



Bacstim[®]100

High Performance Biology



What is Bacstim® 100

Bacstim® 100 is a biological inoculum that contains 5 strains of *Bacillus* spp. at a concentration of 2 billion (2×10^9) CFU / ml. It establishes beneficial microbial populations in the soil for a healthier crop. The microbes in Bacstim® 100 are spore formers, which means stable product in the drum and resilient in the field.

Content:

2 strains of *Brevibacillus laterosporus* 8×10^8 CFU / ml

2 strains of *Bacillus licheniformis* 8×10^8 CFU / ml

1 strain of *Bacillus amyloliquefaciens* 4×10^8 CFU / ml

Total other ingredients: 98%

Benefits:

- ▼ Produce phytohormones encouraging root growth
- ▼ Improve nutrient mineralization and uptake
- ▼ Improve stress resistance
- ▼ Increase crop biomass and yield

Application rates:

Crop	Dosage	Timing	Placement
Row crops	1 pint / acre	At planting	In furrow as close to seed as possible.
Vegetables	2 x 1 pint / acre	At planting one month later	In furrow as close to seed or transplant roots via fertigation system in shallow irrigation to target active root zone.
Tree crops	3 x 1 pint / acre	At first root flush Mid spring Late Spring	Via fertigation in shallow irrigation to target active root zone.
Grape vines	3 x 1 pint / acre	Budburst 7 - 8 inch shoot growth. Flowering	Via fertigation in shallow irrigation to target active root zone.

Bacstim® 100 is recommended to be used along with other Omnia Specialties, Inc. products such as Rhizovator™ in a crop production program.

Rhizovator™ is a concentrated humic acid blended with seaweed (*Durvillaea potatorum*). It is designed to feed the microbial community in the soil to promote diversity. Apply 1-2 pint / acre of Bacstim® 100 tank-mixed with 1 gal / acre Rhizovator™ per application.

The Role of *Bacillus* Species

Brevibacillus laterosporus:

- **Disease Suppression:** It produces antimicrobial substances that can suppress soil-borne pathogens.
- **Pest Control:** It has entomopathogenic properties against certain insects.
- **Organic Matter Decomposition:** contributes to the breakdown of organic matter, enhancing soil structure and fertility by increasing the availability of nutrients for plants.
- **Nutrient Cycling:** It enhances the solubilization of phosphates and the fixation of atmospheric nitrogen.
- **Plant Growth Promotion:** It produces substances like phytohormones (e.g., indole-3-acetic acid) that promote root growth and overall plant development.

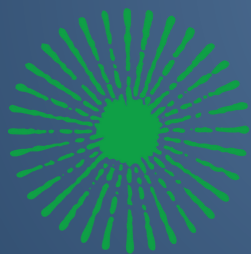
Bacillus licheniformis:

- **Disease Suppression:** It suppresses soil-borne plant pathogens through the production of antibiotics.
- **Stress Resistance:** It helps plants to better withstand abiotic stresses such as drought and salinity by enhancing their resilience.
- **Organic Matter Decomposition:** It aids in the decomposition of organic matter, improving soil structure and fertility.
- **Nutrient cycling:** It enhances the solubilization of phosphates and the fixation of atmospheric nitrogen.
- **Plant Growth Promotion:** It produces plant growth-promoting substances like indole-3-acetic acid (IAA), which enhance root growth and overall plant development.
- **Bioremediation:** It degrades various pollutants and contaminants in the soil, contributing to soil health and environmental sustainability.

Bacillus amyloliquefaciens:

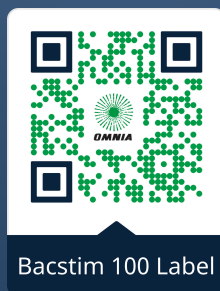
- **Disease Suppression:** It produces a variety of antimicrobial compounds, such as lipopeptides (e.g., surfactin, iturin, and fengycin), which can suppress soil-borne pathogens like fungi and bacteria. It can trigger the plant's own defense mechanisms, providing a form of induced systemic resistance against a broad spectrum of pathogens. It can form biofilms on plant roots, protecting them from pathogen invasion.
- **Stress Resistance:** It helps plants cope with various abiotic stresses such as drought, salinity, and heavy metal toxicity by producing stress-related enzymes and compounds.
- **Organic Matter Decomposition:** It contributes to the decomposition of organic matter, improving soil structure and fertility.
- **Nutrient Cycling:** It helps in solubilizing phosphorus and other essential nutrients, making them more available to plants.
- **Plant Growth Promotion:** It produces plant growth-promoting hormones like auxins, gibberellins, and cytokinins, which enhance root and shoot development.

	Disease Suppression	Pest Control	Stress Resistance	Organic Matter Decomposition	Nutrient Cycling	Plant Growth Promotion	Bio-remediation
<i>Brevibacillus laterosporus</i>	✓	✓		✓	✓	✓	
<i>Bacillus licheniformis</i>	✓		✓	✓	✓	✓	✓
<i>Bacillus amyloliquefaciens</i>	✓		✓	✓	✓	✓	



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NUTRIOLOGY

Innovating to enhance life, together creating a greener future



Bacstim 100 Label

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