# *Eco-T*®

**Biomanagement**




Andermatt

# *Eco-T*® | *Eco-T Ezi-Flo*®

*Trichoderma asperellum* formulations for larger, healthier and more effective root systems. *Eco-T*® and *Eco-T Ezi-Flo*®are the essential first step to integrated management of root diseases.

## Why use *Eco-T*® and *Eco-T Ezi-Flo*® ?

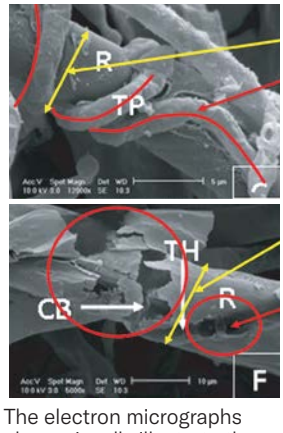
| Features | Benefits |
|---|---|
| Control of Root rot disease caused by e.g. *Fusarium* spp., *Pythium* spp., *Rhizoctonia* spp. and *Phytophthora* spp. | Strengthens disease control program and compliments chemical fungicides in an IPM approach. Ideal product to apply after soil sterilisation |
| Increased root growth due to increased auxin availability | Treated root systems are denser, well developed and more extensive. Larger root system ensures more efficient contact with nutrients |
| Increased nutrient mobilisation due to mineralisation of nutrients | Maximises the nutrient uptake efficiency and therefore helps to ensure the biggest return for the money spent on fertiliser |
| Reduces plant stress due to activation of Induced Systemic Resistance (ISR)<br>Refer to 'How does *Eco-T*® work'for detail on ISR | Increases tolerance levels of abiotic (e.g. drought) and biotic (e.g. disease) stress conditions |
| Versatile | These formulations enable the grower to apply the product as a seed treatment, in furrow, or as a soil drench on a wide range of crops |
| Ease-of-use | User friendly 250 g, 1 or 5 kg (*Eco-T*®) and 1 kg or 4 kg (*Eco-T Ezi-Flo*®) containers with relevant measuring scoop included |

**Additional benefits**

The *Eco-T Ezi-Flo*® formulation consists of talc and graphite at an optimal ratio specifically for use in both mechanical and air assisted planters. *Eco-T Ezi-Flo*® regulates the flow of seed ensuring correct spacing and planting of single seeds due to lubricant effect of the talc and graphite. This ensures uniform planting density which can contribute to reaching optimum plant potential.

## How does *Eco-T*®and *Eco-T Ezi-Flo*® work?

*Trichoderma asperellum*, the active ingredient in *Eco-T*®, is a beneficial fungus that forms a symbiotic relationship with plant root systems offering the plant numerous benefits. *T. asperellum* is aggressive, fast growing and quickly colonises a root system, out growing fungal pathogens and out competing these pathogens for space and nutrients in the root zone. *T. asperellum* parasitizes other pathogenic fungi by coiling around the pathogen hyphae, constricting and penetrating (via enzymatic secretion) eventually destroying it. *T. asperellum* activates ISR, a state of enhanced immunity to infection demonstrated by plants following an initial localized injury or presence of inducer organisims like *T. asperellum*. In response the plant produces certain substances that, over time, evoke resistance throughout the plant.




The electron micrographs above visually illustrate the mode of action of *T. asperellum.*

# Trial data:

## The germination and early growth results of soybean seed under different scenarios:

**1.**

Soybean growth in a vermiculite growth medium - untreated (No product or disease added).

**2.**

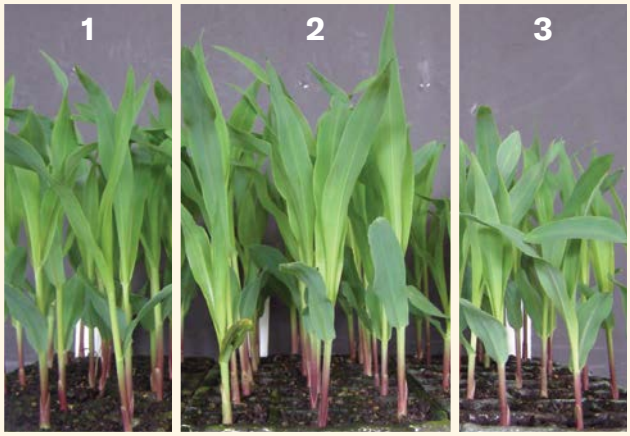
Soybean growth after the growing medium was inoculated with a disease (*Sclerotinia* sp.). Seedling in process of dying.

