



Soil and Plant Enhancer
SPE-120
Better Plants, Better Soil

Biological Seed Treatment

Soil and Plant Enhancer (SPE-120) with active ingredient *Beauveria bassiana*, is a natural, **symbiotic fungus** that lives in the **soil, roots, stems, and leaves**. JABB strains are isolated from plants, for plants. As the plants grows, the symbiotic endophyte in SPE-120 grows with it. SPE-120 is approved for organic production.

SPE-120 is applied as an inoculant at planting with no target disease or insect specified. There is no singular mode of action, rather a response to plant activity favoring its host. Once the plant germinates, SPE-120 becomes a symbiotic endophyte within the plant that works with plant cells, other beneficial organisms, and the surrounding agroecosystem. This symbiotic partnership elevates the plant's natural ability to resist pathogens and stressors, ultimately improving plant health, quality, and yields.

Direct contact with seed is preferred to assure plant entry at germination. Applied on, under, or atop of seed allows SPE-120 competitive preference to initial plant roots where it becomes a symbiotic endophyte within the plant.

SPE-120 as an endophyte:

- Inhibits soil borne plant pathogens
- Improves nutrient uptake as the rhizophagy cycle is optimized
- Offers competitive exclusion from soil-borne pathogens
- Increases uniform germination and stand
- Enhances microbial diversity
- Higher plant immune status
- Increases Brix values from more photosynthesis
- Increases chlorophyll
- Enhances plant defense
- Improves standability
- Improves quality at harvest
- Decreases mycotoxins at harvest
- Improves storage



Soil and Plant Enhancer – SPE 120- ES

For Crop Production as a beneficial microbial to enhance plants and soils

Active Ingredient *Beauveria bassiana*.
min of (5.6x10³cfu/ml) 1%

Ingredients: Certified Organic soybean oil and Organic adjuvant, 99% total 100%. Substitute ingredients may be used in non-organic products. Users are responsible for NOP compliance.

NOTE: store in a facility that is below 90° F



Soil and Plant Enhancer – SPE 120 with lubricant

Plant enhancer contains a beneficial microbial that forms an essential symbiotic relationship enhancing plants and soil when established early in plant growth. Active Ingredient *Beauveria bassiana* 1% (5.6x10³cfu/ml)

1 acre treatment of SPE 120 in 2 ounces of 80/20 seed lubricant (mineral talc and graphite)

NOTE: store in a facility that is below 90° F

Application Rates

For best results, apply in direct contact with seed.

SPE-120 ES Liquid Inoculant:

Apply 1 oz/acre

SPE-120 Inoculant with seed lubricant:

Apply 2 oz/acre of 80/20 seed lubricant (mineral talc and graphite)

Observed Results

- **Improved plant health:**
 - Treated dry beans (pictured below) resisted white mold infection.
 - Leaf chlorophyll measured 4.2 points higher compared to untreated plants.
- **Increased yield**
 - Organic corn-up to 20 bushels/acre
 - Soybeans-up to 10 bushels/acre
 - Potatoes-up to 2000 lbs/acre
 - Wheat-up to 7 bushels/acre
- **Higher Brix score:** Treated tomatoes had on average 5 Brix points higher versus untreated tomatoes and noticeably more flavorful.
- **Decreased mycotoxins in grains**
 - Trials from 2016-2021 show sub-threshold levels of aflatoxin, vomitoxin, and fumonisin.



Plant-endophyte relationships are necessary for plants to reach their full potential. However, as farming practices rely heavily on tillage and chemical solutions, the soil composition of symbiotic endophytes, such as *Beauveria bassiana*, are threatened. **SPE-120** acts as a primer to sustainably restore soil biology, enhancing the important symbiotic plant-endophyte



relationship, allowing crops to reach their full potential. **SPE-120** symbiosis within the plant permits a natural progression of other desirable soil organisms.

Beneficial organisms in our cropping system and food chain, can greatly reduce the likelihood of harmful toxins, ie. mycotoxins. Thus, longevity of stored products improves without additional cost. Animals fed harvested grains produced from inoculated crops do better. Fewer internal disturbances mean healthier livestock. Healthier plants and healthier animals create safer and nutritious food for human consumption.

SPE-120 offers the foods community, regardless of farm size, the right technology for seed, crop, soils, environment, and safety.

No other natural inoculate offers its living host the diversity of compatible metabolites utilized throughout the plant more efficiently for health, immunity, and vigor.



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