PREMIER TECH

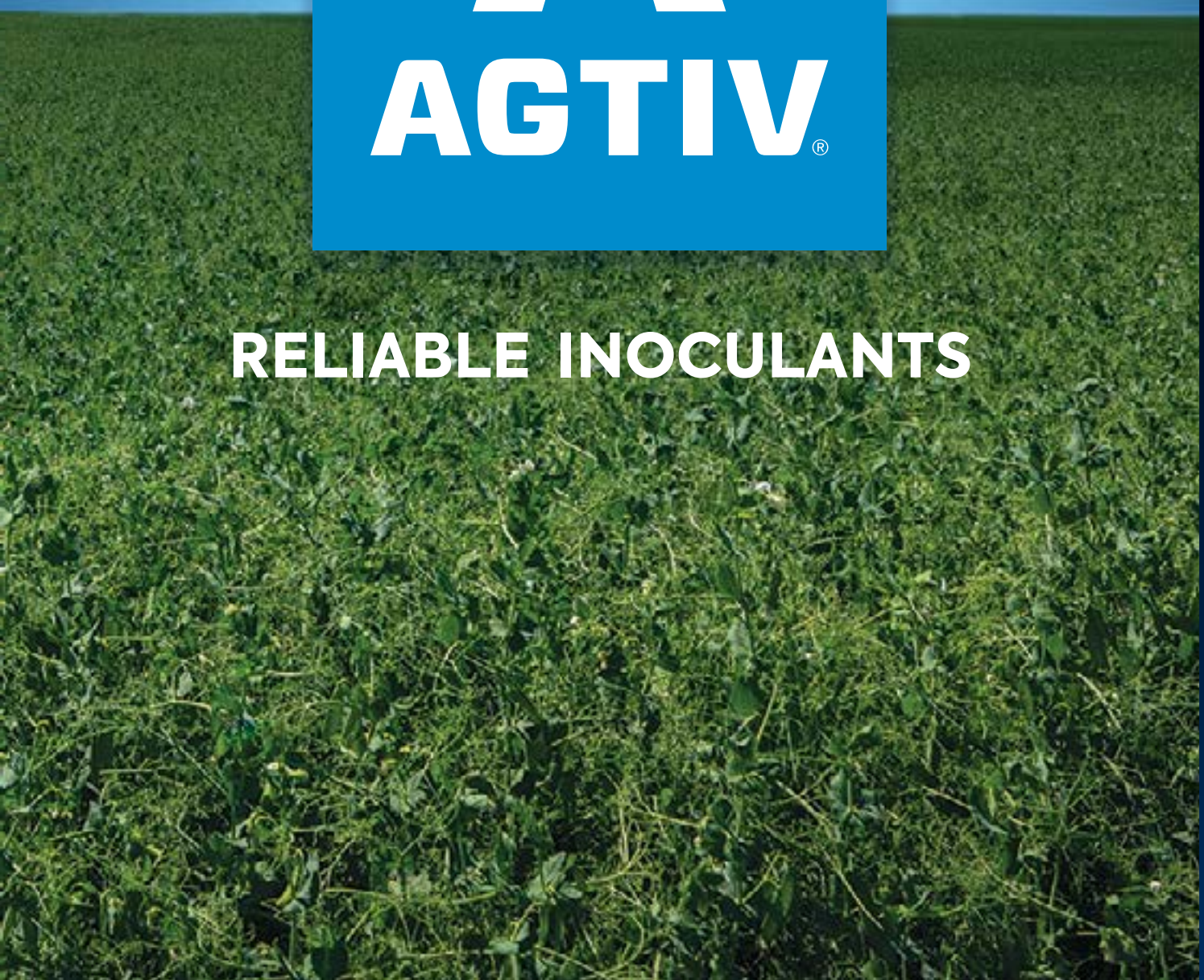
2022

WESTERN CANADA

AGTIV®

CLICK HERE
to know more

RELIABLE INOCULANTS



In our continued effort to provide you with reliable biological inoculants and after years of research by our scientists team members, we are proud to introduce *Serendipita indica* for your canola crops. Strong with 4 biological inoculums, MYCORRHIZAE, BACILLUS, RHIZOBIUM and SERENDIPITA, AGTIV® is what your crops need to reach their full yield potential.

CLICK HERE
to know more

	ACTIVE INGREDIENT		ORGANIC	APPLICATION MODE: GRANULAR IN-FURROW	APPLICATION MODE: MIXING WITH SEEDS	APPLICATION MODE: LIQUID IN-FURROW	APPLICATION MODE: LIQUID ON SEED	FORMULATION
PULSES (peas, lentils & faba beans)								
AGTIV® PULSES • Powder **F:** Powder (peat) **S:** 4.7 kg (10.3 lb) pail **C:** Peas & faba beans: **16 ha (40 acres)** – Lentils: **24 ha (60 acres)**	M	R	✓		●			
AGTIV® PULSES • Granular **F:** Granules (peat) **S:** 18.2 kg (40 lb) bag – 364 kg (800 lb) tote bag **C:** Peas, lentils & faba beans: Bag: **4 ha (10 acres)** – Tote bag: **80 ha (200 acres)**	M	R	✓	●				
AGTIV® RHIZO • Granular for PULSES **F:** Granules (peat) **S:** 18.2 kg (40 lb) bag – 364 kg (800 lb) tote bag **C:** Peas, lentils & faba beans: Bag: **4 ha (10 acres)** – Tote bag: **80 ha (200 acres)**		R	✓	●				
AGTIV® RHIZO • Liquid for PULSES ✪ **F:** Liquid **S:** 8 L (8 kg) bag-in-box **C:** Peas, lentils & faba beans: **32 ha (80 acres)** or **6530 kg of seeds (240 bu)**	C	R	✓			●	●	
AGTIV® ON SEED™ — RHIZO • Powder for PULSES **F:** Powder (peat) **S:** 4.7 kg (10.3 lb) pail **C:** Peas & faba beans: **16 ha (40 acres)** – Lentils: **24 ha (60 acres)**		R	✓		●			
SOYBEAN								
AGTIV® SOYBEAN • Powder **F:** Powder (peat) **S:** 4.7 kg (10.3 lb) pail **C:** Soybean: **16 ha (40 acres)**	M	R	✓		●			
AGTIV® SOYBEAN • Granular **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)**	M	R	*	●				
AGTIV® BRADY • Granular for 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)**		R	*	●				
AGTIV® BRADY • Liquid for SOYBEAN ✪ **F:** Liquid **S:** 8 L (8 kg) bag-in-box **C:** Soybean: **16 ha (40 acres)** or **5680 kg of seeds (250 units)**	C	R	✓			●	●	
AGTIV® BB COMBO • Liquid for SOYBEAN ✪ N **F:** Liquid **S:** 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)**	B	R	✓			●	●	
CANOLA								
AGTIV® IGNITE • L for Brassicaceae N **F:** Liquid **S:** 11 L (11 kg) bag-in-box **C:** Canola: **454 kg (1000 lb) of seeds**	S						●	

