ReSTore™

CANGROW
Science. Solutions. Success.

Environmental Stress Benefits

ACC **BL**	Support abiotic stress tolerance by degrading ACC, a precursor to ethylene formation
Acetoin **BA**	Secretes acetoin which triggers induced systemic resistance (ISR), mediating stress
Auxin **BL**	Critical for cell division, plant growth and enhances plant's tolerance to abiotic stress
Catalase **BL**	An antioxidant enzyme that protects plant cells from abiotic stress damage
Cytokinin **AB**	Secretes cytokinin, a biochemical messenger supporting plants under stress
Exopolysaccharides **BL**	Secretes EPS which forms a biofilm layer on roots mitigating damage from abiotic stress
Gibberellic Acid **AB**	Secretes GA which plays a central role in the plant's response to abiotic stress
IAA **PP AB**	Secretes IAA, a common auxin that enables cell division and movement of photosynthates
PAL **BA**	Secretes PAL, a key enzyme that supports systemic resistance against abiotic stress

Microbial Species	Abbreviation	Microbial Species	Abbreviation
Azospirillum brasilense	AB	Bacillus licheniformis	BL
Bacillus amyloliquefaciens	BA	Pseudomonas patida	PP

Plant Nutrition Benefits

Phosphorus **BA, AB**	Able to solubilize and make plant available insoluble forms of phosphate
Nitrogen **AB,**	Capable of fixing atmospheric nitrogen (N_2) into biologically useable and available ammonia
Potassium **PP**	Able to solubilize insoluble forms of potassium
Iron **BS, AB**	Able to convert insoluble forms of iron into iron-chelating siderophore compounds

Biodegradation Benefits

Amylase **BA, BL**	Secretes amylase, an enzyme that hydrolyzes starch and breaks it down into smaller sugars
Cellulase **BA**	Secretes cellulase, an enzyme that breaks down cellulose into its monosaccharide units
Chitinase **BA**	Secretes chitinase, an enzyme that biodegrades the cell walls of fungi that is rich in chitin
Glucanase **BA**	Secretes glucanase, an enzyme that breaks down large polysaccharides like glucans
Laccase **BA**	An enzyme that biodegrades lignin and can oxidize and degrade aromatic pollutants
Protease **BA, BL**	Secretes protease, an enzymes that break down proteins down into amino acids
Urease **BA**	Secretes urease, enzyme capable of breaking down urea into ammonia and CO_2
Xylanase **BA**	Secretes xylanase, an enzyme that breaks down hemicellulose in plant cell walls

Location:
CanGrow Crop Solutions
3971 Old Walnut Rd.
Alvinston, ON, N0N1A0

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ReSTore™ - Biological Seed Treatment

A Strong Start for Strong Plants

ReSTore™ offers many benefits to help provide a quick germination process and quality stand rate. As the seedlings grow, ReStore™ continues to embrace the fundamental relationship between the plants and soil. The microbes feed off of the sugars that are given off by the young seedlings which helps promote a healthy and vigorous plant.

The addition of ReSTore™ can result in up to a 30% reduction of commercial P needed. Several strains can also reduce surface tension to free up more organic and inorganic nutrients to make them available to the entire microbial population.

These microbes support:

- Nitrogen fixing
- Phosphorus solubilization
- Potassium, Iron and other nutrient increased availability
- Production of environmental stress reducing factors such as catalase, EPS, and PAL
- Production of biodegradable enzymes such as cellulase, laccase, urease, and xylanase

Application Rate

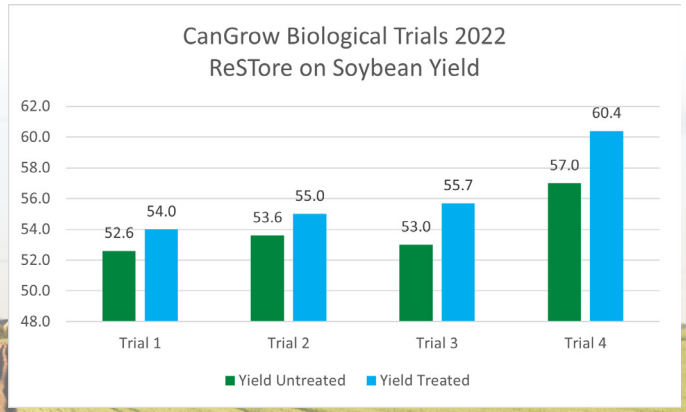
Seed Treatment: 44 - 60 mL (1.5 - 2 oz) per 50 pounds of seed

2022 Ontario Field Trials

Trials on soybean seeds treated with ReSTore™, at a rate of 50 mL (1.7 oz) per 50 lbs of seed, showed an average increase of yield by 2.2 bushels/acre, resulting in an average return of investment (ROI) of $35.05/acre.

The treated plants also showed:

- Bigger root systems
- Earlier nodulation
- More prolific nodulation



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