



MAPP No. 17290

PCS No: 05620

T34 BIOCONTROL® is a biofungicide for the reduction of *Fusarium oxysporum* f.sp. *dianthi* on carnations (*Dianthus* species), and *Pythium aphanidermatum* on tomato, pepper and chilli and aubergine.

The active ingredient is the beneficial fungus *Trichoderma asperellum* strain T34.

Professional use only.

Formulation type: Wettable powder.

ACTIVE INGREDIENT: *Trichoderma asperellum* strain T34 (dried conidia) 12.0% w/w.

The product contains a minimum of 1×10^{12} colony forming units per Kg of dry weight.

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

Batch number:

Pack size: 500 grams.

IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL HORTICULTURAL FUNGICIDE

Ornamental plant production (protected) (Carnation only)			
Max. individual dose	Max. total dose	Max. number of treatments: (per batch)	Last time of application
10 g/m ³ organic media	-	1	Incorporation into growth medium before potting.
or			
0.5 g/m ² (assuming 5 cm depth)	-	1	Immediately after sowing seeds or rooting cuttings.
and/or			
0.01 g/L	-	1	Dip roots of cuttings in a solution (of 0.01g / L of water) before planting.
and/or			
0.005 g/L organic media (irrigated container grown plants)	-	-	-
Tomato (protected), pepper (protected), chilli (protected) and aubergine (protected)			
Max. individual dose	Max. total dose	Max. number of treatments: (per batch)	Last time of application
10 g/m ³ organic media	-	1	Incorporation into organic media before sowing
or			
0.5 g/m ² (assuming 5 cm depth)	-	1	Spraying organic media (seed trays & multipots, etc.) before or immediately after sowing seeds or rooting cuttings
and			
10 g/m ³ organic media	-	1	Incorporation into organic media before transplanting
and			
0.01 g/L organic media	-	1 (or 0.005 + 0.005 g product / L organic media (one week apart))	Irrigation after transplanting.

Specific diseases controlled:

Reduction of *Fusarium oxysporum* f.sp. *dianthi* on carnations (*Dianthus* species), and *Pythium aphanidermatum* on tomato, pepper and chilli and aubergine.

Specific restrictions:

(1) To minimise airborne environmental exposure, vents, doors and other openings must be closed during and after application until the applied product has fully settled.

(2) Use in ornamental plant production is restricted to carnation plants grown under protection only.

(3) Effectiveness of each of these application methods individually has not been established and growers are advised to apply a sequence of treatments using each of the recommended application methods.

(4) Treatment must only be made under 'permanent protection' situations which provide full enclosure (including continuous top and side barriers down to below ground level) and which are present and maintained over a number of years.

(5) Reasonable precautions must be taken to prevent access of birds, wild mammals and honey bees to treated crops.

(6) T34 BIOCONTROL® must only be applied to tomatoes, peppers, chilli and aubergines grown in organic media.

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.

SAFETY INFORMATION

A wettable powder containing a minimum of 1×10^{12} colony forming units of *Trichoderma asperellum* strain T34 per Kg of dry weight.

Hazard statement:

May cause an allergic skin reaction.

Precautionary statements:

Do not breathe dust, spray.

Wear eye protection, face protection, protective clothing, protective gloves.

IF ON SKIN: Wash with plenty of water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

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

Supplementary statements:

Micro-organisms may have the potential to provoke sensitizing reactions.

To avoid risks to human health and the environment comply with the instructions for use.

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Approval holder:

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Fargro® is a registered trademark of Fargro Ltd.



WARNING

SAFETY PRECAUTIONS

Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND SUITABLE RESPIRATORY PROTECTIVE EQUIPMENT* when handling the product/concentrate or applying the product. *Disposable filtering facepiece respirator to at least EN149 FFP3 or equivalent.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows that they provide an equal or higher standard of protection (UK only).

Wash hands / exposed skin thoroughly after handling.

IF ON SKIN: wash with soap and water.

IF ON EYES: rinse continuously with water for several minutes.

WHEN USING DO NOT EAT, DRINK OR SMOKE

IF YOU FEEL UNWELL, seek medical advice immediately (show the label where possible)

Environmental protection

Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

Storage and disposal

STORE AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF THE REACH OF CHILDREN.

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

Wash out container thoroughly, empty washings into spray tank and dispose of safely.

Store in a dry place.

Store at temperature not exceeding 4°C.

When stored at 4°C the concentration is maintained over 2 years.

Store in a suitable pesticide store.

DIRECTIONS FOR USE

Consult processors before 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.

T34 BIOCONTROL® is a biofungicide that contains conidia of the beneficial fungus *Trichoderma asperellum* strain T34. For carnations **T34 BIOCONTROL®** should be at monthly intervals applied repeatedly during the life of the crop for optimum effect, beginning during plant propagation (seedlings and cuttings).

