



AGTIV[®]

SOYBEAN | GUIDE 2024

Yield details available upon request.

The background of the slide is a photograph of a rolling landscape with green and yellow fields under a clear blue sky. The word "AGTIV" is written in large, bold, blue capital letters across the top. A small registered trademark symbol (®) is located at the bottom right of the word.

AGTIV[®]

DESIGNED BY NATURE. PERFECTED BY SCIENCE.

CONTENTS

AGTIV[®]

- [COMPLETE OFFER](#)

AGTIV[®] TECHNOLOGIES

- [MODE OF ACTION](#)

PRODUCT OFFER

- [BENEFITS FOR SOYBEAN](#)
- [EFFECTIVE ON SOYBEAN](#)
- [PRODUCTS INFORMATION](#)

REPORTS SUMMARY

- [YIELD RESULTS](#)
- [COMPATIBILITY WITH PESTICIDES AND FERTILIZERS](#)

TOOLS

- [COMPLEMENTARY EQUIPMENT](#)
- [ONLINE TOOLS](#)

Since entering the agriculture market 15 years ago, we are constantly widening our AGTIV® inoculant offering to suit and benefit more crops.

While staying true to the AGTIV® brand's three pillars:

NATURE, **SCIENCE** and **PERFORMANCE**, we are introducing new product names reflecting the actions of our inoculants for plants.



AGTIV®
FUEL

Single action **rhizobium** products
FUEL legumes by fixing nitrogen
for better growth.

AGTIV®
THRIVE

Dual action **mycorrhizae** and
rhizobium products make plants
THRIVE by increasing nutrient uptake.

AGTIV®
ENRICH

Dual action **rhizobium**
and **Bacillus** collaborate
to ENRICH the plant's
nitrogen fixation with a
healthy root system.

AGTIV®
STIMULATE

Single action **Bacillus** products
STIMULATE the plant to grow more
efficiently with a healthy root zone.

AGTIV®
IGNITE

Single action **Serendipita** products
IGNITE plant growth and chlorophyll
content for better yields.

AGTIV®
REACH

Single action **mycorrhizae** products
REACH into the soil and help uptake
more nutrients and water.

