



Eco-T[®]

Eco-T[®] Reg. No. L6938, Act 36 of 1947

Eco-T[®] Ezi-Flo Reg. No. L9276, Act 36 of 1947

Root Health | Plant Vitality | Bio Crop Protection



Eco-T® | Eco-T® Ezi-Flo

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Trichoderma asperellum strain kd 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.

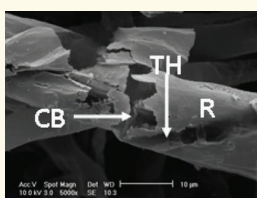
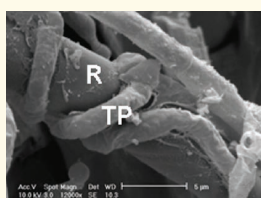
Why use Eco-T® and Eco-T® Ezi-Flo?

Features	Benefits
Addresses damping-off diseases caused by e.g. <i>Fusarium</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia</i> spp. and <i>Phytophthora</i> 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). 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, in hydroponic systems or as a soil drench on a wide range of crops.
Ease-of-use.	User friendly 40 g, 250 g, 1 or 5 kg (Eco-T®) and 500 g, 1 kg or 4 kg (Eco-T® Ezi-Flo) containers.
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 localised injury or presence of inducer organisms like *T. asperellum*. In response the plant produces certain substances that, over time, evoke resistance throughout the plant.

Photo Credit: UKZN, South Africa



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

- R = *Rhizoctonia* pathogen mycelium.
- TP = *T. asperellum* mycelium growing around the pathogen.
- TH = *T. asperellum* mycelium removed showing damage caused to *Rhizoctonia* mycelium.
- CB = Enzymatic breakdown of *Rhizoctonia* mycelium by *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 pathogen (*Sclerotinia* sp.). Seedling in process of dying.



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



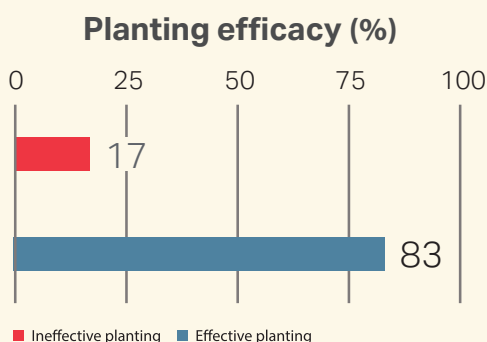
1. Maize seed treated with *T. asperellum* prior to seeding/sowing.
2. Maize seed treated with a standard chemical seed treatment fungicide compatible with Eco-T® as well as *T. asperellum*.
3. Maize seed treated with a standard chemical seed treatment fungicide.

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

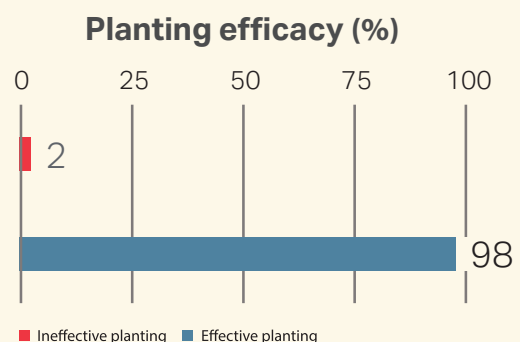
The data was generated during planting of maize on a commercial maize farm.

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 or multiple seeds placed per spot.



Planting **WITHOUT** Eco-T® Ezi-Flo



Planting **WITH** Eco-T® Ezi-Flo

Eco-T®

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Bio Crop Protection

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 <i>Eucalyptus</i> spp.	General application: 1 g/4 L water or 250 - 500 g/ha applied in furrow, via irrigation or as a root drench. Pre-mix Eco-T® with a small amount of water to make a paste before adding to the application tank. 1 g/kg seed applied as a seed treatment. 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: 500g, 1 kg, 4 kg

Attested by:



Product suitable for use in Organic Farming in accordance with: Regulations (EU) No 2018/848 and 2021/1165 and the NOP Regulation. **Controlled by ECOCERT SAS**



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