**3.**

Soybean growth after seed has been treated with *Trichoderma asperellum* and the growth medium inoculated with a disease (*Sclerotinia* sp.). Seedling unaffected by disease, growing healthy due to the protection afforded by *Trichoderma asperellum*.

## The effect of various treatments on the germination and early growth of maize seed treatments:

All experimental parameters between treatments 1 to 3 were the same, except for the presence or absence of the chemical or biological seed treatment as explained below.



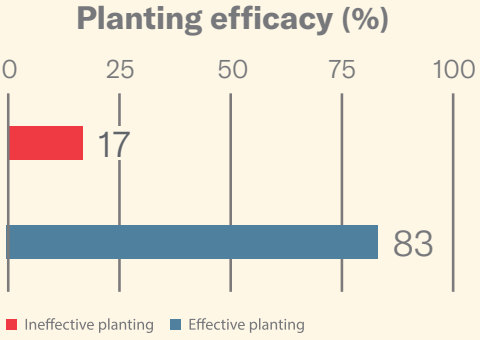

1. Maize seed treated with *T. asperellum* prior to seeding/sowing.
2. Maize seed treated with a standard chemical seed treatment fungicide as well as *T. asperellum*.
3. Maize seed treated with a standard chemical seed treatment fungicide.

## The graphs below show efficacy of the planting process as monitored with a precision planting monitor fitted to a commercial planter.

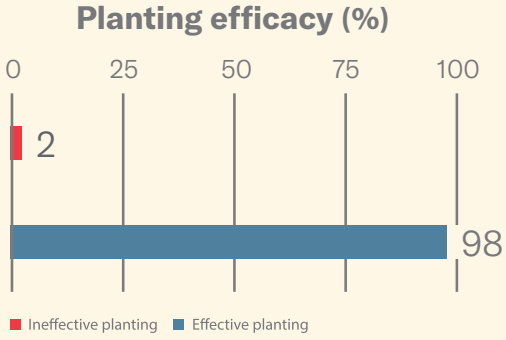
The data was generated during planting of maize on a commercial maize farm.

**Effective planting** is characterised by single seed consistently planted at the correct spacing.

**Ineffective planting** refers to incorrect spacing or more than one seed (clumping) per placement.




Planting WITHOUT *Eco-T Ezi-Flo®*




Planting WITH *Eco-T Ezi-Flo®*

# *Eco-T*®

**Biomanagement**

Carrot seed treated with *Eco-T Ezi-Flo*® during a commercial trial.

Grey/green dust is the talc and *Trichoderma asperellum* spores and dark specs are graphite.

Even spacing and germination of carrot seed after seed treatment with *Eco-T Ezi-Flo*® (Commercial carrot trial).

## Registered uses:

### *Eco-T*®

| Crop | Crop type | Dose rate |
|---|---|---|
| All crops | Such as vegetable, orchard crops, ornamentals and *Eucalyptus* spp. | General application: 1 g/4 L water or 250 g/ha applied in furrow or as a root drench.<br>1 g/kg seed applied as a seed treatment.<br>Refer to label for detailed application instructions. |

**Available in packs:** 40 g, 250 g, 1 kg, 5 kg

### *Eco-T Ezi-Flo*®

| Crop | Crop type | Dose rate |
|---|---|---|
| Row crops | Such as maize, soya, dry beans | 1 g/kg seed, minimum 25 g/ha applied as a seed treatment. Refer to label for detailed application instructions. |

**Available in packs:** 1 kg, 4 kg

Registered, Marketed and Distributed by:

Andermatt

Approved by ECOCERT INPUTS

**Inspected by ECOCERT SA F-32600**
Product suitable for use in organic agriculture complying to the annexes of the EC n° 2018/848, 2021/1165 and NOP regulation.

Manufactured by:

Andermatt PHP

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Healthy Food and Healthy Environment, for all

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