Technical Data Sheet

Trichoderma longibrachiatum

Soil Inoculant for Plant Health & Nutrient Cycling

Trichoderma longibrachiatum is a spore-forming, plant-beneficial fungus used as a microbial inoculant and biostimulant to enhance root development, nutrient mobilization, and soil health. Known for its enzymatic activity and rapid colonization, this beneficial soil fungus improves organic matter decomposition, supports microbial diversity, and promotes plant resilience in diverse growing conditions. Widely used in organic and regenerative systems, it contributes to long-term soil fertility and crop vigor.

- Root initiation and growth enhancement via auxin-like metabolite production
- Phosphorus, nitrogen, and potassium cycling through enzymatic breakdown and microbial mineralization
- Soil structure improvement and humus formation through active organic matter decomposition
- Supports rhizosphere health and balance by fostering beneficial microbial communities
- Contributes to plant tolerance under abiotic stress conditions such as drought and salinity

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:
- 22 lb (10 kg) pails
- 44 lb (20 kg) pails
- 340 lb (155 kg) drums
- Smaller custom packaging available on request

Shelf-life:
- 2 years at room temperature
- 2+ years 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