

# PROMIX<sup>®</sup>

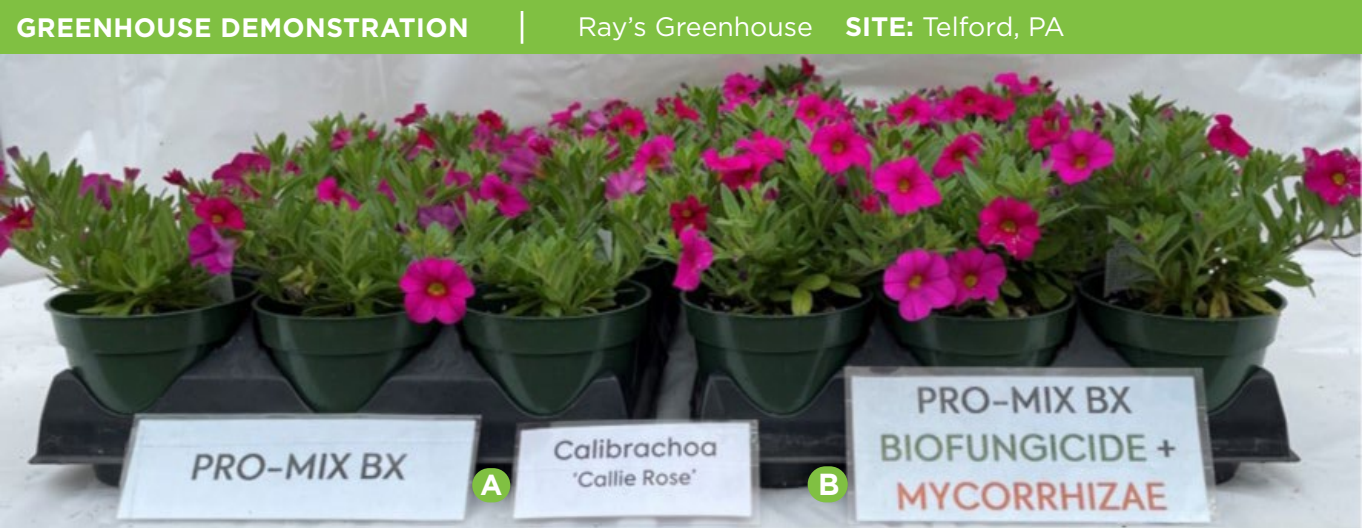
## AGTIV<sup>®</sup>



**EFFICACY REPORT**

# EFFICACY REPORT

2021 – PRO-MIX® BX AND PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™



**TREATMENTS:**

- A) PRO-MIX® BX
- B) PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™

**VARIETY:** Callie Rose

**SEEDING DETAILS:**

Seeded on March 15, 2021.  
Liners were planted in 4” pot, 15 pots per flat on March 29, 2021.  
Harvested 6.5 weeks after seeding.

**PLOT OPERATIONAL NOTES AND IRRIGATION**

**FERTILIZERS:**

- March 29 and April 13: Nutricote 14-14-14, Type 100, no liquid fertilizer
- April 29: Nutricote 14-14-14, Type 100, 150 ppm nitrogen 21-5-20 - once per week

**PESTICIDES:** April 13. Bonzi drench (2 ppm)

**ACID INJECTION:** April 13 and 29. Sulfuric acid

**IRRIGATION:** Hand watered

**HARVESTED:** April 29, 2021

Table 1. Summary of results per treatment at harvest

| TREATMENT | WIDTH (MM)          | INCREASE (%) | HEIGHT (MM)        | INCREASE (%) |
|-----------|---------------------|--------------|--------------------|--------------|
| A         | 141.53 <sup>a</sup> | -            | 79.00 <sup>a</sup> | -            |
| B         | 173.60 <sup>b</sup> | 22.7         | 94.67 <sup>b</sup> | 19.8         |

Yields with same letter are not statistically different according to a Tukey HSD test (p≤0.05).

**SUMMARY**

- Calibrachoa ‘Callie Rose’ grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ were visually larger and slightly darker green than those grown in PRO-MIX® BX.
- 42 days after planting crops in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ vs PRO-MIX® BX:
  - Plant height significantly increased by 20%.
  - Plant width significantly increased by 23%.
  - Fresh weight, dry weight and flower number significantly increased by 56%, 50% and 53%, respectively (data not shown).

