Tangsons Biotech Co., Ltd

Add: office 38/1502, Hanguang Rt 660, Changsha, Hunan, China Mail: info@tangsonsbio.com

Bacillus Subtilis

1x 10^11 cfu/g bacillus subtilis powder

Introduction

Bacillus subtilis is a common plant growth-promoting rhizobacteria (PGPR) in soil that plays a key role in conferring biotic and abiotic stress tolerance to plants by induced systemic resistance (ISR), biofilm formation and lipopeptide production.

When apply to soil media, B. subtilis is highly competitive in the soil and commonly outcompetes other soil microbes making it exceptional for suppression of fungal disease.

When apply to foliage, the bacterial spores occupy space on the plant surface and compete with the pathogens; then active compounds called lipopeptides produced by each bacterium disrupt the germination and growth of invading pathogens.

Specification

Bacteria count : 1 x 10^11 cfu/g , 2 x 10^11 cfu/g

Fineness: 80-200 mesh screen

Moisture: 8%

25 kg / bag or as per customers request

Application

Agriculture, Growth Promoter, Fungicide, Soil Health

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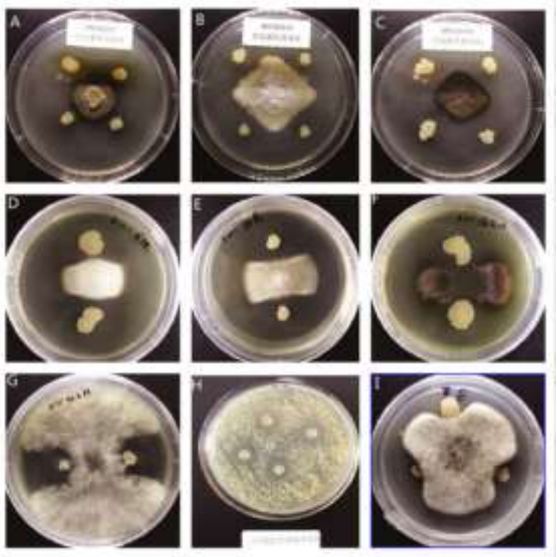
Antagonistic activity

Bacillus Subtilis Strain inhibits some pathogenic fungal diseases:

a) Tomato botrytis
b) Cotton verticillium wilt
c) Cotton fusarium wilt
d) Pinellia ternate root rot
e) Kiwi root rot
f) Cotton blight
g) Rice blight
h) Citrus canker
i) Apple ringspot



Principle

- ✓ The active substances like subtilin, polymyxin, gramicidin and etc. Generate during the growing period of bacillus subtilis, have obvious inhibiting function to pathogenic bacteria.
- ✓ Induce SAR (systemic acquired resistance) against bacterial pathogens, whereby the plant's defenses are triggered prior to pest incursion.
- ✓ Colonizing at the rhizosphere and foliage to hinders spore germination in plant pathogens and prevents pathogens from attaching to the plant.
- ✓ Unlock and solubize phosphorous, calcium, potassium, magnesium and other elements in the soil, making them readily available to the roots.

Benefit

- ✓ Prevent and suppress bacterial and fungal diseases
- ✓ Retrieves soil quality and fertility
- ✓ Promote plant growth and increase yields.
- ✓ Strengthen plant-microbe interaction by Biofilm formation
- ✓ Ameliorate abiotic stress by enzymatic and hormonal regulation
- ✓ Inhibit spreading of antibiotic resistance gene and transposons
- ✓ Elicit induced systemic resistance (ISR)
- ✓ Potent biocontrol agent by lipopeptide production

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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 utilized for small trees where complete coverage can be obtained with less water per hectare.

