

Bacillus Megaterium

1x 10¹⁰ cfu/g bacillus megaterium powder

Introduction

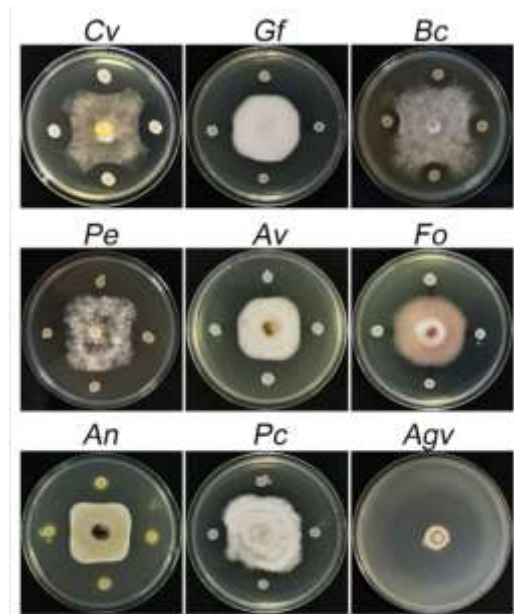
Bacillus megaterium is a kind of plant growth promotion rhizobacteria and one common bacterium of microbial fertilizer, can degrade lecithin, organic phosphorus, and inorganic phosphorus in the soil to plants, can directly adsorb, can stimulate plant growth and alleviate phytotoxicity of pollutants, and also can improve soil fertility and crop disease resistance.



Antagonistic activity

Bacillus Megaterium inhibits some pathogenic fungal diseases:

- ✓ Coniella vitis (CV).
- ✓ Gloeosporium fructigrum (GF).
- ✓ Botrytis cinerea (BC).
- ✓ Diaporthe eres (Pe).
- ✓ Alternaria viticola (Av).
- ✓ Fusarium oxysporum (Fo).
- ✓ Aspergillus niger (An).
- ✓ Pestalotiopsis clavispora (Pc).
- ✓ Allorhizobium vitis (Agv).



Specification

Bacteria count : 1 x 10¹⁰ cfu/g

Fineness: 80-200 mesh screen

Principle

- ✓ Bacillus megaterium can generate a lot of organic acid during their growing and reproducing which can decompose or dissolve the indissolvable phosphorous substances in soil, and turn them into phosphorus which is easy to be absorbed by plants, enhance the using rate of phosphorus.
- ✓ Bacillus megaterium can reproduce rapidly in soil, become the advantage bacteria, and control the nutrition at root and other resource, so that the pathogenic bacteria will considerably lose their living space and condition. They can make the cell wall plants more thickening, fibering and lignifying, and form cutin double silicon layer as the barrier against the virus attack.

Benefit

1. Improving fertilizer effectiveness and promoting absorption of phosphorus

Bacillus megaterium is phosphate-solubilizing bacteria. It dissolves the compounds of calcium phosphate, aluminum phosphorus, iron phosphorus which are uneasily absorbed in soil and promote dissolution and utilization of ineffective phosphorus in soil.

2. Increasing crop yield and improving crop quality

Bacillus megaterium produces large numbers of proteases, amino acids, cytokinins and etc, enhancing cell vitality and accelerating metabolism of crops, increasing flowers and fruits, making fruit expand fast, taste good, greatly increasing the crop yield and quality of agricultural products.

3. Continuous cropping resistance and preventing plant disease

Bacillus megaterium plants rapidly and grows well around plant root, secretes large numbers of high concentration of Chitinase, quickly remove phthogenic bacteria, accelerate the growth of rhizobia and root system development. It has strong physiological disease prevention effect such as small plant root, less nodules, small and short plant, withered and yellow plant, mosaic leaf, fallen leaf and flower caused by continuous cropping and other plant disease. Bacillus megaterium promotes plant leaves become green and thick, strong plant, deep root, cold-resistance, drought-resistance, lodging-resistance, premature aging-resistance and continuous cropping-resistance.