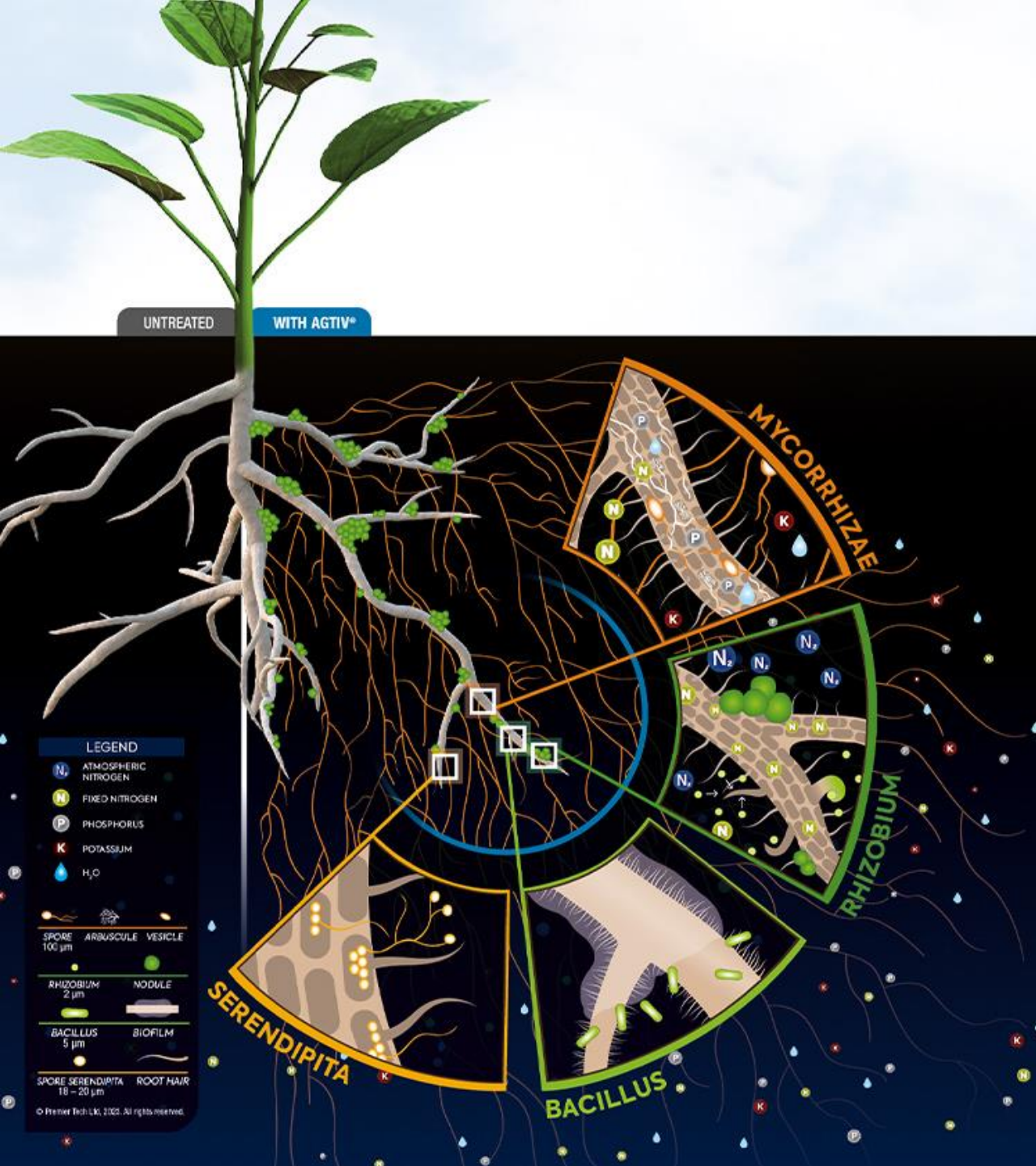
AGTIV®

**DESIGNED BY NATURE.
PERFECTED BY SCIENCE.**

Born from **nature** and
perfected by **science**,
AGTIV® is an innovative
technology brand
made of high-quality
and proven natural
active ingredients
that deliver superior
performance for
agricultural producers.

Discover more at

PTAGTIV.COM/brand



AGTIV[®] BIOLOGICAL ACTIVE INGREDIENTS

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.

- ✓ EXPANDS ROOT SYSTEM GROWTH
- ✓ ENHANCES NUTRIENT & WATER UPTAKE
- ✓ INCREASES TOLERANCE TO ABIOTIC STRESSES
- ✓ IMPROVES SOIL STRUCTURE



R

RHIZOBIUM

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

PTB162 Technology (soybean), *Bradyrhizobium japonicum*

Mesorhizobium ciceri (chickpea)

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.

- ✓ INCREASES NODULATION
- ✓ FIXES NITROGEN
- ✓ PROVIDES NUTRIENTS TO LEGUMES



B

BACILLUS

PTB180 Technology, *Bacillus pumilus*

PTB185 Technology, *Bacillus inaquosorum*

Bacillus are bacteria that provide a healthy root zone which leads to better yields. As root colonizers, they stimulate the plant to grow more efficiently. Selected for their 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 PHOTOSYNTHESIS RATE
- ✓ ENHANCES PLANT ESTABLISHMENT, GROWTH AND YIELD



BENEFITS FOR SOYBEAN

AGTIV® FUEL™ brings the **power of nitrogen** to the plant for **faster** and **stronger growth**. **AGTIV® FUEL™** gives the plant the push it needs to achieve its **potential**.

AGTIV® THRIVE™ helps plants flourish by improving the fixation and **uptake** of **nitrogen, nutrients** and **water**, while **protecting** against stressors like drought and soil compaction. **AGTIV® THRIVE™** contributes to better growth, thus increasing crop **yield** and **quality**.