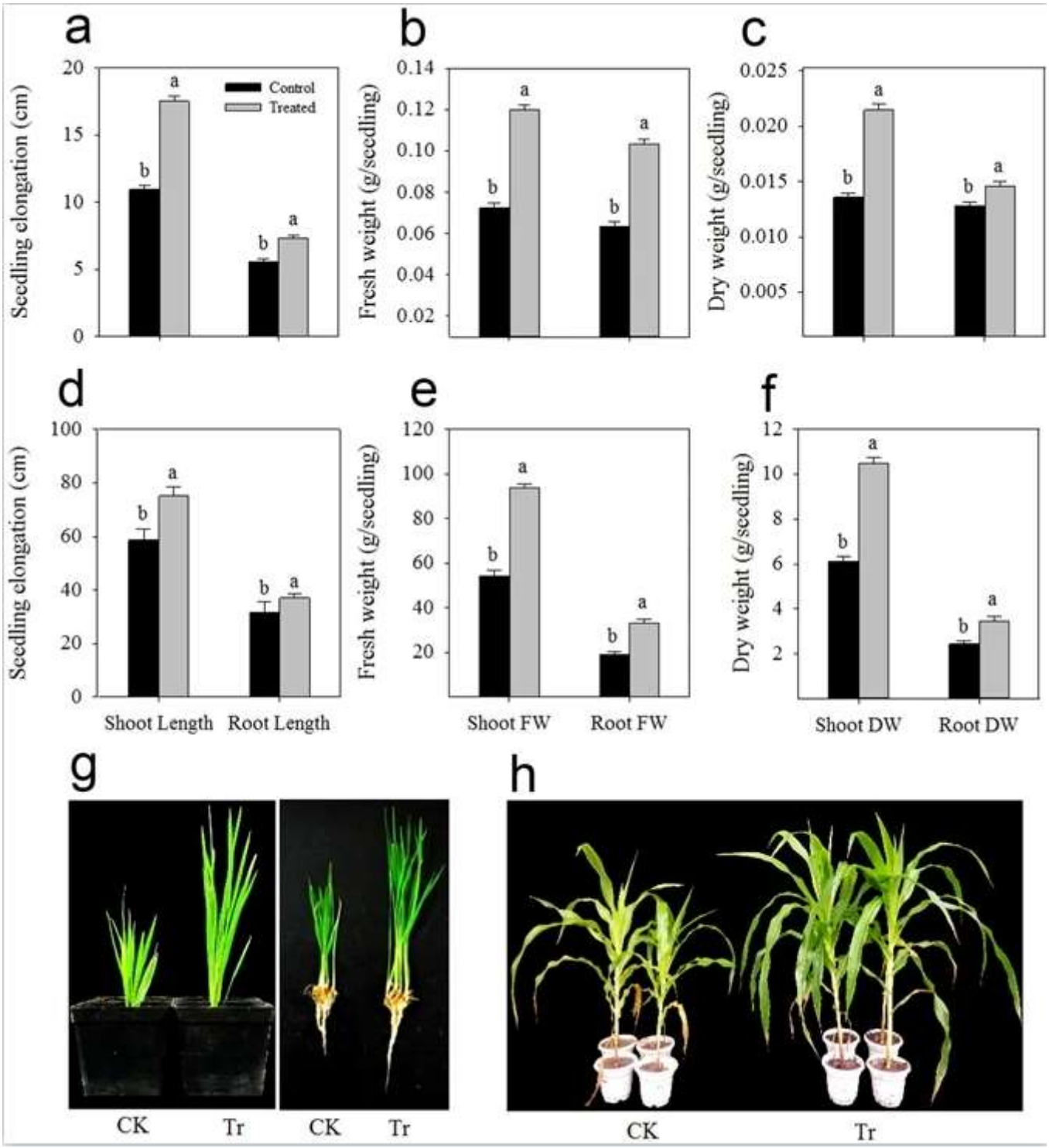
Packing and shelf life

2 year shelf life, 20/ 25 kg per bag or barrel

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.

Effect of B. subtilis on the seedling growth performance of rice and maize.



(a and d) Seedling elongation of rice and maize, (b and e) seedling fresh weight of rice and maize, (c and f) seedling dry weight of rice and maize, and (g and h) pictorial view of 3-weeks and 40 days old rice and maize seedling in the control and B. subtilis strain treatment, respectively. Data were statistically analyzed and the vertical bars above indicate the standard error of three replicates. Small alphabetical letters (a, b…) above the mean bars show the significant differences ($P < 0.05$) among the treatments within specific parameters.

Effect of B. subtilis on growth performance of strawberry

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Treatment group (A) apply bacillus subtilis before planting and control group (B)

Treated group (A) and control group (B) show a significant difference on strawberry growth by using *B. subtilis*

Specification

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Specification	BS1000	BS 2000
Viable count (CFU/g)	100 billion (1.0x10^11)	200 billion (2.0x10^11)
Color	Brown	Brown
Recommended dosage	3 kg per acre	1.5 kg per acre
Key component	Bacillus Subtilis with culture media	
Form	Powder	
Odor	Slight fermentation odor	
Particle size	More than 98% pass through standard sieve of 60 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	≤2.0x104 CFU/g	
Pathogenic bacteria	Negative	