APPLIED BIOTECH INDUSTRIES

Technical Data Sheet

Trichoderma asperellum

Fungal Soil Inoculant for Rhizosphere Vitality and Plant Resilience

Trichoderma asperellum is a fast-establishing, root-colonizing beneficial fungus used as a soil inoculant and plant biostimulant in modern agricultural systems. It attaches efficiently to plant roots, supports early vigor and nutrient uptake, and helps crops maintain performance under drought, heat, and other abiotic stress. Trusted in organic-compatible and conventional programs, this high-CFU fungal biostimulant strengthens rhizosphere function and improves overall soil biology in the root zone. It is widely used across tomatoes, peppers, cucurbits, strawberries, and leafy greens where consistent root establishment and stress tolerance drive yield.

- **Rhizosphere Colonization.** Specialized hydrophobin biology drives strong root attachment and persistent rhizosphere presence.
- **Root Vigor and Nutrient Uptake.** Natural phytohormone production stimulates early root development and improves nutrient absorption.
- **Abiotic Stress Tolerance.** Supports plant resilience under drought, heat, salinity, and cold conditions.
- **Nutrient Solubilization.** Mobilizes phosphorus, iron, and micronutrients for improved availability in the root zone.
- **Soil Microbiome Balance.** Contributes to a diverse, biologically active soil community.

Technical Data

Concentration (CFU/g):
- 15 billion (1.5×10^{10}) CFU/g dry powder
- Custom concentrations available upon request

Particle Size (Mesh):
- Passes through 100 mesh sieve

Packaging Options:
- 8 lb (3.5 kg) pails
- 15 lb (7 kg) pails
- 121 lb (55 kg) drums
- Smaller custom packaging available on request

Shelf-life:
- 6 months at room temperature
- 12 months refrigerated

Storage Recommendations:
- Store in a cool, dry location away from direct sunlight.
- Reseal container tightly after each use.

Application Rates

Soil Application (Drip, Drench, or Fertigation)

Dosage:

- 100–200 grams per acre (250–500 grams per hectare)

Frequency:

- Apply during early root establishment or transplanting
- Reapply every 2–4 weeks depending on crop cycle and stress level

Application Method:

- Dissolve thoroughly in water (ensure enough dilution volume to fully saturate the root zone)
- Use an agitation tank or manual stirring to maintain microbial suspension
- Apply through drip irrigation lines, micro-sprayers, or fertigation systems, positioning flow as close to the root zone as possible
- Flush the system after application to prevent clogging or residue buildup
- Do not tank mix with herbicides, fungicides, bactericides, or chemical pesticides

In-Furrow

Dosage:

- 25–50 grams per acre (60–125 grams per hectare)

Frequency:

- Apply once at planting to target root initiation and early growth stages

Application Method:

- Dissolve microbial powder thoroughly in water
- Apply directly into the seed furrow or planting trench at seeding time
- If using irrigation systems for delivery, ensure solution contacts the root zone
- Maintain agitation to prevent settling

When tank-mixing with fertilizers:

- Dilute fertilizer fully in water first before adding microbes
- Do not mix with herbicides, fungicides, bactericides, or pesticides

Foliar Spray

Dosage:

- 50–100 grams per acre (125–250 grams per hectare)

Frequency:

- Apply during vegetative growth or during periods of high stress or pest pressure
- Reapply every 7–14 days during periods of high stress

Application Method:

- Apply in the early morning or evening to reduce UV exposure
- Use a non-ionic surfactant or wetting agent for improved adhesion
- Ensure thorough coverage of foliage, including undersides of leaves
- Agitate spray solution continuously during application

Seed Treatment

Dosage:

- 3–5 grams per kg of seed

Frequency:

- Single application before planting

Application Method:

- Mix thoroughly with a sticking agent (e.g., sugar solution, gum arabic)
- Coat seeds evenly, ensuring full surface coverage
- Allow seeds to dry gently in the shade before sowing

Composting or Organic Matter Amendment

Dosage:

- 20–40 grams per ton of compost, organic substrate, or potting mix

Frequency:

- Single application before use or at the beginning of composting/soil blending

Application Method:

- For composting, first dissolve powder in water. Then spray piles and turn to evenly distribute product through the piles/windrows.
- For organic matter amendment, evenly mix the dry microbial powder into the growing media during turning or mixing