

TECHNOLOGYPROFILE

Triva™

Triva focuses on *Trichoderma harzianum* T-22 and the biological protection of developing roots. Its technical profile connects this defined fungal strain with published root-disease uses in vegetable, berry and other crop systems.

1 Product identification

Field	Detail
Product name	Triva™
Category	Biological crop protection
Principal components	<i>T. harzianum</i> Rifai T-22
Target crops	Tomato · Pepper · Cucumber · Lettuce · Strawberry · Blueberry · Grapes · Soybean · Common bean · Peanut · Alfalfa
Agricultural purpose	Root-zone health

2 Product role and biological basis

Protection around growing roots

The cited T-22 labels describe association with roots as they develop. This places the strain within a preventive root-zone strategy, where root growth and the condition of the surrounding soil or substrate are considered together.

Competition in the root environment

The Italian label describes competition with soilborne pathogens for space and nutrients. This explains a biological protective role at the root interface, with performance depending on the particular formulation and growing environment.

Defined root-pathogen scope

The United States single-strain powder label includes root pathogens in *Pythium*, *Rhizoctonia* and *Fusarium*. The Italian granular label also names *Sclerotinia*. These are market-specific label scopes, and a pathogen genus does not establish activity against every species or specialised form.

3 Composition and material characteristics

Trichoderma harzianum T-22

The biological identity is *Trichoderma harzianum* Rifai strain T-22, also identified as KRL-AG2 in the cited labels. The strain designation connects the organism to its supporting documents; the species name alone does not define the same disease spectrum.

Living fungal component

T-22 biological fungicides contain living fungal spores. Biological activity is therefore described through organism identity and viable activity, together with the physical properties of the formulation.

Powder and carrier

The wettable-powder format combines the biological component with formulation materials that support wetting and dispersion. Carrier composition and biological content are separate specification fields. Water-dispersible granules have their own formulation records.

4 Biological targets and application evidence

1. Public label evidence — United States, T-22 as a single-strain wettable powder.

The crop list includes tomato and cucumber; the root-pathogen scope includes *Pythium*, *Rhizoctonia* and *Fusarium*. The label describes preventive biological protection.

Agricultural relevance

This is a finished-formulation label, not a crop-by-crop efficacy experiment. Genus-level root claims do not demonstrate control of every *Fusarium* wilt pathogen, and this single-strain reference does not list *Phytophthora*.

T-22 — United States biological fungicide label

2. Public label evidence — Italy, T-22 water-dispersible granules, registration 14061.

The label lists vegetable and berry crops including lettuce, tomato, cucumber, strawberry and blueberry, and describes protection against root-zone pathogens including *Sclerotinia*.

Agricultural relevance

This provides an Italian WG reference for discussing lettuce *Sclerotinia*. It does not extend another powder formulation's registration or establish a disease-control result for a Huasheng product.

T-22 — Italy, registration 14061, WG label

5 Crop programmes and application context

Crop-specific biological protection connects the identified disease with the relevant strain, formulation and growing system. The following records outline those application contexts.

Tomato and cucumber root health

Public T-22 labels include tomato and cucumber in their crop lists and identify *Pythium*, *Rhizoctonia* and *Fusarium* as root-pathogen targets. The relevant decision is preventive root protection within the nursery or production system, supported by a diagnosis of the actual root problem.

Lettuce and berry root environments

Lettuce, strawberry and blueberry appear in the cited crop lists. For lettuce Sclerotinia, the Italian WG label provides a distinct reference. Root-zone evidence should be interpreted separately from fruit or leaf disease claims.

Perennial and field crop systems

The United States powder label includes grapes, selected citrus, soybean, beans, peanut and alfalfa. These entries establish a root-protection reference for the listed crop context. Citrus coverage has exclusions, including lemon, and individual bean species need separate confirmation.

Soilborne & root diseases

Tomato · Pepper · Cucumber · Lettuce · Strawberry · Blueberry · Grapes · Soybean · Common bean · Peanut · Alfalfa

T-22 · US WP label: preventive root protection against Pythium, Rhizoctonia and Fusarium. Genus-level records do not establish control of every wilt disease.

6 Quality and compatibility

Strain and document traceability

A technical specification should connect the T-22 or KRL-AG2 identity with the batch record and supporting formulation documents. Single-strain material and multi-strain formulations require separate identification.

Viable activity and product life

Read the declared viable activity with its analytical method, unit and point in product life. A release result and an end-of-shelf-life specification describe different conditions and should remain identifiable in the technical record.

Physical formulation quality

Wetting, dispersion, suspension behaviour and packaging condition complement biological quality. Storage and compatibility information should correspond to the exact powder formulation and its documented shelf life.

The cited labels concern specific finished formulations in the United States and Italy. They provide strain-use references; they do not establish a registration or an efficacy result for a Huasheng formulation.

The single-strain T-22 evidence presented here does not establish Phytophthora control. A Fusarium genus-level root claim also does not establish control of a particular vascular-wilt pathogen.

7 Product questions

Does the T-22 root-disease scope include every root pathogen?

No. The cited single-strain T-22 records address named root-disease uses. They do not establish Phytophthora control, and a genus-level Fusarium root claim does not establish control of a specific vascular-wilt pathogen.

Can T-22 results be transferred to a different Trichoderma mixture?

Strain and formulation identity matter. A single-strain T-22 record describes that biological material and use context; a mixture containing other organisms requires its own supporting evidence.

8 References and technical documents

Product specifications and application guidance are provided in the applicable technical data sheet and market label.

1. T-22 — United States biological fungicide label
2. T-22 — Italy, registration 14061, WG label

Product information and technical support

Contact Huasheng