CLICK ON PRODUCTS
to learn more

	ACTIVE INGREDIENT		ORGANIC	APPLICATION MODE: GRANULAR IN-FURROW	APPLICATION MODE: MIXING WITH SEEDS	APPLICATION MODE: LIQUID IN-FURROW	APPLICATION MODE: LIQUID ON SEED	FORMULATION
CHICKPEA								
AGTIV® CHICKPEA • Powder **F:** Powder (peat) **S:** 4.7 kg (10.3 lb) pail **C:** Chickpea: **16 ha (40 acres)**	M	R	✓		●			
AGTIV® CHICKPEA • Granular **F:** Granules (peat) **S:** 18.2 kg (40 lb) bag – 364 kg (800 lb) tote bag **C:** Chickpea: Bag: **3.2 ha (8 acres)** – Tote bag: **64 ha (160 acres)**	M	R	✓	●				
FORAGES								
AGTIV® FORAGES • Powder **F:** Powder (diatomaceous earth) **S:** 1.6 kg (3.5 lb) pail **C:** Alfalfa, mix forages & grass: **8 ha (20 acres)**	M		*		●			
FIELD CROPS (cereals, flax & dry beans)								
AGTIV® FIELD CROPS – ○ • Powder **F:** Powder (peat) **S:** Case of 4 x 800 g (4 x 1.75 lb) pails **C:** Cereals, flax & dry beans: **32 ha (80 acres)** per case Alfalfa, mix forages & grass: **16 ha (40 acres)** per case	M		✓		●			
AGTIV® FIELD CROPS • Powder **F:** Powder (diatomaceous earth) **S:** 2 kg (4.4 lb) pail **C:** Cereals, flax & dry beans: **16 ha (40 acres)**	M		*		●			
AGTIV® FIELD CROPS • Granular **F:** Granules (zeolite) **S:** 18.2 kg (40 lb) bag – 364 kg (800 lb) tote bag **C:** Cereals, flax & dry beans: Bag: **3.2 ha (8 acres)** – Tote bag: **64 ha (160 acres)**	M		✓	●				
AGTIV® FIELD CROPS • Liquid **F:** Liquid (spores in suspension) **S:** Case of 2 x 950 ml (2 x 32 fl. oz) bottles **C:** Cereals, flax, beans & pulses: **16 ha (40 acres)** per case	M	C	✓				●	
POTATO								
AGTIV® POTATO • Liquid **F:** Liquid (spores in suspension) **S:** Case of 2 x 950 ml (2 x 32 fl. oz) bottles **C:** Potato: **8 ha (20 acres)** per case	M		✓				● ●	

See last page for complete product recommendations.

AGTIV® products also available for specialty crops.

F: Formulation
S: Size
C: Crop/ Coverage

ACTIVE INGREDIENTS:
- M **MYCORRHIZAE** PTB297 Technology
- R **RHIZOBIUM** PTB160 Technology (pulses), PTB162 Technology (soybean), *Mesorhizobium ciceri* (chickpea)
- B **BACILLUS** PTB180 Technology
- S **SERENDIPITA** PTB299 Technology (Brassicaceae)

- N New product
- C Combo available
- ✪ Eligible with AGTIV® Extender

ORGANIC:
- ✓ For organic use
- * Non eligible for organic use. Contact us for more details.

TOOLS

Premier Tech offers technical support for product application, field demonstration, equipment and input compatibility, and promotes educational agronomic knowledge.

- Labels, SDS, organic certificates
- Application videos, charts and rate calculators

PTAGTIV.COM/**en/toolbox**

- Pesticide compatibility lists
- Liquid fertilizer compatibility lists

PTAGTIV.COM/**en/compatibility**

- Efficacy report
- Field observations

PTAGTIV.COM/**en/results**

- Agronomic articles
- Case studies

PTAGTIV.COM/**en/blog**

EQUIPMENT & PROGRAMS

To ensure performance through efficient and precise application of its inoculants, Premier Tech recommends the use of approved equipment, supported by pay-back programs on selected AGTIV® products.

LIQUID

EQUIPMENT PROGRAM

The **AGTIV® Liquid Injection Kit**, integrating a Dosatron® Injection System, is easy to install on your existing in-furrow application system, it operates off the main solution flow for precise application of AGTIV® liquid products.

RETAILER FRIDGE PROGRAM

Premier Tech recommends to its retailer network the purchase of a fridge that can effectively store AGTIV® liquid products. Contact your representative to learn more.

PTAGTIV.COM/**en/program**

POWDER

Premier Tech has a list of recommended applicators to use with AGTIV® powder products. Ask your representative to learn more about the applicators and the pay-back program offered.

