

# AGTIV<sup>®</sup> BIOLOGICAL ACTIVE INGREDIENTS

For nearly 100 years, Premier Tech has been growing along with producers. Being a world leader in the industrial production of mycorrhizal inoculants has inspired us to go further in our search for natural technologies. Since then, we have introduced the benefits of *Bacillus*, rhizobium, and Serendipita to the agricultural market. Furthermore, we have combined these powerful technologies to improve the quality and the yield of crops for the benefit of our clients.

**M**

## MYCORRHIZAE

**PTB297** Technology, *Rhizophagus irregularis* (formerly known as *Glomus intraradices*)

**Mycorrhizae are beneficial associations between a mycorrhizal fungus and roots.** The mycorrhizal spores germinate in the soil and produce filaments (hyphae) which enter into root cells. This association allows the formation of an intra and extra-radical network of filaments that explore the soil and access more nutrients and water, and transfer them to the plant.

- ✓ EXPAND ROOT SYSTEM GROWTH
- ✓ ENHANCE NUTRIENT & WATER UPTAKE
- ✓ INCREASE TOLERANCE TO STRESSES
- ✓ IMPROVE SOIL STRUCTURE



**R**

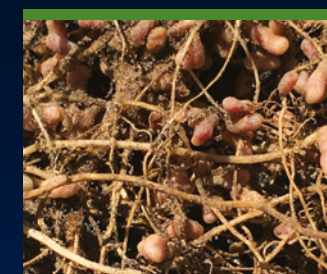
## RHIZOBIUM

**PTB160** Technology (pulses), *Rhizobium leguminosarum* biovar *viciae*

**PTB162** Technology (soybean), *Bradyrhizobium japonicum*

**Rhizobium bacteria live and thrive in symbiosis in root nodules produced by the plant.** They are responsible for fixing the atmospheric nitrogen and making it available for the plant.

- ✓ FIX NITROGEN & MAKE IT AVAILABLE TO THE PLANT



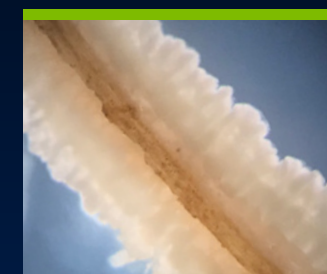
**B**

## BACILLUS

**PTB180** Technology, *Bacillus pumilus*

**Bacillus is a bacteria that provides a healthy root zone which leads to better yields. As a root colonizer, it stimulates the plant to grow more efficiently.** Selected for its beneficial action of growth stimulation.

- ✓ IMPROVES ROOTING ENVIRONMENT & PLANT ESTABLISHMENT
- ✓ INCREASES PLANT VIGOR & PERFORMANCE



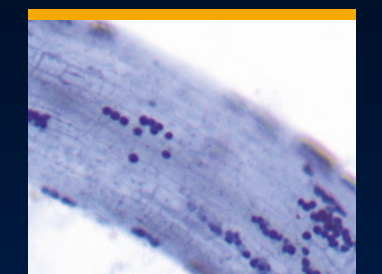
**S**

## SERENDIPITA

**PTB299** Technology, *Serendipita indica* (formerly known as *Piriformospora indica*)

**The beneficial fungus Serendipita indica, a natural microorganism, forms an association with roots of many plants such as canola and cereals. It induces some of the plant gene expression and promotes phytohormone production.**

- ✓ MITIGATES ABIOTIC STRESSES
- ✓ INCREASES CHLOROPHYLL CONTENT
- ✓ BETTER PLANT ESTABLISHMENT, GROWTH AND YIELD



**LEGEND**

- $N_2$  ATMOSPHERIC NITROGEN
- $N$  FIXED NITROGEN
- $P$  PHOSPHORUS
- $K$  POTASSIUM
- $H_2O$

SPORE 100 µm

ARBUSCULE

VESICLE

RHIZOBIUM 2 µm

NODULE

BACILLUS 5 µm

ROOT HAIR

SPORE SERENDIPITA 18 – 20 µm

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