NAME OF THE MICROBE

**Bacillus subtilis**
**Bacillus licheniformis**
**Bacillus pumulis**
**Paenibacillus polymyxa**

**NAME OF THE MICROBE**

**Bacillus subtilis**
**Bacillus licheniformis**
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**Paenibacillus polymyxa**

**NAME OF THE MICROBE**

**Trichoderma harzianum**

**BENEFITS TO THE PLANT/SOIL**

- Bacillus group secrete several metabolites that trigger plant growth.
- Bacillus group produce exopolysaccharides and siderophores, which prevent the movement of toxic ions and adjust the ionic balance and water transport in plant tissues.
- Indole-3-acetic acid (IAA or 3IAA), gibberellic acid (GA) and 1-aminocyclopropane-1-carboxylate (ACC) deaminase produced by Bacillus regulates the intracellular phytohormone metabolism and increases plant stress tolerance.
- Cell-wall-degrading enzymes, such as chitinase, protease, cellulase, glucanase, and metabolites lipopeptides.
- Solubilize the phosphates and fix the nitrogen in soil and increase their transport to roots.
- Increase the length and biomass of shoot, roots and leaves.
- Bacillus-induces physiological changes in the plant, including the regulation of water transport, nutrient uptake and the activation of the antioxidant and defense systems that promote plant health and improve the yield.

**NAME OF THE MICROBE**

**Streptomyces lydicus**

**BENEFITS TO THE PLANT/SOIL**

- Well known for their biocontrol activity against pathogenic fungus and bacteria, however they are also known for their biostimulant properties.
- Promote plant biomass growth - plant height, root length and lateral root density.
- Produces siderophore an essential factor for the growth-promoting effect.
- Induces plant immune system.

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**COASTBIO**

**BIOPriming**
**Hemp Seed Coating**

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Hemp BioPriming—
Premium Blend Biological Seed Coating

A new technique integrating biological inoculation of seed with beneficial microorganisms to protect seed and improve vigor while improving seed hydration.

Benefits of Biological Seed Coating

- Increased Germination and Vigor with On-Seed Delivery
- Microbial Colonization of Seedling Root
- Early Vigor
- Increased Root Mass
- Improve Soil Biology
- Improved Yield and Quality
- Produces bigger, rounder and smoother seed pellets
- Allows for precision drilling
- Uniform sized pelleted seed

BioPriming Seed Coat Specifications

Contains the following species of beneficial microorganisms

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>CFU/g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus subtilis</td>
<td>187,300,000</td>
</tr>
<tr>
<td>Bacillus licheniformis</td>
<td>187,300,000</td>
</tr>
<tr>
<td>Paenibacillus polymyxa</td>
<td>187,300,000</td>
</tr>
<tr>
<td>Bacillus pumilus</td>
<td>187,300,000</td>
</tr>
<tr>
<td>Paenibacillus azotofixans</td>
<td>162,300,000</td>
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<tr>
<td>Bacillus azotoformans</td>
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<tr>
<td>Streptomyces lydicus</td>
<td>8,300,000</td>
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<tr>
<td>Streptomyces griseus</td>
<td>8,300,000</td>
</tr>
<tr>
<td>Pseudomonas fluorescens</td>
<td>8,300,000</td>
</tr>
<tr>
<td>Trichoderma harzianum</td>
<td>7,900,000</td>
</tr>
<tr>
<td>Trichoderma viride</td>
<td>1,700,000</td>
</tr>
</tbody>
</table>

Standard Blend & Premium Blend available. Call for pricing. 805.550.1276

The Biological Difference

Advanced Microbial Formulation for Increased Performance

**Mycorrhiza**

The plant supports the fungus by providing carbohydrates needed for fungal growth, while the fungus helps the plant by increasing its root surface area. Potential Benefits of Mycorrhizae: Enhanced water and nutrient uptake.

**Bacteria**

The polymicrobial strains have been selected for their ability to build strong relationships with crop plants, providing a healthier environment more conducive for plant growth. Plant growth is enhanced due to the more active nature of the soil microbiome. The plant microbe relationships also provide greater opportunity for growth and increased yield under stressful conditions such as drought and salinity.

**Fungus**

Directly improves root growth, improves plant development, increases plant tolerance against abiotic stresses such as drought, high salinity, soils with low fertility, and improves overall crop production.