PTAGTIV.COM/**en/blog**

AVERAGE YIELD INCREASE BY CROP

LENTILS

2.7 bu/ac

AVERAGE YIELD INCREASE 10.1%
62 sites over 11 years, Canada

PEAS

3.3 bu/ac

AVERAGE YIELD INCREASE 6.2%
21 sites over 9 years, Canada

SOYBEAN

3.5 bu/ac

AVERAGE YIELD INCREASE 7.8%
85 sites over 7 years, Canada and Europe

DRY BEANS

235 lb/ac

AVERAGE YIELD INCREASE 8.9%
11 sites over 4 years, Canada

CHICKPEA

1.5 bu/ac

AVERAGE YIELD INCREASE 4%
2 sites over 1 year, Canada

DURUM WHEAT

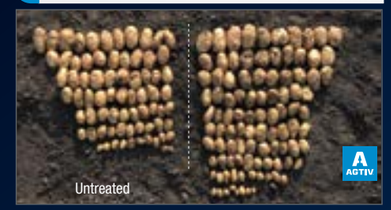
3.8 bu/ac

AVERAGE YIELD INCREASE 6.5%
12 sites over 7 years, North America

POTATO

31.5 cwt/ac

AVERAGE YIELD INCREASE 10%
1131 sites over 10 years, North America and Europe



BARLEY

7.3 bu/ac

AVERAGE YIELD INCREASE 10.5%
28 sites over 6 years, Canada and Europe

PULSES

Peas, lentils and faba beans

CLICK HERE to know more

51%[1] more photosynthesis with the tripartite symbiosis

"[…] the tripartite interactions between legumes, AMF [Arbuscular Mycorrhizal Fungi] and rhizobia cause increases in legume productivity, and the N:P:C supply ratio as influenced by the tripartite symbiotic associations plays a fundamental role in controlling the legume's photosynthetic rate and biomass productivity." [2]

[1] Kaschuk et al. 2009. Soil Biol. Biochem. 41:1233-1244
[2] Koele et al. 2014. VFRC Report 2014/1, pp. 1-57

PTAGTIV.COM/en/tripartite

ON-FARM MIXING WITH SEEDS — ELIGIBLE FOR ORGANIC USE

AGTIV® ON SEED™ — RHIZO • Powder for PULSES

ACTIVE INGREDIENT:

R **RHIZOBIAL INOCULUM** – PTB160 Technology
Rhizobium leguminosarum biovar *viciae:* 1.6 x 10^9 viable 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	**Peas & faba beans:** 16 ha (40 acres) **Lentils:** 24 ha (60 acres)	710403

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. **Peas & faba beans:** apply at 300 g/ha (120 g or 4.2 oz/acre). **Lentils:** apply at 200 g/ha (80 g or 2.8 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.

ON-FARM MIXING WITH SEEDS — ELIGIBLE FOR ORGANIC USE

AGTIV® PULSES • Powder

ACTIVE INGREDIENTS:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 2 750 viable spores/g

R **RHIZOBIAL INOCULUM** – PTB160 Technology
Rhizobium leguminosarum biovar *viciae:* 1.6 x 10^9 viable 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	**Peas & faba beans:** 16 ha (40 acres) **Lentils:** 24 ha (60 acres)	710303

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. **Peas & faba beans:** apply at 300 g/ha (120 g or 4.2 oz/acre). **Lentils:** apply at 200 g/ha (80 g or 2.8 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 — ELIGIBLE FOR ORGANIC USE

AGTIV® PULSES • Granular

ACTIVE INGREDIENTS:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 178 viable spores/g

R **RHIZOBIAL INOCULUM** – PTB160 Technology
Rhizobium leguminosarum biovar *viciae:* 1.3 x 10^8 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 364 kg (800 lb) – tote bag	4 ha (10 acres) 80 ha (200 acres)	710101, Organic: 710121 710102, Organic: 710122

DIRECTIONS FOR USE

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

GRANULAR IN-FURROW — ELIGIBLE FOR ORGANIC USE

AGTIV® RHIZO • Granular for PULSES

ACTIVE INGREDIENT:

R **RHIZOBIAL INOCULUM** – PTB160 Technology
Rhizobium leguminosarum biovar *viciae:* 1.3 x 10^8 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 364 kg (800 lb) – tote bag	4 ha (10 acres) 80 ha (200 acres)	710111 710112

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 — ELIGIBLE FOR ORGANIC USE

AGTIV® RHIZO • Liquid for PULSES

ACTIVE INGREDIENT:

R **RHIZOBIAL INOCULUM** – PTB160 Technology
Rhizobium leguminosarum biovar *viciae:* 6 x 10^9 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: 32 ha (80 acres) On seed: 6530 kg of seeds (240 bu)	710204

DIRECTIONS FOR USE

LIQUID IN-FURROW — Apply directly in the seed row at a rate of 250 ml/ha (100 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 33 ml per 27 kg seeds, ensure full coverage. Optimum on-seed viability for 30 days when treated seeds are stored below 12°C (54°F).

C COMBO AVAILABLE WITH MYCORRHIZAE

SOYBEAN

CLICK HERE to know more

P uptake and transfer to the plant with mycorrhizae

Cavagnaro et al. (2005) established that *Glomus intraradices* was found to be one of the arbuscular mycorrhizal fungi that was able to control nutrient uptake amounts by individual hyphae depending on differing phosphorus levels in the surrounding soils.[1]

[1] Cavagnaro, T; F. Smith; S. Smith; I. Jakobsen (2005) Functional diversity in arbuscular mycorrhizas: exploitation of soil patches with different phosphate enrichment differs among fungal species. Plant, Cell et Environment 28: 642 – 650.

PTAGTIV.COM/**en/rotation**

ON-FARM MIXING WITH SEEDS — ELIGIBLE FOR ORGANIC USE

AGTIV® SOYBEAN • Powder

ACTIVE INGREDIENTS:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 2 750 viable spores/g

R **RHIZOBIAL INOCULUM** – PTB162 Technology
Bradyrhizobium japonicum: 2.5 x 10^9 viable 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® SOYBEAN • Granular

ACTIVE INGREDIENTS:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 178 viable spores/g

R **RHIZOBIAL INOCULUM** – PTB162 Technology
Bradyrhizobium japonicum: 1.1 x 10^8 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).