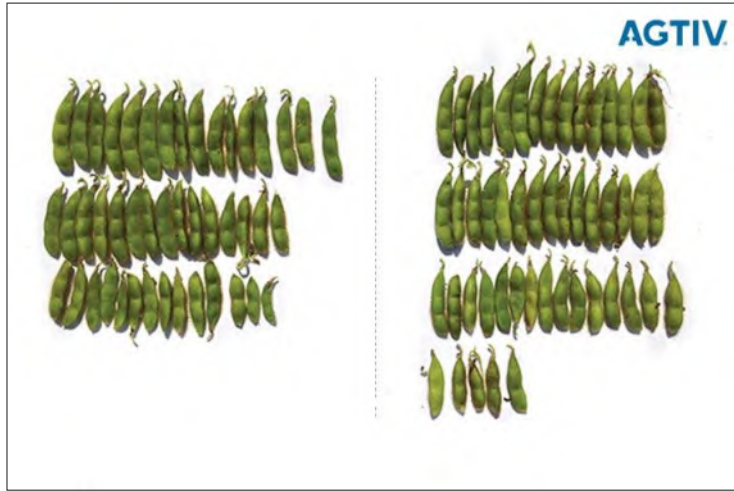
AGTIV® ENRICH™ helps plants uptake **more nitrogen** for **stronger growth**. The result: **healthier plants** with more **consistent yields**.



EFFECTIVE ON SOYBEAN

AGTIV[®]

Ontario (Canada)



Ontario (Canada)

Ontario (Canada)



Quebec (Canada)

AGTIV[®] FUEL[™]

AGTIV[®]



AGTIV[®] FUEL[™] G SOYBEAN

F: Granules (peat)
S: 18.2 kg (40 lb) bag – 364 kg (800 lb) tote bag
C: Soybean: Bag: 4 ha (10 acres) – Tote bag: 80 ha (200 acres)



AGTIV[®] FUEL[™] L SOYBEAN *

F: Liquid
S: 8 L (8 kg) bag-in-box
C: Soybean: 16 ha (40 acres) or 5680 kg of seeds (250 units)

ACTIVE INGREDIENT(S)	ORGANIC	APPLICATION MODE					FORMULATION
		GRANULAR IN-FURROW	MIXING WITH SEEDS	LIQUID IN-FURROW	LIQUID ON SEED		
R	*	●				●●●●●	
R	✓		●	●		●	

GRANULAR IN-FURROW

AGTIV® FUEL™ G SOYBEAN



ACTIVE INGREDIENT:

R RHIZOBIUM – PTB162 Technology
Bradyrhizobium japonicum: 1.1 x 10⁸ viable cells/g

INERT INGREDIENT: Peat

PARTICLE SIZE: 0.3 mm to 2 mm (10 - 50 mesh)

BULK DENSITY: 650 g/L (41 lb/ft³)

SIZE	COVERS	CODE
18.2 kg (40 lb) – bag	4 ha (10 acres)	710511
364 kg (800 lb) – tote bag	80 ha (200 acres)	710512

DIRECTIONS FOR USE

Apply in the seed row at a rate of 4.5 kg/ha (4 lb/acre).

LIQUID FOR IN-FURROW OR ON SEED

AGTIV® FUEL™ L SOYBEAN



ACTIVE INGREDIENT:

R RHIZOBIUM – PTB162 Technology
Bradyrhizobium japonicum: 8 x 10⁸ viable cells/g

PARTICLE SIZE: < 0.1 mm (150 mesh)

Contains non-soluble particles

SIZE	COVERS	CODE
8 L (8 kg) – bag-in-box	In-furrow: 16 ha (40 acres) On seed: 5680 kg of seeds (250 units)	710604

DIRECTIONS FOR USE

LIQUID IN-FURROW — Apply directly in the seed row at a rate of 500 ml/ha (200 ml/acre). This product should be applied using the AGTIV® Liquid Injection Kit. To apply, prepare the product mixture and adjust the Dosatron® injection rate following the application chart and video at PTAGTIV.COM/en/liquid-injection-kit.