Dosage & Method

Soil treatment:

- Apply 3 kg per acre, as early as possible to the crop for optimal effect.
- Reapply after 4~8 weeks for season-long control
- Can be applied via drench, drip-irrigation, or by spray while sowing to the cultivation medium

Foliar Spray

- Apply 2.5 gram per liter (400 time dilution)
- Repeat applications at 7-day intervals or when conditions favour disease development.
- Begin applications at 20–30% bloom or when conditions favour disease development.as early as possible to the crop for optimal effect.
- Spray volume must be sufficient to provide good coverage of treated foliage
- Reduced spray volumes may be utilize

Packing and shelf life

2 year shelf life, 1 kg per foil bag, 25 kg per bag

Storage

Store in cool, dry location, keep out of direct sunshine and moisture. Once opened, should be use it within 30 days to prevent activation. Keep out of reach of children.

Bacillus megaterium promotes tomato growth under normal and salt-stress conditions

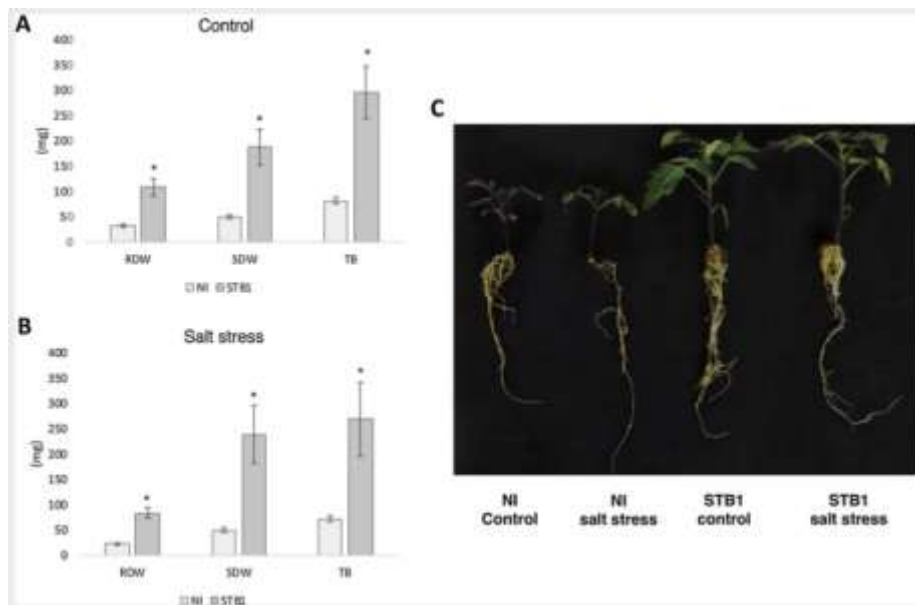


Figure 2: Results obtained from the tomato plant growth promotion assay under normal and salt stress conditions (200 mM NaCl), 35 days after inoculation. A) control conditions; B) salt stress conditions; C) representative plants from each treatment. NI- non-inoculated; STB1- inoculation with *Bacillus megaterium*; RDW- Root Dry Weight; SDW- Shoot Dry Weight; TB- Total Biomass.

Specification

Specification	BM100
Viable count (CFU/g)	100 billion (1.0x10 ¹¹)
Color	Brown
Recommended dosage	3 kg per acre
Key component	Bacillus Megaterium with culture media
Form	Powder
Odor	Slight fermentation odor
Particle size	More than 98% pass through standard sieve of 80 mm meshes
Loss on drying	≤9%
Total Arsenic (As)	≤2 mg/kg
Plumbum (Pb)	≤5 mg/kg
Mercury (Hg)	≤0.1 mg/kg
Cadmium (Cd)	≤0.5 mg/kg
Microbial contamination rate	≤1.0%
Coli group	≤100 CFU/g
Salmonella	None/25g
Total count of mold	≤2.0x10 ⁴ CFU/g
Pathogenic bacteria	Negative