GRANULAR IN-FURROW

AGTIV® BRADY • Granular for SOYBEAN

ACTIVE INGREDIENT:

R **RHIZOBIAL INOCULUM** – PTB162 Technology
Bradyrhizobium japonicum: 1.9 x 10^8 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 — ELIGIBLE FOR ORGANIC USE

AGTIV® BRADY • Liquid for SOYBEAN

ACTIVE INGREDIENT:

R **RHIZOBIAL INOCULUM** – PTB162 Technology
Bradyrhizobium japonicum: 8 x 10^9 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: 5 680 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).

C COMBO AVAILABLE WITH MYCORRHIZAE

NEW — LIQUID FOR IN-FURROW OR ON SEED — ELIGIBLE FOR ORGANIC USE

AGTIV® BB COMBO • Liquid for SOYBEAN

ACTIVE INGREDIENTS:

R **RHIZOBIAL INOCULUM** – PTB162 Technology
Bradyrhizobium japonicum: 8 x 10^9 viable cells/g

B **BACILLUS INOCULUM** – PTB180 Technology
Bacillus pumilus: 3 x 10^9 viable spores/ml

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

SIZE	COVERS	CODE
8 L (8 kg) – bag-in-box 300 ml – bottle	In-furrow: 16 ha (40 acres) On seed: 5 680 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.
Bradyrhizobium: A bladder of 8 liters can treat up to 5680 kg of soybean seeds. Apply at a rate of 64 ml/45.5 kg of seeds.
Bacillus: Apply at a rate of 2.4 ml/45.5 kg of seed. Agitate constantly during application to keep bacteria in suspension. Total volume applied for the combo is 66.4 ml/45.5 kg seed.
Optimum on-seed viability for 30 days when treated seeds are stored below 12°C (54°F).

IN-FURROW: A bladder of 8 liters covers 16 ha (40 acres). Apply inoculant in the furrow, directly on the seed, at a rate of 500 ml/ha (200 ml/acre). Dilute the inoculant in the required volume of clean, non-chlorinated water. Refer to the chart on label.

CANOLA

Brassicaceae family

2.6 bu/ac*

CANOLA YIELD INCREASE

1.3%* increase in oil content (total of 12 replicated trial sites).

* Statistically different vs untreated.

PTAGTIV.COM/en/ignite

NEW LIQUID ON SEED

AGTIV® IGNITE • L for Brassicaceae

ACTIVE INGREDIENT:

S **ENDOPHYTE INOCULUM** – PTB299 Technology
Serendipita indica (formerly known as *Piriformospora indica*)
2 x10^6 viable spores/g in liquid suspension

INERT INGREDIENT: Water
PARTICLE SIZE: < 1 mm (18 mesh)
Contains non-soluble particles

SIZE (case)	COVERS (1 case)	CODE (case)
11 L (11 kg) – bag-in-box	454 kg seed (1000 lb)	714114

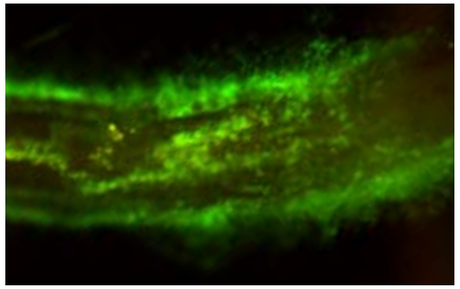
DIRECTIONS FOR USE

A bladder of 11 liters can treat up to 454 kg (1000 lb) of canola or other Brassicaceae seeds.

- Ensure the seed treating equipment has been properly calibrated and that applicator's tank is clean.
- Shake the 11 liters (bag-in-box), and add it completely to the applicator's tank.
- Spray on seeds at a rate of 11 liters for 454 kg of seeds.
- Product must be refrigerated (2-8°C, 36-46°F). Do not freeze product.

Did you know?

Serendipita indica is a natural microorganism forming endophytic relation with many plant species, including the non-mycorrhizal Brassicaceae family. *Serendipita* spores germinate in soil and colonize the epidermic root cells. As a natural ignitor, it will induce transcription of plant genes related with nutrient absorption and resistance to different stresses.



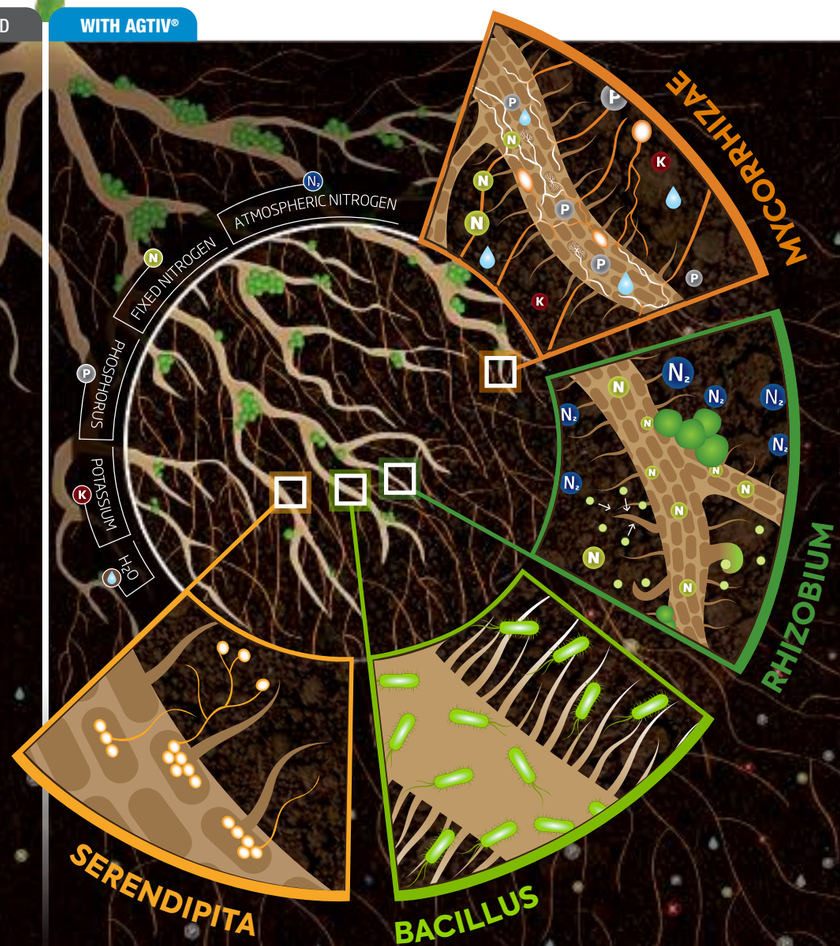
Serendipita indica tagged with a green, fluorescent marker, growing around a root.

