

# RhizaMax B

## A Microbial Soil Amendment

RhizaMax is a probiotic-infused soil amendment that is composed of a unique blend of five bacterial species. The microorganisms in RhizaMax aid in the movement, dissolution, and chelation of both macro- and micronutrients in the rhizosphere of the soil, making them more accessible to plants. This enhanced nutrient availability results in the rapid growth of plants, increased yields, and the development of strong roots, which facilitate more efficient water utilization.

### Features and Benefits

- RhizaMax is a highly concentrated microbial soil amendment that contains a unique blend of five growth-promoting rhizobacteria species.
- Bacterial soil inoculants provide a unique function of conditioning the soil by making nutrients in the soil more bioavailable. Bacillus bacteria produce a wide array of extracellular enzymes which can help break down plant waste and nutrients in the soil to more bioavailable forms. Bacillus ability to solubilize many forms of insoluble nutrients and can enhance the uptake of necessary nutrients by increasing the overall level of plant available nutrients in soil.
- The bacteria in RhizaMax work together to mobilize, solubilize, and chelate macro and micronutrients in the rhizosphere region of the soil, making them more available to plants and resulting in rapid plant growth, increased yields, robust root development, and more efficient water uptake.
- RhizaMax also increases plant tolerance to abiotic stressors such as hypersalinity, extreme temperatures, deficient or excessive water, and heavy metals, due to the bacteria's ability to activate Induced Systemic Resistance (ISR) mechanisms in the plant.
- RhizaMax has a high concentration of bacteria, with more than  $1.1 \times 10^{10}$  cfu/mL in each milliliter of liquid, which translates to more than **41 trillion CFUs per gallon**. This high concentration allows for low application rates and low application frequencies without sacrificing performance.
- To use RhizaMax, it is recommended to apply it as a soil inoculant via overhead irrigation, drip irrigation, hand watering, or other hydroponic systems. It can be applied throughout the growing season at all stages of the plant life cycle, including the seeding and pre-harvest (flushing) stages.

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- *Bacillus amyloliquefaciens* is a bacterium active in the soil root zone. They are considered a growth-promoting rhizobacteria and have the ability to quickly colonize roots.
  - Promote growth of roots expands and multiplies.
  - Improve soil conditions and nutrient availability.
- *Bacillus licheniformis* can also improve seed germination rate and seedling protection rate, to prevent the genetic disease of the seed itself, improve crop survival rate and promote root growth. And it can also help improve soil aggregate structure, improve soil, improve soil water storage, storage and ground temperature, ease the obstacle of stubble. And promote the decomposition of organic matter in the soil into humus, greatly improve soil fertility.
  - Improve fertilizer efficiency.
  - Ability to solubilize phosphate and increase iron availability in the soil.
- *Bacillus subtilis* can stimulate plant growth and easily adaptation in various environmental conditions, it's widely used in agriculture. *B. subtilis* can produce and release beneficial natural substances such as auxins, cytokinins, and gibberellins to promote plant growth. *B. subtilis* also can be used bio fertilizer, increase crop growth & yields.
- *Bacillus megaterium* for their enhanced ability to solubilize phosphate and potassium.

## Application Guidelines

- Stir well before use as *Bacillus* spores naturally settle in the container.
- RhizaMax can be applied via hand watering, drip irrigation, overhead irrigation, or other hydroponic systems.
- Apply RhizaMax at all stages of the plant's life cycle, including the sowing and pre-harvest (flushing) stages, throughout the growing season.
- Rinse drip irrigation lines with fresh water after injecting.
- For maximum results, use RhizaMax within 2-4 hours of tank mixing with fertilizers or nutritional solutions (applies mostly to growers using organic inputs - with conventional inputs can leave tank mixed).

### 0.5-1.0 mL/Gallon Irrigation Solution

can rise to 2mL/Gallon during the flowering stage and under vigorous growth circumstances (such as CO<sub>2</sub> injection, the middle of the flowering cycle, and strong light levels).

## Microbial Concentration

- |                                     |                                |
|-------------------------------------|--------------------------------|
| • <i>Bacillus subtilis</i>          | > 2.2 x 10 <sup>9</sup> cfu/mL |
| • <i>Bacillus amyloliquefaciens</i> | > 2.2 x 10 <sup>9</sup> cfu/mL |
| • <i>Bacillus megaterium</i>        | > 2.2 x 10 <sup>9</sup> cfu/mL |
| • <i>Bacillus licheniformis</i>     | > 2.2 x 10 <sup>9</sup> cfu/mL |
| • <i>Bacillus pumilis</i>           | > 2.2 x 10 <sup>9</sup> cfu/mL |

Total bacterial concentration: > 1.1 x 10<sup>10</sup> cfu/mL  
Greater than 41 Trillion Per Gallon

## Storage & Handling

- RhizaMax B concentrate can be kept for at least 18 months if kept in a closed container and stored in a cool, dry environment. High-temperature exposure is not advised.
- Keep the product away from sources of heat and fire.
- Store the product in its original packaging, or in an airtight container.