LIQUID ON SEED — Shake well before use and apply directly to the seed. Apply 64 ml per 45.5 kg of seeds, ensure full coverage. Optimum on-seed viability for 30 days when treated seeds are stored below 12°C (54°F).

✦ Use EXTENDER™ L for AGTIV® inoculants for longer shelf life.

AGTIV® ENRICH™

AGTIV®



AGTIV® ENRICH™ SOYBEAN *

F: Liquid

S: Combo box: 8 L (8 kg) (*Bradyrhizobium*) bag-in-box + 300 ml (*Bacillus*) bottle

C: Soybean: 16 ha (40 acres) or 5680 kg of seeds (250 units)

ACTIVE INGREDIENT(S)	ORGANIC	APPLICATION MODE				FORMULATION
		GRANULAR IN-FURROW	MIXING WITH SEEDS	LIQUID IN-FURROW	LIQUID ON SEED	
R B	✓			●	●	💧



AGTIV® ENRICH™

AGTIV®



COMBO LIQUID FOR IN-FURROW OR ON SEED

AGTIV® ENRICH™ SOYBEAN



ACTIVE INGREDIENTS:

- B** BACILLUS – PTB180 Technology
Bacillus pumilus: 3 x 10⁹ viable spores/g
- R** RHIZOBIUM – PTB162 Technology
Bradyrhizobium japonicum: 8 x 10⁹ viable cells/g

PARTICLE SIZE: < 0.1 mm (150 mesh)
Contains non-soluble particles

SIZE	COVERS	CODE
Combo box: 8 L (8 kg) – bag-in-box 300 ml – bottle	In-furrow: 16 ha (40 acres) On seed: 5680 kg of seeds (250 units)	710814

DIRECTIONS FOR USE

ON SEED — Mix the bladder of *Bradyrhizobium* and the bottle of *Bacillus* in the application tank. Apply at a rate of 66.4 ml/45.5 kg of seeds. Agitate constantly during application to keep bacteria in suspension. Optimum on-seed viability for 30 days when treated seeds are stored below 12°C (54°F).

IN-FURROW — Mix the content of the bladder and the bottle in the mix tank. Dilute the inoculants in the required volume of clean, non-chlorinated water according to the product label. Apply in the furrow, directly on the seed, at a rate of 518.75 ml/ha (207.5 ml/acre).

* Use EXTENDER™ L for AGTIV® inoculants for longer shelf life.

EXTENDER™ L FOR AGTIV®

AGTIV®



LIQUID ADDITIVE FOR SEED APPLICATION

EXTENDER™ L for AGTIV® inoculants is a liquid additive designed for on seed application of AGTIV® inoculants, in order to prevent desiccation.

DIRECTIONS FOR USE

A bag of EXTENDER™ L for AGTIV® inoculants can treat up to 250 units of soybean or 240 bushels of pulses. Apply to seeds at a rate of 12.8 ml / 45 kg of seeds for soybean and 6.6 ml / 27 kg of seeds for pulses.

RECOMMENDATIONS

- Open package only when ready to use.
- Shake well before use and maintain a constant and effective agitation in the tank during application.
- Calibrate the application system to deliver the correct amount of mixture of AGTIV® inoculant and EXTENDER™ L for AGTIV® inoculants.
- Ensure the tank and the liquid application system are clean and free of chemical residues.
- Ensure the temperature of the diluted tank mix does not exceed 22°C (72°F).
- Prepare only as much of mixture as will be used that day.
- Ensure full seed coverage.
- Apply within 6 hours following mix into the tank.
- Respect the best before date on the label.