PLANT

Nutrients and water are essential components for effective plant growth. Adding biological active ingredients, such as beneficial MYCORRHIZAE, RHIZOBIUM, BACILLUS, and SERENDIPITA, allows an earlier and efficient use of water and nutrients and helps plants reach optimum crop yield.

UNTREATED

WITH AGTIV®



AGTIV®

BIOLOGICAL ACTIVE INGREDIENTS

Backed by more than 35 years of expertise in biological active ingredients, Premier Tech masters a unique large-scale manufacturing process that meets the highest quality control standards, allowing you to fully benefit from the highly effective inoculants of our AGTIV® agricultural product line. For stronger growth through better plant resistance to stresses, **higher yields** and superior **crop quality**, you can count on AGTIV®.

M MYCORRHIZAE

PTB297 Technology, *Glomus intraradices*

Mycorrhizae are beneficial associations between a mycorrhizal fungus and roots. The mycorrhizal spores germinate in the soil and produce filaments (hyphae) which will enter into root cells. This association will allow the formation of an intra and extra-radical network of filaments that will 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* *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.

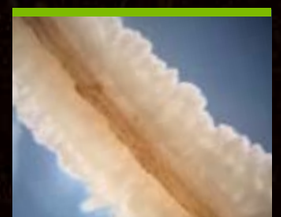
- FIX NITROGEN & MAKE IT AVAILABLE TO THE PLANT

B BACILLUS

PTB180 Technology, *Bacillus pumilus*

Bacillus stimulates the plant root system by inducing the proliferation of the root hairs, which favors the absorption of the nutrients. We have selected it for its beneficial action of growth stimulation.

- INCREASES NUMBER OF ROOT HAIRS FOR A BETTER NUTRIENTS' ABSORPTION
- ACCELERATES SEED GERMINATION
- INCREASES PLANT GROWTH

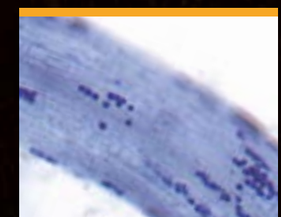


S SERENDIPITA

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

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

- PROMOTES EARLY SEED GERMINATION
- INCREASES CHLOROPHYLL CONTENT
- BETTER PLANT ESTABLISHMENT, GROWTH AND YIELD



CHICKPEA

ON-FARM MIXING WITH SEEDS — ELIGIBLE FOR ORGANIC USE

AGTIV® CHICKPEA • Powder

ACTIVE INGREDIENTS:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 2 750 viable spores/g

R **RHIZOBIAL INOCULUM**
Mesorhizobium ciceri: 7.0 x 10^8 viable 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)	713103

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 — ELIGIBLE FOR ORGANIC USE

AGTIV® CHICKPEA • Granular

ACTIVE INGREDIENTS:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 142 viable spores/g

R **RHIZOBIAL INOCULUM**
Mesorhizobium ciceri: 1.3 x 10^8 viable cells/g

INERT INGREDIENT: Peat
PARTICLE SIZE: 0.3 mm to 2 mm (10 - 50 mesh)
BULK DENSITY: 650 g/L (41 lb/ft^3)

SIZE	COVERS	CODE
18.2 kg (40 lb) – bag	3.2 ha (8 acres)	712901
364 kg (800 lb) – tote bag	64 ha (160 acres)	712902

DIRECTIONS FOR USE

Apply in the seed row at a rate of 5.7 kg/ha (5 lb/acre).

FORAGES

ON-FARM MIXING WITH SEEDS

AGTIV® FORAGES • Powder

ACTIVE INGREDIENT:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 8 000 viable spores/g

INERT INGREDIENT: Diatomaceous earth
PARTICLE SIZE: < 1 mm (18 mesh)
BULK DENSITY: 275 g/L (0.7 lb/US dry qt)

SIZE	COVERS	CODE
1.6 kg (3.5 lb) – pail	8 ha (20 acres)	712703

DIRECTIONS FOR USE

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 200 g/ha (80 g or 2.8 oz/acre).

FIELD CROPS

Cereals, flax and dry beans

CLICK HERE
to know more

80% of plants can be colonized with the collaborative[1] species *Glomus intraradices*

"*G. intraradices* has turned out to be a "wonder fungus" in several surveys, and field trials so far has shown it to be equal or superior to mixtures of other fungi." [2]

[1] Kiers et. al. 2011. Reciprocal Rewards Stabilize Cooparation in the Mycorrhizal Symbiosis. Science 333:80-882.

[2] Trivedi et. al. 2007. Organic farming and mycorrhizae in agriculture.I.K. International Publishing House Ltd. New Delhi, pp.290.

PTAGTIV.COM/**en/glomus**

ON-FARM MIXING WITH SEEDS — ELIGIBLE FOR ORGANIC USE

AGTIV® FIELD CROPS – ○ • Powder

ACTIVE INGREDIENT:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 8 000 viable spores/g

INERT INGREDIENT: Peat
PARTICLE SIZE: < 1 mm (18 mesh)
BULK DENSITY: 400 g/L (1 lb/US dry qt)

SIZE (case)	COVERS (1 case)	CODE (case)
4 x 800 g (4 x 1.75 lb) – pails	**Cereals, flax & dry beans:** 32 ha (80 acres) **Alfalfa, mix forages & grass:** 16 ha (40 acres)	712324

DIRECTIONS FOR USE

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.
Cereals, flax & dry beans: apply at 100 g/ha (40 g or 1.4 oz/acre).
Alfalfa, mix forages & grass: apply at 200 g/ha (80 g or 2.8 oz/acre).
Refer to the list of compatible pesticides at PTAGTIV.COM/**en/compatibility**.

