

Technical Data Sheet

Paecilomyces lilacinus

Soil Probiotic for Microbial Diversity & Root Zone Balance

Paecilomyces lilacinus (syn. *Purpureocillium lilacinum*) is a free-living, chitin-degrading fungus for soil health commonly used to enhance microbial diversity and root zone function. A resilient soil probiotic for plants, *P. lilacinus* is compatible with organic and regenerative farming systems and is often used as a microbial inoculant in biologically active soils, including those where nematodes are commonly present, to support rhizosphere balance and early root development. It contributes to early-stage plant growth and is suitable for use in a variety of biologically managed cropping systems.

- Enhances microbial community structure and diversity by colonizing root zones and interacting with organic matter
- Degrades chitin-rich residues, contributing to nutrient cycling and soil conditioning
- Promotes early root growth and nutrient uptake by improving soil biology and organic matter turnover
- Persists across a range of soil types due to spore-forming durability and metabolic adaptability
- Integrates easily into composts, organic amendments, and sustainable input programs for long-term soil health

Technical Data

Concentration (CFU/g):

- 10 billion (1.0×10^{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:

- 9 months at room temperature
- 18 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:

- 200–400 grams per acre (500–1,000 grams per hectare)

Frequency:

- Apply above dose 2–3 times during root development or early vegetative stage

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 or Soil Incorporation

Dosage:

- 200–400 grams per acre (500–1,000 grams per hectare)

Frequency:

- Apply once at planting, directly into the furrow or mixed with soil near the seed.

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
- Alternatively, the product may be combined with compost or organic matter for enhanced establishment.

When tank-mixing with fertilizers:

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

Composting or Organic Matter Amendment

Dosage:

- 100 grams per ton of compost, organic substrate, amendment, 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

Disclaimer: Results may vary depending on environmental conditions, application rates, and management practices. The manufacturer makes no guarantee of specific results. Seller's liability is limited to replacement of product or refund of purchase price. Manufacturer is not responsible for misuse, mishandling, or application under adverse conditions beyond its control. This product is not registered for pesticidal use with the U.S. Environmental Protection Agency. It is intended as a soil amendment / microbial inoculant only. Keep out of reach of children.