AGTIV® THRIVE™

AGTIV®



AGTIV® THRIVE™ P SOYBEAN

F: Powder (peat)
S: 4.7 kg (10.3 lb) pail
C: Soybean: 16 ha (40 acres)



AGTIV® THRIVE™ G SOYBEAN

F: Granules (peat)
S: 18.2 kg (40 lb) bag – 364 kg (800 lb) tote bag
C: Soybean: Bag: 4 ha (10 acres) – Tote bag: 80 ha (200 acres)



AGTIV® THRIVE™ SOYBEAN

F: Liquid
S: Combo box: 8 L (8 kg) bag-in-box + 2 x 950 ml (2 x 32 fl. oz) bottles
C: Soybean: 16 ha (40 acres)

ACTIVE INGREDIENT(S)	ORGANIC	APPLICATION MODE					FORMULATION
		GRANULAR IN-FURROW	MIXING WITH SEEDS	LIQUID IN-FURROW	LIQUID ON SEED		
M R	✓		●			●●●●●●●●●●	
M R	*	●				●●●●●	
M R	✓		●			●	

ON-FARM MIXING WITH SEEDS

AGTIV® THRIVE™ P SOYBEAN



ACTIVE INGREDIENTS:

- M** MYCORRHIZAE – PTB297 Technology
Rhizophagus irregularis: 2 750 viable spores/g
- R** RHIZOBIUM – PTB162 Technology
Bradyrhizobium japonicum: 2.5 x 10⁹ active cells/g

INERT INGREDIENT: Peat

PARTICLE SIZE: < 1 mm (18 mesh)

BULK DENSITY: 400 g/L (1 lb/US dry qt)

SIZE	COVERS	CODE
4.7 kg (10.3 lb) – pail	16 ha (40 acres)	710703

DIRECTIONS FOR USE

DRY APPLICATION — Mix evenly with seeds at the bottom of the grain auger while filling drill, or directly in the drill box. Ensure uniform seed coverage is obtained. Apply at 300 g/ha (120 g or 4.2 oz/acre).

SLURRY APPLICATION — Pour one 4.7 kg pail in a clean container. Gradually add 8-10 litres of clean, non-chlorinated water and stir well. Add more water if the slurry is too thick. Pour onto the seeds and mix thoroughly to ensure even coating.

GRANULAR IN-FURROW

AGTIV® THRIVE™ G SOYBEAN



ACTIVE INGREDIENTS:

- M** MYCORRHIZAE – PTB297 Technology
Rhizophagus irregularis: 178 viable spores/g
- R** RHIZOBIUM – PTB162 Technology
Bradyrhizobium japonicum: 1.1 x 10⁹ viable cells/g

INERT INGREDIENT: Peat

PARTICLE SIZE: 0.3 mm to 2 mm (10 - 50 mesh)

BULK DENSITY: 650 g/L (41 lb/ft³)

SIZE	COVERS	CODE
18.2 kg (40 lb) – bag	4 ha (10 acres)	710501
364 kg (800 lb) – tote bag	80 ha (200 acres)	710502

DIRECTIONS FOR USE

Apply in the seed row at a rate of 4.5 kg/ha (4 lb/acre).

COMBO LIQUID FOR IN-FURROW

AGTIV® THRIVE™ SOYBEAN



ACTIVE INGREDIENTS:

- M** MYCORRHIZAE – PTB297 Technology
Rhizophagus irregularis: 6400 viable spores/g
- R** RHIZOBIUM – PTB162 Technology
Bradyrhizobium japonicum: 8 x 10⁹ viable cells/g

