

# BioStart™ RhizoBoost

## Description:

BioStart™ RhizoBoost is a microbial soil inoculant that enhances biodiversity in soil by introducing large numbers of probiotic Bacillus bacteria that promote the growth of a variety of beneficial microorganisms. Enhanced biodiversity results in improved crop yields, greater nitrogen utilization, and lower incidence of disease.

The four Bacillus strains used in BioStart™ RhizoBoost are naturally occurring and have been selected for their ability to grow in the root zone of food and ornamental crops; they interact symbiotically on, or close to, the root surface where they produce beneficial enzymes and growth promoting substances while competitively excluding pathogenic microorganisms.

The Bacillus strains in BioStart™ RhizoBoost are produced in stainless steel bioreactors under precisely controlled conditions that assure potency, stability and batch-to-batch uniformity. All are OMRI approved for use in organic agriculture.

## Microbial Composition:

BioStart™ RhizoBoost contains viable spores of the following Bacillus microorganisms:

- *Bacillus chitinosporus* (CM-1 strain – produces chitinase enzymes)
- *Bacillus laterosporus* (CM-3 strain – sticks to root tissue and promotes growth)
- *Bacillus laterosporus* (CM-33 strain – sticks to root tissue and promotes growth)
- *Bacillus licheniformis* (HB-2 strain – produces proteolytic enzymes)

## Product Characteristics:

Appearance: opaque blue liquid

Odor: caraway oil

pH: 3.9 – 4.1

Bacillus spore count: 1 trillion (1 x 10<sup>12</sup>) CFU/gallon

Shelf Life: 18 months at 35° - 86° F. Do Not Freeze.

## Packaging and Handling:

BioStart™ RhizoBoost is packaged in 15 and 55 gallon plastic drums. The ideal storage temperature range is 50°- 75° F (10° - 24° C). Do not store over 90° F (32° C) for more than two weeks. Store tightly closed in a cool place out of direct sun.

BioStart™ RhizoBoost is a non-toxic, viable microbial culture containing Bacillus spores in water suspension. Wear OSHA approved eye protection and rubber gloves when handling. Avoid contact with eyes and open wounds, rinse contacted areas with plenty of water. If ingested, give water and call a physician. Wash hands after use.

## **BioStart™ RhizoBoost™ Applications:**

BioStart™ RhizoBoost is applied to crops through the irrigation system; drip and sprinkler systems are the most effective. The product can be diluted in chlorine free, tap water in any ratio suitable for efficient application; diluted product should be applied within 48 hours. Use only clean, well rinsed, equipment when handling BioStart™ RhizoBoost chemical contaminants can reduce the viability of the microorganisms in BioStart™ RhizoBoost.

Do not apply BioStart™ RhizoBoost simultaneously with crop chemicals such as fungicides and pesticides, space applications by at least three days.

BioStart™ RhizoBoost is typically applied to fruit and vegetable crops at ½ to one (1) gallon per acre per crop cycle. Divided applications give best results. Special applications may require a higher dose rate, up to 6 gallons/acre.

Row crop vegetables respond very well to four applications of 1 quart (or 1 liter)/acre: one at planting, one at emergence, and two post emergence. Trees do well at a dose rate of 10 ml (1/3 fluid oz.) per tree per application.

Certain organic nutrients may benefit the performance of BioStart™ RhizoBoost. Molasses or dextrose, for example, when co-applied at 1-5 kg/acre with BioStart™ RhizoBoost, enhances the germination of the Bacillus spores and speeds the soil inoculation process.

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***No warranty is made for the performance of this product in any specific application.***