

The background of the image is a photograph of a vast green field under a blue sky with light clouds. The field is split vertically: the left side shows a field of green plants with small white flowers, while the right side shows a more uniform green field. The AGTIV logo is centered across the top half of the image, with the letters 'A', 'G', and 'T' partially overlapping the left side of the field and 'I', 'V', and the registered trademark symbol overlapping the right side.

AGTIV®

PEA & LENTIL | GUIDE 2024

AGTIV[®]

DESIGNED BY NATURE. PERFECTED BY SCIENCE.

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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.

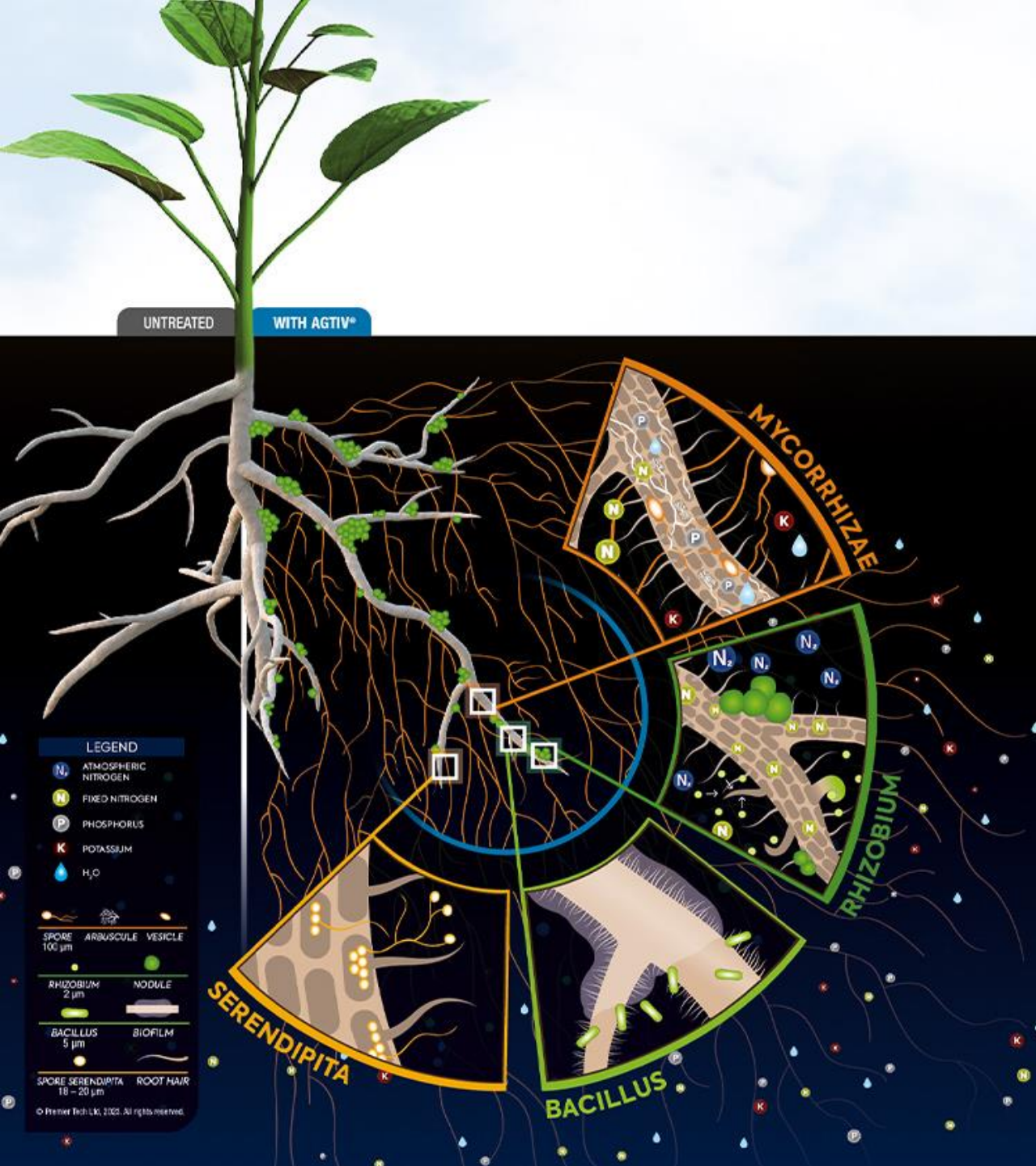
AGTIV®

**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 PEA & LENTIL

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**.



