



Rhizoboost

Bacterial Soil Inoculant for Restoring

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**To help restore a natural soil food web,
now more concentrated, lower cost.**

Description:

Biostart[™] Rhizoboost is a microbial soil inoculant that enhances biodiversity and discourages growth of undesirable microorganisms in the soil ecosystem. This is a natural process that is promoted by *Biostart*[™] Rhizoboost

The two *Bacillus* strains used in *Biostart*[™] Rhizoboost are naturally occurring (non GMO) and have been selected for their high degree of microbial competitiveness. They are produced in state of the art stainless steel bioreactors under precisely controlled conditions that assure potency, stability and batch to batch uniformity to yield a spore count of 1 trillion cfu/gallon.

Field trials around the world over the last 10 years demonstrate the beneficial effects of *Biostart*[™] Rhizoboost. Crops cultured in fungus-infested soils treated with *Biostart*[™] Rhizoboost consistently produce higher yields than those obtained in untreated control plots.

Microbial Composition:

Bacillus licheniformis (strain HB-2)
Bacillus chitinosporus (strain CM-1)
Bacillus laterosporus (strains CM-3 and CM-33)

Product Characteristics:

Appearance: opaque blue colored liquid
Odor caraway oil (smells like cloves)
pH: 3.9 - 4.1
Bacillus spore count: 1 trillion (1 X 10¹²) CFU/ gallon

Benefits:

- Kick starts restoration of the soil foodweb
- Improves soil structure by increasing diversity in the soil food web
- More root mass and fine root hairs
- Increases availability of plant nutrients
- Plants establish earlier, last longer, thrive during peak stress periods
- Produces natural plant growth hormones (auxins, gibberellins and cytokinins)
- Suppresses root diseases through competitive exclusion and antagonism
- Systemic acquired resistance (SAR) stimulates plant immunity to pests and diseases
- *B. chitinosporus* feeds on disease organisms
- Nontoxic to people, animals, plants, no REI (limits for reentry), natural (no GMO), acceptable for organic

Packaging and Handling:

Biostart[™] Rhizoboost is packaged in bulk, 1, 5, 15, 30 and 55-gallon plastic containers. Ideal storage temperature: 50° -70° F (10° - 21° C). Do not store over 90° F, for more than 2 weeks. Shelf life 18 months when stored at 35° - 86° F. Store tightly closed in a cool place out of direct sun.

Application:

Biostart[™] Rhizoboost, diluted in tap water, is applied through any existing irrigation system, (sprinkler, drip, hydroponic) or through spray equipment. Maximize effect by applying *Biostart*[™] Rhizoboost with bacterial food. Molasses, dextrose (glucose), brewers yeast, kelp, fish and other organic fertilizers work well. Rincon-Vitova's Microbe Nutrients is a mixture of dry molasses, yeast and humic acid. Use equal volume or weight of food (up to 20 X volume of inoculant). For 1 quart of Defensor, use 2 pounds Microbe Nutrients or substitute 1 quart liquid molasses.

For foliar application use humic acid or NuFilm 17 as a sticker. NuFilm 17 is used at rate of 125 ml (4 oz) per acre (premix in warm water); humic acid at one quart per acre. NuFilm 17 holds the bacteria on the leaf surfaces, resisting rain and overhead irrigation for a week.

Combining with other inoculants or with fungicides is not advised. Organic fertilizers improve performance. Wait two weeks after applying *Biostart*[™] Rhizoboost. Check with us about other tank mixes or co-application.

The objective is to get the beneficial bacteria into the root zone of the plant. The amount of water used depends on the crop, soil type and application method. Every farmer's situation is different.

Vegetables - Strawberries – Flowers (with a growing period less than six months)

When to apply and how much per acre		Rhizoboost	Microbe Nutrients
Planting	Or just prior to planting depending on food web conditions	2-4 quart / acre	4–8 lb / acre
Post Emergence-	Within 1 week after crop emergence	1-2 quart / acre	2–4 lb / acre
Growing Season	Apply every 21 days for maximum effect until total of 8 quarts per acre have been applied during season	1 quart / acre	2 lb / acre

Trees, Vines, Permanent Crops (with a growing period more than six months)

When to apply and how much per acre		Rhizoboost	Microbe Nutrients
Transplanting	Per tree in planting hole or on soil over root ball area	2 ounce / application (diluted in a minimum of 1 gallon of water)	2 ounce
Growing Season	1st application through drip or sprinkler system in 1st irrigation	2-4 quart / acre	4-8 lb / acre
	2nd & subsequent applications. Apply every 21-30 days for maximum effect until total of 12 quarts per acre have been applied	1-2 quart / acre	2-4 lb/ acre