ON-FARM MIXING WITH SEEDS

AGTIV® FIELD CROPS • Powder

ACTIVE INGREDIENT:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 6 400 viable spores/g

INERT INGREDIENT: Diatomaceous earth
PARTICLE SIZE: < 1 mm (18 mesh)
BULK DENSITY: 275 g/L (0.7 lb/US dry qt)

SIZE	COVERS	CODE
2 kg (4.4 lb) – pail	16 ha (40 acres)	712313

DIRECTIONS FOR USE

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 125 g/ha (50 g or 1.8 oz/acre) for cereals, flax & dry beans.

GRANULAR IN-FURROW — ELIGIBLE FOR ORGANIC USE

AGTIV® FIELD CROPS • Granular

ACTIVE INGREDIENT:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 142 viable spores/g

INERT INGREDIENT: Zeolite
PARTICLE SIZE: 0.4 mm to 1.4 mm (14 - 40 mesh)
BULK DENSITY: 920 g/L (57 lb/ft³)

SIZE	COVERS	CODE
18.2 kg (40 lb) – bag	3.2 ha (8 acres)	712101
364 kg (800 lb) – tote bag	64 ha (160 acres)	712102

DIRECTIONS FOR USE

Apply in the seed row at a rate of 5.7 kg/ha (5 lb/acre).

LIQUID IN-FURROW — ELIGIBLE FOR ORGANIC USE

AGTIV® FIELD CROPS • Liquid

ACTIVE INGREDIENT:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 6 400 viable spores/g in liquid suspension

INERT INGREDIENT: Water
PARTICLE SIZE: < 0.2 mm (70 mesh)
Contains non-soluble particles

SIZE (case)	COVERS (1 case)	CODE (case)
2 x 950 ml (2 x 32 fl. oz) – bottles	16 ha (40 acres)	712204

DIRECTIONS FOR USE

One 950 ml bottle covers 8 ha (20 ac). Dilute the product in the required volume of clean, non-chlorinated water, according to the application modes below. **Shake the bottle well before use and maintain a constant agitation in the tank during application to avoid settling and clogging.** Apply directly in the seed row.

LIQUID INJECTION: To apply using the **AGTIV® Liquid Injection Kit**, prepare the product mixture and adjust the Dosatron® injection rate following the application chart and video at PTAGTIV.COM/**en/liquid-injection-kit**. If the mixture does not contain pesticides or fertilizers, it can be emptied, refrigerated and used within 24 hours.

TANK MIX: Refer to PTAGTIV.COM/**en/FC-liquid** for application details.

C COMBO AVAILABLE WITH LIQUID RHIZOBIUM FOR PULSES OR BRADYRHIZOBIUM FOR SOYBEAN.

The following plant families cannot be colonized (no effect on plant) by the mycorrhizal fungi contained in AGTIV®: *Chenopodiaceae* (spinach, beets), *Brassicaceae* (canola, turnip, radish, mustard), buckwheat.

POTATO

CLICK HERE
to know more

10x more area for water uptake with mycorrhizae than root hairs

For an increased nutrient and water access, the plant can partner with mycorrhizae to expand its root system and reach more soil. "The absorptive area of mycorrhizal hyphae is approximately 10 times more efficient than that of root hairs and about 100 times more efficient than that of roots."[1]

[1] Jones, C. E. 2009. Mycorrhizal fungi - powerhouse of the soil. Evergreen Farming 8:4-5.

PTAGTIV.COM/**en/water**

AGTIV® POTATO • Liquid

ELIGIBLE FOR ORGANIC USE

ACTIVE INGREDIENT:

M **ENDOMYCORRHIZAL INOCULUM** – PTB297 Technology
Glomus intraradices: 10 500 viable spores/g in liquid suspension (315 000 viable spores/fl. oz)

INERT INGREDIENT: Water
PARTICLE SIZE: < 0.2 mm (70 mesh)
Contains non-soluble particles

SIZE (case)	COVERS (1 case)	CODE (case)
2 x 950 ml (2 x 32 fl. oz) – bottles	8 ha (20 acres)	711004

IN-FURROW APPLICATION

DIRECTIONS FOR USE

Dilute the product in the required volume of clean, non-chlorinated water. Refer to the application charts available at PTAGTIV.COM/**en/potato**. **Shake the bottle well before use and maintain a constant agitation in the tank during application to avoid settling and clogging.** Apply directly on seed pieces into furrow.

See recommendations below based on the application mode:

LIQUID INJECTION:

The **AGTIV® Liquid Injection Kit**, integrating a Dosatron® pump, is a customized equipment designed for the precise application of AGTIV® liquid products. Easy to install on your existing in-furrow application system, it operates off the main solution flow.

- Ensure the tank and the liquid injection system are clean and free of chemical residues, and agitation system is operational.
- On the planter, remove all cylinder screens by the nozzles or use filters with openings of at least 50 mesh (0.28 mm).
- Prepare your product mixture and adjust the Dosatron® injection rate following the calculation chart and application video at PTAGTIV.COM/**en/liquid-injection-kit**.
- Spray band width should be limited to 7 in (18 cm) or less.
- If the mixture does not contain pesticides or fertilizers, it can be emptied, refrigerated and used within 24 hours.

TANK MIX

- Use filters with openings of at least 50 mesh (0.28 mm).
- Use a diaphragm (or peristaltic) pump for product application.
- Up and down agitation at all times in the tank.
- Spray band width should be limited to 7 in (18 cm) or less.
- Apply within 6 hours after mixing into the liquid tank.
- See the application video at PTAGTIV.COM/**en/potato**.