EFFECTIVE

PEA



AGTIV®

LENTIL





AGTIV® FUEL™ P PEA & LENTIL

F: Powder (peat)
S: 4.7 kg (10.3 lb) pail
C: Pea & faba bean: 16 ha (40 acres) – Lentil: 24 ha (60 acres)



AGTIV® FUEL™ G PEA & LENTIL

F: Granules (peat)
S: 18.2 kg (40 lb) bag – 364 kg (800 lb) tote bag
C: Pea, lentil & faba bean: Bag: 4 ha (10 acres) – Tote bag: 80 ha (200 acres)



AGTIV® FUEL™ L PEA & LENTIL *

F: Liquid
S: 8 L (8 kg) bag-in-box
C: Pea, lentil & faba bean: 32 ha (80 acres) or 6530 kg of seeds (240 bu)

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

AGTIV® FUEL™

ON-FARM MIXING WITH SEEDS

AGTIV® FUEL™ P PEA & LENTIL



ACTIVE INGREDIENT:

R RHIZOBIUM – PTB160 Technology
Rhizobium leguminosarum biovar *viciae*: 1.6×10^9 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	Pea & faba bean: 16 ha (40 acres) Lentil: 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.

GRANULAR IN-FURROW

AGTIV® FUEL™ G PEA & LENTIL



ACTIVE INGREDIENT:

R RHIZOBIUM – PTB160 Technology
Rhizobium leguminosarum biovar *viciae*: 1.3×10^8 viable cells/g

INERT INGREDIENT: Peat

PARTICLE SIZE: 0.5 mm to 2.5 mm (8 - 30 mesh)

BULK DENSITY: 600 g/L (37.4 lb/ft³)

SIZE	COVERS	CODE
18.2 kg (40 lb) – bag	4 ha (10 acres)	710111
364 kg (800 lb) – tote bag	80 ha (200 acres)	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

AGTIV® FUEL™ L PEA & LENTIL



ACTIVE INGREDIENT:

R RHIZOBIUM – PTB160 Technology
Rhizobium leguminosarum biovar *viciae*: 6×10^9 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).

✱ 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™ P PEA & LENTIL

F: Powder (peat)
 S: 4.7 kg (10.3 lb) pail – 2.4 kg (5.3 lb) pail
 C: Pea & faba bean: Pail 4.7 kg: **16 ha (40 acres)** – Pail 2.4 kg: **8 ha (20 acres)**
 Lentil: Pail 4.7 kg: **24 ha (60 acres)**

AGTIV® THRIVE™ G PEA & LENTIL

F: Granules (peat)
 S: 18.2 kg (40 lb) bag – 364 kg (800 lb) tote bag
 C: Pea, lentil & faba bean: Bag: **4 ha (10 acres)** – Tote bag: **80 ha (200 acres)**

AGTIV® THRIVE™ PEA & LENTIL

F: Liquid
 S: Combo box: 8 L (8 kg) bag-in-box + 4 x 950 ml (4 x 32 fl. oz) bottles
 C: Pea, lentil & faba bean: **32 ha (80 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 PEA & LENTIL



ACTIVE INGREDIENTS:

- M** MYCORRHIZAE – PTB297 Technology
Rhizophagus irregularis: 2750 viable spores/g
- R** RHIZOBIUM – PTB160 Technology
Rhizobium leguminosarum biovar *viciae*: 1.6×10^8 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	Pea & faba bean: 16 ha (40 acres) Lentil: 24 ha (60 acres)	710303
2.4 kg (5.3 lb) – pail	Pea & faba bean: 8 ha (20 acres)	710313