# EFFICACY REPORT

2022 – PRO-MIX® BK AND PRO-MIX® BK AGTIV® REACH™



**TREATMENTS:**

- A) PRO-MIX® BK\*
- B) PRO-MIX® BK AGTIV® REACH™\*\*

**VARIETY:** Calibrachoa (Calibrachoa x hybrida)

**EXPERIMENTAL DESIGN:** Complete randomized design

**SEEDING DETAILS:**

30 plants for each treatment were transplanted into ten 10-inch hanging baskets (3 per basket), of which 2 plants per hanging basket were randomly selected for measurements and analysis (n=20)

**PLOT OPERATIONAL NOTES AND IRRIGATION**

**FERTILIZERS:**

- Plant Marvel (16-3-16) at a Nitrogen rate of 100ppm for the first 4 weeks
- Peters (20-10-20) at a rate of 150ppm Nitrogen for the final 10 days

**IRRIGATION:** Hand watered and by mist

**HARVESTED:** May 4<sup>th</sup>, 2022

Table 1. Summary of results per treatment at harvest

| TREATMENT | FRESH PLANT BIOMASS (g) | ROOT LENGTH (cm) | TOTAL DRY WEIGHT (g) |
|-----------|-------------------------|------------------|----------------------|
| A         | 58.17 <sup>a</sup>      | 17.96            | 4.71 <sup>a</sup>    |
| B         | 74.10 <sup>b</sup>      | 19.07            | 6.34 <sup>b</sup>    |

Results per category with same letter are not statistically different according to a Tukey HSD test (p≤0.05).

**SUMMARY**

- Compared to plants grown in PRO-MIX® BK, Calibrachoa plants grown in PRO-MIX® BK AGTIV® REACH™:
  - Had a statistically significant higher fresh and shoot dry weight biomass.
  - Had a statistically larger size index and produced statistically more flowers at 21, 29, and 37 days after planting (DAP).
  - Were visually larger and greener and yielded more flowers on average.

\*Prior to 2024, BK was previously known as BK25.\*\*Prior to 2024, BK AGTIV® REACH™ was previously known as BK25 MYCORRHIZAE™.

# EFFICACY REPORT

2021 – PRO-MIX® BX AND PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™

GREENHOUSE DEMONSTRATION | Ray’s Greenhouse SITE: Telford, PA



**TREATMENTS:**  
A) PRO-MIX® BX  
B) PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™

**SEEDING DETAILS:**

- **Begonia Non-Stop Orange:** Seeded on March 17, 2021. Liners planted in 5” pot, 12 pots per flat on March 29, 2021. Harvested 6 weeks after seeding.
- **Petunia Amore Queen of Heart:** Seeded on March 24, 2021. Liners planted in 4”pot, 15 pots per flat on March 29, 2021. Harvested 5 weeks after seeding.
- **Vinca Titan Polka Dot:** Seeded on March 22, 2021. Plugs planted into 1206 cell packs, 72 plants per flat. Harvested 5.5 weeks after seeding.

Table 1. Summary of results (average) per treatment at harvest

| TRIAL / PLANT | A                  |                   |                  | B                  |                    |                   |
|---------------|--------------------|-------------------|------------------|--------------------|--------------------|-------------------|
|               | WIDTH (G)          | HEIGHT (MM)       | DRY MATTER (G)   | WIDTH (G)          | HEIGHT (MM)        | DRY MATTER (G)    |
| Begonia       | 115.1 <sup>a</sup> | 83.3 <sup>a</sup> | 1.1 <sup>a</sup> | 149.8 <sup>b</sup> | 106.7 <sup>b</sup> | 1.7 <sup>b</sup>  |
| Petunia       | 170.9 <sup>a</sup> | 81.6 <sup>a</sup> | 1.8 <sup>a</sup> | 181.7 <sup>a</sup> | 86.3 <sup>a</sup>  | 2.5 <sup>b</sup>  |
| Vinca         | 77.9 <sup>a</sup>  | 83.4 <sup>a</sup> | 0.5 <sup>a</sup> | 86.8 <sup>b</sup>  | 95.6 <sup>b</sup>  | 0.54 <sup>b</sup> |

Results per category with same letter are not statistically different according to a Tukey HSD test (p≤0.05).

## PLOT OPERATIONAL NOTES AND IRRIGATION

**FERTILIZERS:**

- March 19 and April 13 (Begonia): Half rate Nutricote 14-14-14, Type 100, no liquid fertilizer
- March 29 (Petunia): Nutricote 14-14-14, Type 100, no liquid fertilizer
- April 13 (Vinca): 21-5-20 applied twice at 150 ppm nitrogen
- April 29 (Begonia, Petunia, Vinca): Half rate Nutricote 14-14-14, Type 100, 150 ppm nitrogen 21-5-20 - once per week

**ACID INJECTION (VINCA ONLY):**  
April 13 and 29. Sulfuric acid

**IRRIGATION:** Hand watered

**PESTICIDES:**

- March 19: Azagard (insect growth regulator) + Avid (insecticide) spray
- March 22: Pylon (for mites, thrips) + Avid (for thrips) + EcoSwing (foliar fungicide) Tank Mix spray
- April 7 (Petunia & Vinca): Pylon + Azagard + Avid spray for insects
- April 10: Adorn + