

# bruco

MAPP 17919

**Bruco is a biological insecticide used for the control of caterpillars (*Lepidopterous larvae*) in vegetables, soft fruit, ornamentals and amenity vegetation. It is formulated as a water dispersible granule of a naturally occurring micro-organism.**

**Active ingredient: *Bacillus thuringiensis* var *kurstaki* with a potency of 32,000 IU/mg**

## SAFETY PRECAUTIONS

Precautions marked \* are a legal requirement

### Operator protection

Avoid contact with eyes

- \* Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:
- \* WEAR SUITABLE PROTECTIVE GLOVES, FACE PROTECTION (FACESHIELD) AND SUITABLE RESPIRATORY PROTECTIVE EQUIPMENT\* when handling this product.
- \* Filtering face-piece respirator to at least EN149 FFP3 or equivalent.
- \* However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH HANDS before eating and after work.

DO NOT BREATHE DUST

IF ON SKIN: Wash with plenty of soap and water

Wash contaminated clothing before reuse

### Environmental protection

DO NOT CONTAMINATE SURFACE WATERS OR DITCHES with the chemical or its container.

To avoid risks to man and the environment, comply with instructions for use

### Storage and Disposal

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

KEEP AWAY FROM CHILDREN AND PETS.

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

EMPTY CONTAINER COMPLETELY and dispose of safely.

Dispose of contents/container to a licensed hazardous-waste contractor or collection site except for empty clean containers, which can be disposed of as non-hazardous waste.

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# 500g

## IMPORTANT INFORMATION

### FOR USE ONLY AS AN AGRICULTURAL AND HORTICULTURAL INSECTICIDE

Crop	Maximum individual dose
Cabbage (outdoor), cauliflower (outdoor), Brussels sprouts (outdoor), broccoli (outdoor)	1 kg product per hectare
Tomato (protected), cucumber (protected), pepper (protected)	100g product per 100 litres
Strawberry, raspberry	75g product per 100 litres
Ornamental plant production, amenity vegetation	0.75 kg product per hectare

**READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS**

## DIRECTIONS FOR USE

**IMPORTANT: This information is approved as part of the product label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.**

Bruco is formulated as a water dispersible granule of a naturally occurring micro-organism.

### Product Benefits:

- Bruco is biodegradable and leaves no detrimental residue on the crop when applied according to the use recommendations.
- Bruco acts on the target larvae after ingestion of the treated plant vegetation.  
Following the start of deterioration of the gut walls, the larvae stop feeding and die 24 to 72 hours later.
- The efficacy of Bruco on young larvae of Lepidopterous insects is similar to that of conventional insecticides when used according to the recommendations.

### Pests Controlled:

Bruco is for the control of caterpillars (Lepidopterous larvae) and reduces crop damage caused by caterpillar feeding.

Rates of Use:

Crops	Dosage Rates:
Outdoor cabbage ##, Brussels sprouts, cauliflower, broccoli:	0.75-1.0 kg/ha #
Outdoor and protected ornamentals:	0.75 kg/ha
Amenity vegetation:	0.75 kg/ha
Strawberry, raspberry:	75 g/100 litres
Protected tomato, cucumber, pepper:	100 g/100litres

# Use lower rate for normal infestation of young larvae and higher rate for heavy infestations or larvae at more advanced growth stages.

## In case of infestation with cabbage moth (*Mamestra brassicae*) use higher rate (Bruco provides only some control of this pest).

## Mixing and Spraying:

### Application timing:

Apply as soon as the first larvae are seen, preferably during an active feeding period, and repeat the application at intervals of 7 to 10 days until the end of the hatching period. If heavy rain falls shortly after application, before the larvae have the opportunity to absorb the product, repeat the application. For optimum results it is best to apply the product avoiding conditions of high light intensity or temperatures outside the general range of 10 - 20°C. Spray the mixture on dry vegetation and do not apply if rain is expected within 6 hours of treatment.

### Application Volume:

The spray particles must be as fine and homogeneous as possible and sufficient volume of water should be used to ensure complete cover of the vegetation. The following spray volumes are given as a guide to application with higher volume applying to denser crop foliage, or larger trees and plants.

Crop	Volume Water/ha
Field crops	400-1000 litres
Protected crops	400-2000 litres

### Mixing instructions:

Half fill the spray tank with water, add the correct quantity of Bruco, then continue filling the tank until full using continuous agitation. Apply the spray mixture as soon as possible after its preparation.

### Maximum number of applications:

There are no restrictions on number of treatments applied.

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## Batch Number

Original formulation batch number and production date of the source product.

*The Control of Substances Hazardous to Health (COSHH) Regulations may apply to the use of this product at work*