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 liters of clean, non-chlorinated water and stir well (for one 2.4 kg pail, add only 4 - 5 liters of water). 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 PEA & LENTIL



ACTIVE INGREDIENTS:

- M** MYCORRHIZAE – PTB297 Technology
Rhizophagus irregularis: 178 viable spores/g
- R** RHIZOBIUM – PTB160 Technology
Rhizobium leguminosarum biovar *viciae*: 1.3×10^8 viable cells/g

INERT INGREDIENT: Peat

PARTICLE SIZE: 0.5 mm to 2.5 mm (8 - 30 mesh)

BULK DENSITY: 600 g/L (37.4 lb/ft³)

SIZE	COVERS	CODE
18.2 kg (40 lb) – bag	4 ha (10 acres)	710101
364 kg (800 lb) – tote bag	80 ha (200 acres)	710102

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™ PEA & LENTIL



ACTIVE INGREDIENTS:

- M** MYCORRHIZAE – PTB297 Technology
Rhizophagus irregularis: 6400 viable spores/g
- R** RHIZOBIUM – PTB160 Technology
Rhizobium leguminosarum biovar *viciae*: 6×10^8 viable cells/g

INERT INGREDIENT: Water

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

< 0.1 mm (150 mesh) – PTB160 Technology

Contains non-soluble particles

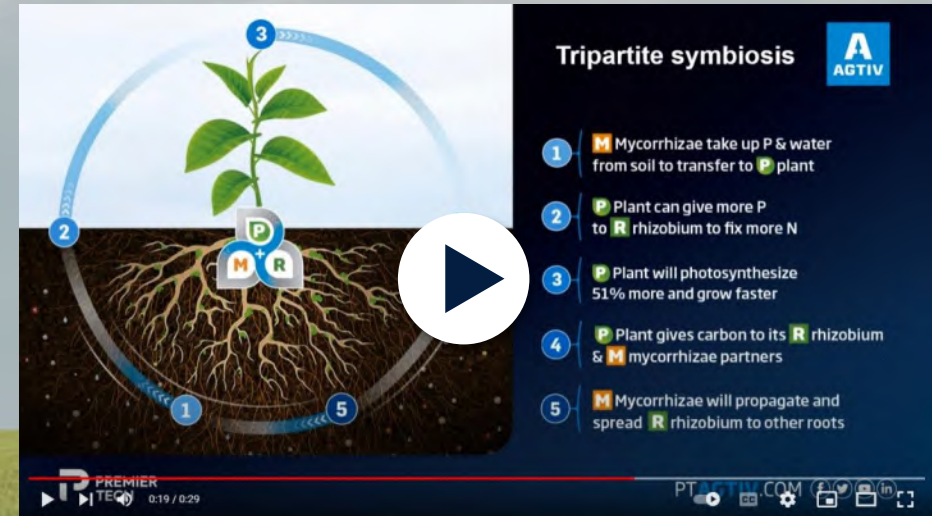
SIZE	COVERS	CODE
Combo box: 4 x 950 ml (4 x 32 fl. oz) – bottles 8 L (8 kg) – bag-in-box	32 ha (80 acres)	710214

DIRECTIONS FOR USE

This product should be applied using the AGTIV® Liquid Injection Kit. To apply, pour 4 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 250 ml/ha (100 ml/acre) for Rhizobium, for a total of 368.75 ml/ha (147.5 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®



PEA



3.4 bu/ac
6.1%

AGTIV® THRIVE™ PEA & LENTIL
24 sites over 10 years, Canada



LENTIL



2.6 bu/ac
8.4%

AGTIV® THRIVE™ PEA & LENTIL
65 sites over 12 years, Canada



[CLICK HERE FOR DETAILS](#)

PESTICIDES AND FERTILIZERS COMPATIBILITY

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

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

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**

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](#)

