

The logo for AGTIV, featuring the word in a bold, blue, sans-serif font. A registered trademark symbol (®) is located at the bottom right of the letter 'V'. The logo is centered horizontally and partially overlaps the background images of the canola and wheat fields.

AGTIV[®]

A dark blue horizontal banner with white text. The text reads 'CANOLA & CEREALS | GUIDE 2024'. The banner is positioned in the center of the image, overlapping the canola field on the left and the wheat field on the right.

CANOLA & CEREALS | GUIDE 2024

The AGTIV logo is displayed in large, bold, blue capital letters. A small registered trademark symbol (®) is located at the bottom right of the letter 'V'. The logo is set against a background of rolling green and yellow hills under a clear blue sky.

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

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

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

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

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

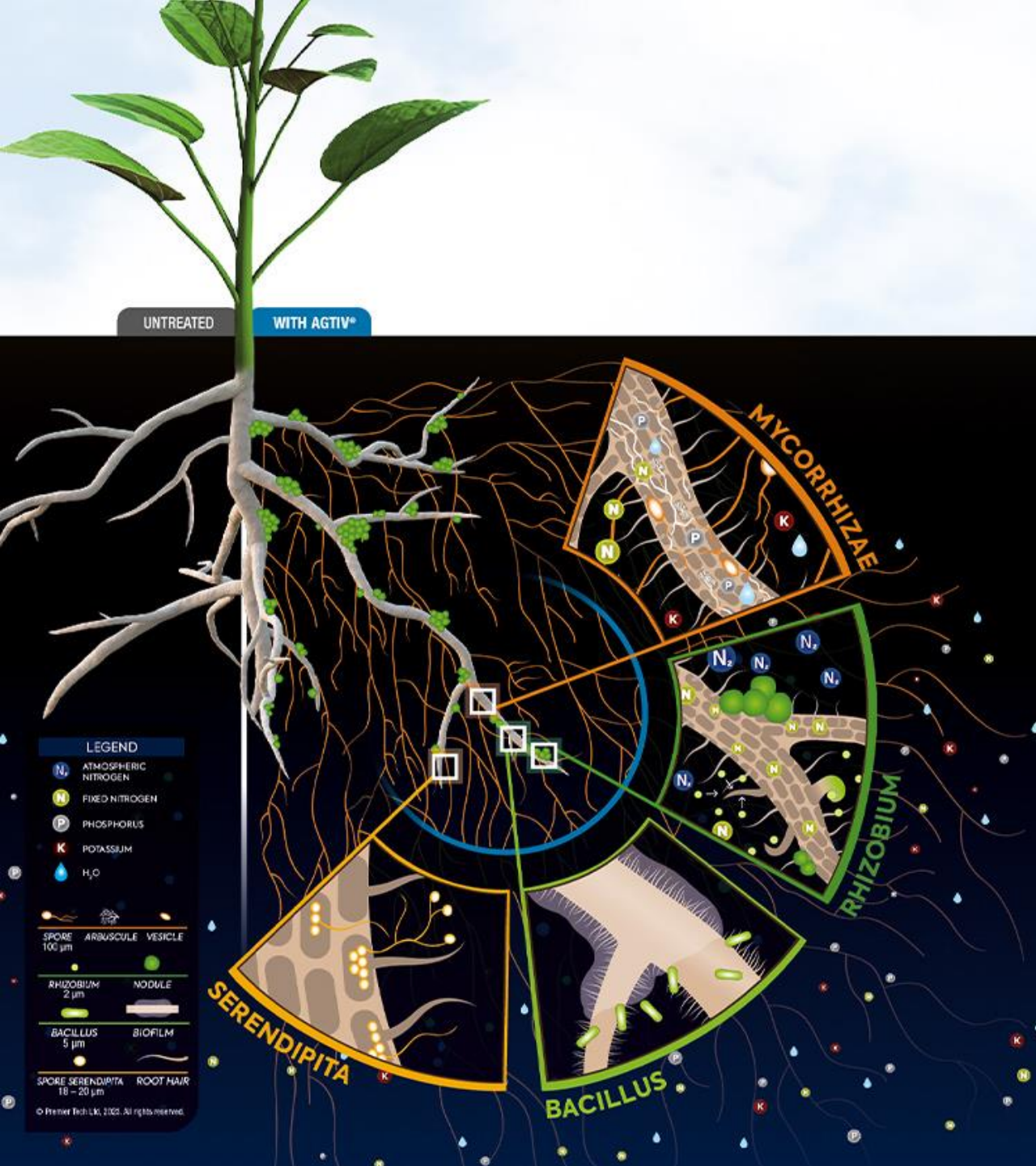
AGTIV®

**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



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.