For tomatoes, peppers and chilli and aubergines **T34 BIOCONTROL®** should be applied at seeding, transplanting/planting, with a maximum of three applications. **T34 BIOCONTROL®** must be reapplied at appropriate intervals to maintain the fungal population in the compost, especially at re-potting. After other substrate treatments such as sterilisation, fumigation, solarisation or bio-fumigation, allow a suitable interval before using **T34 BIOCONTROL®**.

Mode of action

T34 BIOCONTROL®, preventatively applied, protects carnation plants from *Fusarium* wilt, and solanaceous and cucurbitaceous from *Pythium* damping-off or crown and root rot, due to its capacity to colonise the growing media and the plant root zone. **T34 BIOCONTROL®** has a suppressive effect on the soil-born pathogens *Fusarium oxysporum* and *Pythium aphanidermatum*, since it directly competes for space and/or nutrients, and can parasitize pathogenic fungi.

Preparation and rate of T34 BIOCONTROL®

T34 BIOCONTROL® may be applied by spraying, growth media incorporation, through irrigation system and gantry system or by root dipping.

Application equipment should be thoroughly cleaned before use so that no traces of previous pesticides remain. Dissolve the specific amount of **T34 BIOCONTROL®** in a small amount of water and shake to obtain good product dispersion. Add this solution to the spray or irrigation tank, with the total volume of water necessary, stirring continuously to ensure a homogeneous application of the product.

When T34 is applied through the irrigation system, apply **T34 BIOCONTROL®** in the penultimate irrigation of the day, to ensure that no other residual product remains in the irrigation system. This will also minimize the wash-out risk and help to achieve suitable diffusion in the substrate.

Application equipment should be thoroughly cleaned after use.

1. Incorporation into growth substrate.

Apply **T34 BIOCONTROL®**, at a dose of 10 grams per m³ of growth substrate before sowing, rooting or planting, by mixing 10g/hL of water, and applying 0.1L of water to 1L of growth substrate. For tomato, pepper and chilli and aubergines efficacy may improve when incorporation into organic media occurs for a period of time before transplanting/planting.

2. Spraying of the growth substrate for propagation.

Apply **T34 BIOCONTROL®**, by spraying at a dose of 0.5 grams per m² of surface area (assuming 5cm depth) before or immediately after sowing seeds or rooting.

3. Root dip (for *Dianthus* only)

Before planting, we recommend dipping the roots of the cuttings for several hours or overnight in a solution of water with 0.01 grams of **T34 BIOCONTROL®** in 1L of water.

4. Irrigation at transplanting and along the crop

Apply the product as a drench at 10 grams of **T34 BIOCONTROL®** per 1000 pots (1L) at the planting day, or 5 grams plus 5 grams one week apart.

For *Dianthus* repeat every 2-3 months as follow-up treatment and also prior to a risk situation or after plants are stressed.

The maximum in-use concentration of **T34 BIOCONTROL®** must not exceed 10 grams/L water.

Compatibility

T34 BIOCONTROL® should not be applied in mixture with other pesticides or liquid fertilisers.

The effect of other pesticides applied either before or after **T34 BIOCONTROL®** on the effectiveness of **T34 BIOCONTROL®** has not been fully established. Some pesticides, particularly fungicides, may reduce effectiveness of **T34 BIOCONTROL®**.

Restrictions

Safety of **T34 BIOCONTROL®** has been demonstrated on a limited number of carnation varieties (*Dianthus* species). Although damage to other varieties is unlikely to occur in normal use, it is advisable to test the product on a small number of plants before treating large numbers of plants of a new variety for the first time.

For *Fusarium oxysporum* reduction in carnation effectiveness of **T34 BIOCONTROL®** has been demonstrated in a range of compost types including peat, coir and rockwool but it is advisable to test the product with more unusual types of compost before using the product on a large scale, or before using with a different type of compost for the first time. For *Pythium aphanidermatum* reduction in tomatoes, peppers and chilli and aubergines **T34 BIOCONTROL®** must only be used in organic media.

WARRANTY

The seller makes no warranty, expressed or implied, with regard to the use of the product other than that indicated on the label. The purchase and user shall assume all risk associated with use and/or handling and/or the storage of the product, if this use and/or handling and/or storage are carried out contrary to the instructions on the label.

Spanish Patent **ES 2 188 385 B1**

European Patent **EP 1 400 586 B1**

USA Patent **US 7 553 657 B2**



To access the safety data sheet for this product scan the QR code or use the link:
www.fargro.co.uk/?qr=t34
or contact your supplier