SEED-PIECE TREATMENT

DIRECTIONS FOR USE

In a clean tank, pour the content of **one** 950 ml (32 fl. oz) bottle in the volume of liquid required to treat the amount of seed pieces for 4 hectares (10 acres) of seedbed (110 000 – 170 000 seed pieces). **Shake the bottle well before use and maintain a constant agitation in the tank during application to avoid settling and clogging.** Apply directly on seed pieces. Do not treat seed pieces more than 48 hours before seeding (could activate seed-piece sprouting).

See recommandations below based on the application mode:

MILESTONE TREATER:

- Validate that the atomizing head and the mixing paddles correspond to the approved specifications. Visit PTAGTIV.COM/**en/equipment** for more details or contact your representative.

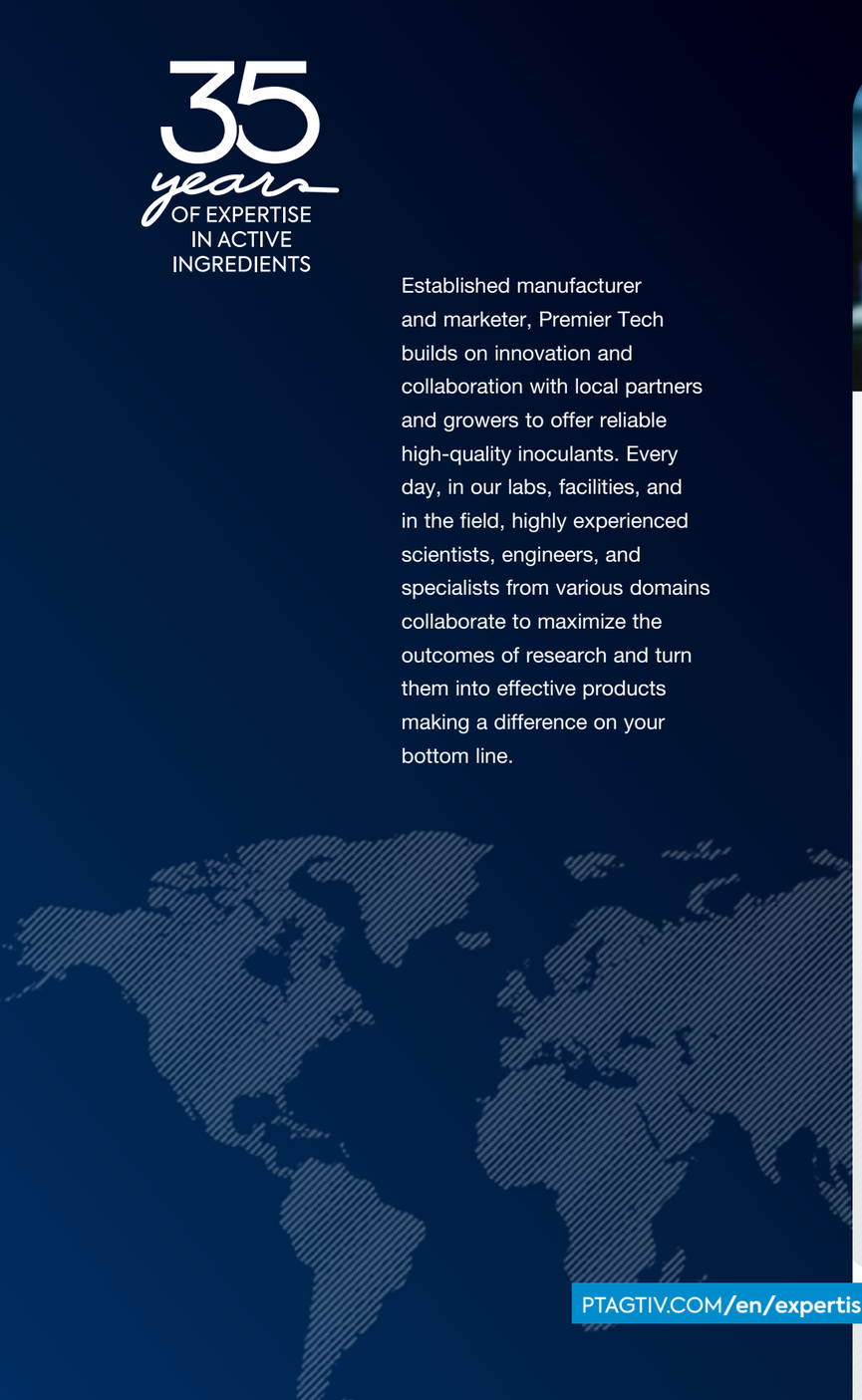
OTHER MODELS:

- Validate that the atomizing head and the mixing paddles correspond to the approved specifications (ask your representative for more info).
- Use filters with openings of at least 50 mesh (0.28 mm).
- Use a diaphragm (or peristaltic) pump for product application.
- Up and down agitation at all times in the tank.

CELEBRATING DECADES OF **INNOVATION** AND **VALUE**

35 years OF EXPERTISE IN ACTIVE INGREDIENTS

Established manufacturer and marketer, Premier Tech builds on innovation and collaboration with local partners and growers to offer reliable high-quality inoculants. Every day, in our labs, facilities, and in the field, highly experienced scientists, engineers, and specialists from various domains collaborate to maximize the outcomes of research and turn them into effective products making a difference on your bottom line.