IMPROVE CHLOROPHYLL CONTENT AND PHOTOSYNTHESIS

- Increases the biosynthesis of chlorophyll¹
- Upregulates antioxidant system and aids in the maintenance of grana in chloroplasts and thus protects the photosynthetic machinery
- Improves Calvin cycle enzymes and prevents the disintegration of photosynthetic pigments and the structural components of chloroplasts² under stress.

BRANCHES AND FLOWERING

- Significantly increases the number of tillers and second branches of the aerial part³
- Consistently accelerates host bolting and flowering with several days in advance¹¹.

ABIOTIC STRESS TOLERANCE

- Mitigates detrimental effects of water stress by improving stomatal conductance, photosynthesis, antioxidative potential, redox-homeostasis, osmotic adjustment, water conservation, sugar and N metabolism, wax and suberin biosynthesis³.
- Enhances drought tolerance via modulating stomatal closure⁴.
- Improves biochemical pathways of plant partner which includes biosynthesis of prolines, organic acids and sugars, that serve as osmolytes facilitating osmotic adjustment or osmoregulation in the cell⁵. This aids plants to maintain water potential gradient for the flow of water from soil into root and further to aerial parts under water deficit conditions⁶.

NUTRITIONAL ASPECTS

Phosphorus:

- Enhances absorption of P by increasing expression of plant phosphate transporter⁶
- Promotes P uptake into the roots by solubilizing inorganic soil P via the production of organic acids as well as the stimulation of plants transport genes⁷.

Nitrogen

- Enhances plant N use efficiency by increasing expression of nitrate reductase, the first enzyme used by the plant to transform the absorbed mineral nitrogen to organic nitrogen⁸.

Sulphur

- Increases sulfur absorption by producing high affinity sulphur transporters⁹.

SEED QUALITY

- Consistently improves quality of oilseed, with a higher oil content and lower erucic acid and glucosinolates under field condition¹².
- Improves N, K, P, S, B and Zn levels in the seeds¹³

AGTIV® IGNITE™ L

AGTIV®



AGTIV® IGNITE™ L (previously named AGTIV® IGNITE • L for Brassicaceae)

F: Liquid
S: 11 L (11 kg) bag-in-box
C: Canola: 454 kg (1000 lb) or 81 ha (200 acres) of seeds
Cereals: 9165 kg (20 205 lb) or 81 ha (200 acres) of seeds

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

AGTIV® IGNITE™ L



LIQUID ON SEED

AGTIV® IGNITE™ L

ACTIVE INGREDIENT:

S SERENDIPITA – PTB299 Technology
Serendipita indica (formerly known as *Piriformospora indica*)
2 x10⁶ viable spores/g

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

| SIZE | COVERS | CODE |
|---------------------------|---|--------|
| 11 L (11 kg) – bag-in-box | Canola: 454 kg of seeds (1000 lb) Cereal: 9165 kg of seeds (20 205 lb) | 714114 |

DIRECTIONS FOR USE

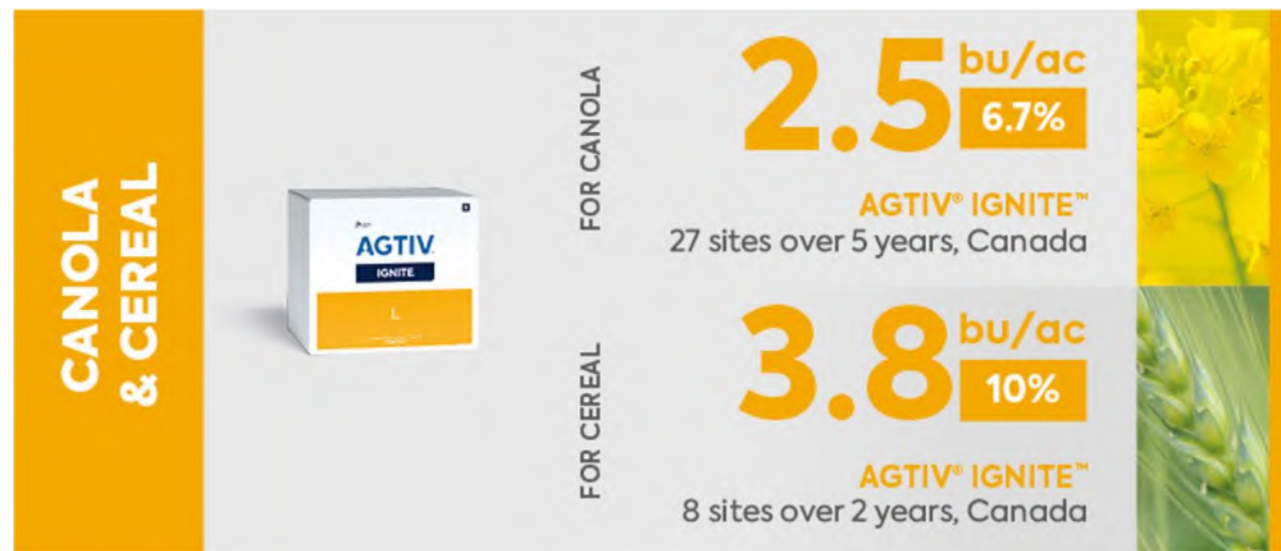
Ensure the seed treating equipment has been properly cleaned and calibrated and that applicator's tank is clean. Remove any filters on the treating system that are smaller than 1 mm (18 mesh) to prevent clogging. **Shake thoroughly the 11 liters bladder and add it completely to the applicator's tank.**

For canola and other Brassicaceae, one bladder of 11 liters can treat up to 454 kg (1000 lb) or 81 ha (200 acres) of seeds.

For wheat and other cereals, one bladder of 11 liters can treat up to 9165 kg (20 205 lb) or 81 ha (200 acres) of seeds. It is recommended to dilute in non-chlorinated water to reach a total volume of liquid to add between 12 to 20 ml/kg of seeds.

Spray on seeds and ensure full coverage.

EFFICACY SUMMARY



[CLICK HERE FOR DETAILS](#)

CANOLA YIELD & OIL INCREASE

Table 1. Average increase of canola yield with AGTIV® IGNITE™ L for different years (2018-2022).

| Year | Number of sites | Untreated check (bu/ac) | AGTIV® IGNITE • L yield (bu/ac) | Yield increase (bu/ac) |
|-------|-----------------|-------------------------|---------------------------------|------------------------|
| 2018 | 1 | 63.5 | 68.0 | 4.5 |
| 2019 | 6 | 44.6 | 47.1 | 2.5 |
| 2020 | 5 | 37.2 | 39.6 | 2.4 |
| 2021 | 8 | 32.5 | 35.0 | 2.5 |
| 2022 | 7 | 33.6 | 36.2 | 2.6 |
| Total | 27 sites | 37.2 ^a | 39.7 ^b | 2.5 bu/ac * |

*Summary of means for AGTIV® IGNITE™ are significantly different following a combined site ANOVA and a Tukey test ($p < 0.05$) $p < 0.001$

Table 2. Average increase of canola oil content with AGTIV® IGNITE™ L for different years (2019-2022).

| Year | Number of sites | Untreated check (oil%) | AGTIV® IGNITE • L (oil%) | Oil increase (%) |
|-------|-----------------|------------------------|--------------------------|------------------|
| 2019 | 3 | 41.2 | 42.1 | 0.9 |
| 2020 | 4 | 39.2 | 40.6 | 1.4 |
| 2021 | 5 | 38.1 | 38.5 | 0.4 |
| 2022 | 7 | 35.3 | 36.1 | 0.8 |
| Total | 19 sites | 37.8 ^a | 38.7 ^b | 0.9%* |

*Summary of means for AGTIV® IGNITE™ are significantly different following a combined site ANOVA and a Tukey test ($p < 0.1$) $p = 0.05$

[CLICK HERE FOR DETAILS](#)

