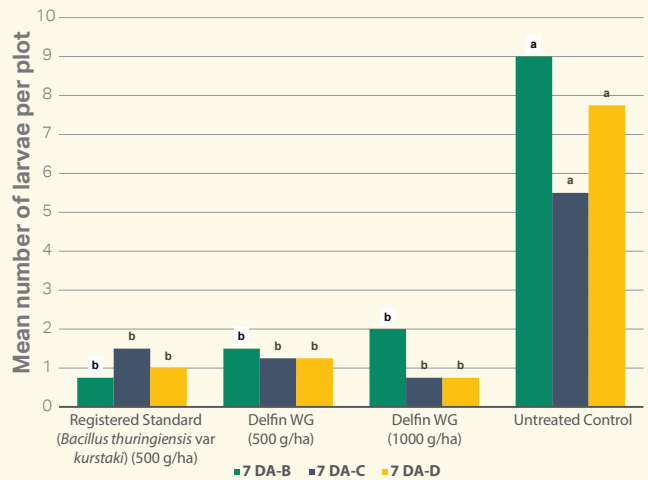
**Variety:** Eureka Lemon

**Location:** Simondium, Western Cape

**Alternative:** *Bacillus thuringiensis* var *kurstaki* (32 000 IU/mg)

Citrus flower moth larvae were present at moderately high and uniform infestation levels in the trial, resulting in significant damage to the crop (3% of fruit affected at the end of the trial in the untreated control). Applications of all products started preventatively and continued every fourteen days. Both Delfin® WG treatments applied resulted in significantly less damage observed on the fruit. An alternative Btk was included in the trial for comparison purposes.

### Delfin® WG suppression of African Bollworm on Lettuce



**Figure 2 (above):** Mean number of African Bollworm larvae observed per plot on treated and untreated lettuce. Data is presented per evaluation date, seven days after each treatment.

**Variety:** Iceberg

**Location:** Joostenbergvlakte, Western Cape

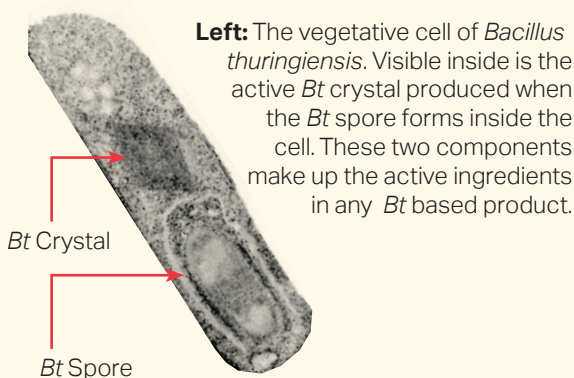
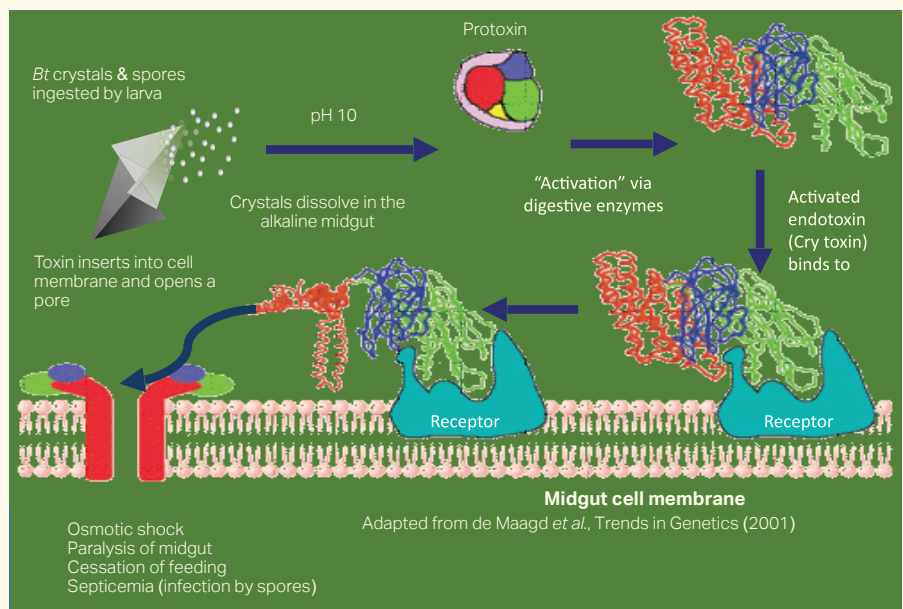
**Registered Standard:** *Bacillus thuringiensis* var *kurstaki* (32 000 IU/mg)

African Bollworm larvae were present at moderate and uniform infestation levels ranging between 13 and 22.5% in the untreated control. Applications of all products started preventatively when the first African Bollworm eggs were observed, and continued every 7 days. Both Delfin® WG treatments applied resulted in significantly lower African Bollworm larvae numbers and were comparable with the Registered Standard.



**Pictured above:** A target organism for Delfin® WG African Bollworm larvae.

**Image below:** The mode of action of Cry toxins within Delfin® WG



## Registered uses:

Crop/Disease	Dosage Rates	Remarks
<b>Lettuce</b> African Bollworm ( <i>Helicoverpa armigera</i> )  Tomato ( <i>Tuta absoluta</i> )	1 kg/ha	<b>Application Timing and Intervals</b> <ul style="list-style-type: none"><li>• First application with first detection of specified pest eggs.</li><li>• Second application 7-10 days after first application.</li><li>• Continue application of Delfin® WG every 7-10 days as long as specified pest is present.</li></ul>
<b>Citrus</b> Citrus Flower Moth / Lemon Borer ( <i>Prays citri</i> )	250 - 500 g/ha	<b>Application Timing and Intervals</b> <ul style="list-style-type: none"><li>• First Delfin® WG application with first detection of specified pest eggs.</li><li>• Second Delfin® WG application 14 days after first application.</li><li>• Continue application of Delfin® WG every 14 days as long as specified pest is present.</li><li>• Delfin® WG should be applied preventatively or when the pest pressure is below the economic threshold.</li><li>• Delfin® WG is ideal for Integrated Pest Management.</li></ul>

### Application Guidelines

Apply through conventional application equipment as described in the mixing instructions. Delfin® WG should be applied as a full cover film spray. Coverage of feeding areas essential.

**Available in:** 100 g, 1 kg, 30 kg

Registered, Marketed and Distributed by:



Certified by:



Manufactured by:



Healthy Food and Healthy Environment, for all



**Andermatt Madumbi (Pty) Ltd**  
**T:** +27 (0) 33 342 3984  
**E:** support@anderstatt.co.za  
**W:** www.anderstatt.co.za