PTAGTIV.COM/en/expertise

CLICK HERE to know more

PRODUCTION

In 2000, Premier Tech set up a world-first endomycorrhizal inoculum plant, developing a new mycoreactor process for industrial scale production. Backed by more than 35 years of expertise in active ingredients, Premier Tech constantly develops and innovates in terms of production of MYCORRHIZAE, RHIZOBIUM, BACILLUS, SERENDIPITA and other active ingredients:

- **No contamination through a strictly controlled and aseptic environment**
- **Large-scale manufacturing production**
- **Adapted quality control for each step of the production processes, ensuring consistent high-quality inoculum**

FORMULATION

Premier Tech's know-how makes it possible to adapt formulations with multiple active ingredients, concentrations and carriers tailored to different crops and application methods. Because a quality inoculant makes all the difference, our proven formulations are based on these important elements:

- **Carrier compatible with the active ingredients**
- **Formulations that guarantee active ingredient viability until use**
- **Quality control at several key points ensuring the performance of active ingredients**
- **Various formulations also tailored for organic production**

APPLICATION

Caring about our clients' performance, each recommendation for product use takes into consideration validation by our field experts and by farmers themselves, which ensures:

- **Effective application rates, at the right time and place, with the right inoculant**
- **Products adapted to growers' equipment**
- **Easy integration into farming practices**
- **Validation of compatibility with other agricultural inputs**

SERVICE

The AGTIV® experience combines highly effective value-added products and the access to a team of field experts dedicated to supporting your growth. From our management team and research project managers to our field specialists, our multidisciplinary team is listening to growers' needs to continuously improve our products and level of service:

- **Technical support for product application, equipment compatibility and field demonstration**
- **Proud promoter of science education and knowledge sharing**
- **Partnership with agriculture retailers throughout Canada, the United States and Europe**

RECOMMENDATIONS

CROPS	SOYBEAN					PULSES					CANOLA	POTATO	FIELD CROPS				FORAGES	SPECIALTY CROPS			PEAS	CHICKPEA	
	AGTIV® SOYBEAN Powder	AGTIV® SOYBEAN Granular	AGTIV® BRADY Granular for SOYBEAN	AGTIV® BRADY Liquid for SOYBEAN ⊛	AGTIV® BB COMBO Liquid for SOYBEAN ⊛	AGTIV® PULSES Granular	AGTIV® PULSES Powder	AGTIV® RHIZO Granular for PULSES	AGTIV® RHIZO Liquid for PULSES ⊛	AGTIV® ON SEED™ - RHIZO Powder for PULSES	AGTIV® IGNITE Liquid	AGTIV® POTATO Liquid	AGTIV® FIELD CROPS Granular	AGTIV® FIELD CROPS Liquid	AGTIV® FIELD CROPS Powder	AGTIV® FIELD CROPS - O Powder	AGTIV® FORAGES Powder	AGTIV® ON SEED™ Specialty Crops	AGTIV® SPECIALTY CROPS Powder	AGTIV® SPECIALTY CROPS Granular	AGTIV® SPECIALTY CROPS - PEA Powder	AGTIV® CHICKPEA Powder	AGTIV® CHICKPEA Granular
APPLICATION																							
After coating, seed within	8h			30 days	30 days		8h		30 days	30 days	30 days	48h			8h	8h	8h		8h		8h	8h	
Apply within 6 hours after mixing into the tank				•	•				•		•	•		•									
Avoid using the product with wet equipment	•	•	•			•	•	•		•			•		•	•	•		•		•	•	•
Ensure full seed-soil contact when seeding	•						•			•					•	•	•		•		•	•	
To avoid flow problems, do not fill tank or seed cart completely		•	•			•		•					•										•
Ensure the tank and the liquid application system are clean and free of chemical residues				•	•				•		•	•		•									
Shake well before use and during the application				•	•				•		•	•		•									
Use diaphragm pump for product application (or peristaltic pump)												•		•									
Ensure the temperature of the diluted tank mix doesn't exceed				22°C (72°F)	22°C (72°F)				22°C (72°F)		22°C (72°F)	22°C (72°F)		22°C (72°F)									
CALIBRATION																							
Calibrate the application system to deliver the correct amount of product	•	•	•	•	•	•	•	•	•	•	•		•		•	•	•				•	•	•
Band width should be limited to 7 in (18 cm) or less												•		•									
On the planter or seeder, make sure to remove all cylinder screens by the orifices or use filters with openings of at least 50 mesh (0.28 mm)												•		•									
COMPATIBILITY																							
Do not mix with fertilizers	•	•	•	•	•	•	•	•			•		•		•	•	•			•	•	•	•
Refer to the list of compatible pesticides at PTAGTIV.com/en/compatibility	•			•	•		•		•	•	•	•		•	•	•	•		•	•	•	•	•
Refer to the list of compatible liquid fertilizers at PTAGTIV.com/en/compatibility				•	•				•			•		•									
STORAGE																							
Product must be refrigerated at											2-8°C (36-46°F)	2-8°C (36-46°F)		2-8°C (36-46°F)									
Do not freeze or expose to temperatures above	25°C (77°F)	25°C (77°F)	25°C (77°F)	20°C (68°F)	20°C (68°F)	25°C (77°F)	25°C (77°F)	25°C (77°F)	20°C (68°F)	25°C (77°F)	2-8°C (36-46°F)	2-8°C (36-46°F)	35°C (95°F)	2-8°C (36-46°F)	35°C (95°F)	35°C (95°F)	35°C (95°F)	35°C (95°F)	35°C (95°F)	35°C (95°F)	25°C (77°F)	25°C (77°F)	25°C (77°F)
Store the product at constant temperature	•	•	•			•	•	•		•	•	•	•	•	•	•	•		•	•	•	•	•
If the mixture does not contain pesticides or fertilizers, it can be emptied, refrigerated and used within 24 hours												•		•									

⊛ Use AGTIV® **Extender** for longer shelf life

Complete AGTIV® product offer

PEOPLE AND TECHNOLOGIES MAKING A DIFFERENCE

Making a difference, this is what we are all about at Premier Tech. One team driven by a shared passion to deliver solutions that will better the lives of people, businesses and communities. At Premier Tech, People and Technologies connect in lasting, transformative ways, giving life to products and services that help feed, protect and improve our world. We are committed to creating sustainable solutions that help bring beautiful gardens to life, increase crop yields, improve the efficiency of manufacturing facilities, treat and recycle water, and much more as we keep innovating.

PREMIER TECH

PT Growers and Consumers
1, avenue Premier
Campus Premier Tech
Rivière-du-Loup (Québec)
G5R 6C1 CANADA

PT**AGTIV**.COM
1 866 454-5867
info@ptagtiv.com

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20210721