DURUM WHEAT YIELD INCREASE

| Year | Site | Untreated check yield (bu/ac) | AGTIV® IGNITE™ L yield (bu/ac) | Yield increase (bu/ac) |
|-------|---------------|-------------------------------|--------------------------------|------------------------|
| 2021 | Lethbridge | 66.7 | 73.3 | 6.6 |
| 2021 | Vulcan | 25.8 | 28.8 | 3 |
| 2021 | Taber | 39.0 | 40.6 | 1.6 |
| 2021 | Swift Current | 11.8 | 14.4 | 2.6 |
| 2022 | Lethbridge | 50.2 | 59.0 | 8.8 |
| 2022 | Swift Current | 54 | 55.8 | 1.8 |
| 2022 | Vulcan | 29.2 | 31.0 | 1.8 |
| 2022 | Taber | 27.3 | 31.8 | 4.5 |
| Total | 8 sites | 38.0a | 41.8b | 3.8 bu/ac * |

*Summary of means for **AGTIV® IGNITE™** are significantly different following a combined site ANOVA and a Tukey test ($p < 0.1$) $p = 0.05$

[CLICK HERE FOR DETAILS](#)

PESTICIDES COMPATIBILITY

Single action Serendipita products **IGNITE** plant growth and chlorophyll content for better yields. Our inoculants are compatible with most pesticides and liquid fertilizers.

| COMMERCIAL NAME / NOM COMMERCIAL | ACTIVE INGREDIENT / INGRÉDIENT ACTIF | CATEGORY / CATÉGORIE | COMPATIBILITY / COMPATIBILITÉ | APPLICATION METHOD TESTED / MÉTHODE D'APPLICATION TESTÉE |
|-------------------------------------|---|--|----------------------------------|---|
| Acceleron® Basic | Fluoxastrobin; Prothioconazole; Metalaxyl | Fungicide / Fongicide | YES / OUI | Seed treatment / Traitement de semences |
| BUTEO Start 480 FS | Flupyradifurone 480 g/L | Insecticide | YES / OUI | Seed treatment / Traitement de semences |
| Fortenza® | Cyantraniliprole 60% | Insecticide | YES / OUI | Seed treatment / Traitement de semences |
| Helix® Vibrance® | Thiamethoxam 269 g/L; Difenconazole 16 g/L; Metalaxyl 5 g/L; Sedaxane 3.4 g/L; Fludioxonil 1.7 g/L | Fungicide-Insecticide / Fongicide-Insecticide | YES / OUI | Seed treatment / Traitement de semences |
| Intego™ Solo | Ethaboxam 34.2% | Fungicide / Fongicide | YES / OUI | Seed treatment / Traitement de semences |
| Lumiderm™ | Cyantraniliprole 50% | Insecticide | YES / OUI | Seed treatment / Traitement de semences |
| Lumiscend™ | Inpyrfluxam 381 g/L | Fungicide / Fongicide | YES / OUI | Seed treatment / Traitement de semences |
| Maxim® Quattro | Thiabendazole 26.5%; Fludioxonil 3.32%; 2.65%; Azoxystrobin 1.33% Metalaxyl | Fungicide / Fongicide | YES / OUI | Seed treatment / Traitement de semences |
| Poncho® 600 FS | Clothianidin 60% | Insecticide | YES / OUI | Seed treatment / Traitement de semences |
| Prosper® Evergol™ | Clothianidin 22.3%; Penflufen 0.82%; Trifloxystrobin 0.55%; Metalaxyl 0.55% | Fungicide-Insecticide / Fongicide-Insecticide | YES / OUI | Seed treatment / Traitement de semences |
| Stamina® | Pyraclostrobin 18.42% | Fungicide / Fongicide | YES / OUI | Seed treatment / Traitement de semences |
| Vercoras™ F3 Seed treatment | Pyraclostrobin 16.7 g/L; Fluxapyroxad 16.7 g/L; Metalaxyl 13.3 g/L | Fungicide / Fongicide | YES / OUI | Seed treatment / Traitement de semences |
| Vercoras™ XC Seed Treatment | Fluopyram 600 g/L | Fungicide / Fongicide | YES / OUI | Seed treatment / Traitement de semences |
| Vibrance® 50 FS | Sedaxane 50% | Fungicide / Fongicide | YES / OUI | Seed treatment / Traitement de semences |

ONLINE TOOLS



LABELS



EFFICACY REPORT



BROCHURES



SOCIAL MEDIA

AND MUCH MORE:

Safety data sheets, organic certificates