INERT INGREDIENT: Water

PARTICLE SIZE: < 0.2 mm (70 mesh) – PTB297 Technology

< 0.1 mm (150 mesh) – PTB162 Technology

Contains non-soluble particles

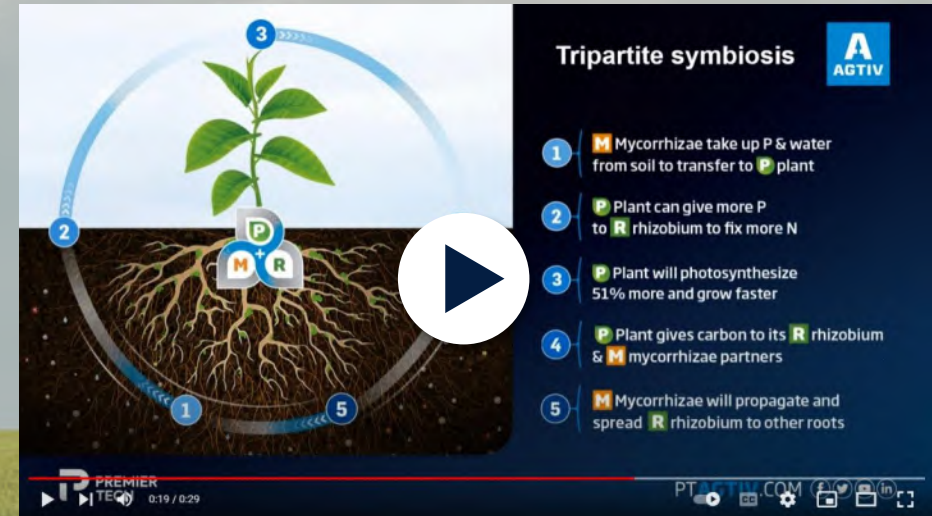
SIZE	COVERS	CODE
Combo box: 2 x 950 ml (2 x 32 fl. oz) – bottles 8 L (8 kg) – bag-in-box	16 ha (40 acres)	710614

DIRECTIONS FOR USE

This product should be applied using the AGTIV® Liquid Injection Kit. To apply, pour 2 x 950 ml bottles of Mycorrhizae and one 8 L bladder of Rhizobium in the tank and adjust the Dosatron® injection rate following the application chart and video at PTAGTIV.COM/en/liquid-injection-kit.

Apply directly in the seed row at a rate of 118.75 ml/ha (47.5 ml/acre) for Mycorrhizae and 500 ml/ha (200 ml/acre) for Rhizobium, for a total of 618.75 ml/ha (247.5 ml/acre). If the mixture does not contain pesticides or fertilizers, it can be emptied, refrigerated and used within 24 hours.

TRIPARTITE SYMBIOSIS



EXPLAINED BY OUR EXPERTS

YIELD INCREASE

AGTIV®



SOYBEAN



3.4 bu/ac
6.8%

AGTIV® THRIVE™ SOYBEAN
93 sites over 8 years, Canada and Europe

1.0 bu/ac
2%

AGTIV® ENRICH™ SOYBEAN
5 third-party trials over 2 years, Canada



[CLICK HERE FOR DETAILS](#)

PESTICIDES AND FERTILIZERS COMPATIBILITY

Single action rhizobium products **FUEL** legumes by fixing nitrogen for better growth.

Dual action mycorrhizae and rhizobium products make plants **THRIVE** by increasing nutrient uptake.

Dual action rhizobium and Bacillus collaborate to **ENRICH** the plant's nitrogen fixation with a healthy root system.

Our inoculants are compatible with most pesticides and liquid fertilizers.

Mycorrhizae

PESTICIDES

LIQUID FERTILIZER
IN-FURROW

LIQUID FERTILIZER
ON SEED

Rhizobium

PESTICIDES

LIQUID FERTILIZER
IN-FURROW

PROGRAM

AGTIV® LIQUID INJECTION KIT

AGTIV®

- The AGTIV® Liquid Injection Kit is designed to apply the AGTIV® liquid products.
- The kit must be installed on the existing in-furrow liquid system of the planter as shown in the application videos.
- The mycorrhizae must be injected directly in the furrow close to the seeds.
- **GOAL:** To facilitate the use and application of the AGTIV® with maximum accuracy and without affecting the mycorrhizae spores and in-furrow equipment.



ONLINE TOOLS



LABELS



EFFICACY REPORT



APPLICATION VIDEOS



BROCHURES



SOCIAL MEDIA

AND MUCH MORE:

[Safety data sheets](#), [organic certificates](#)

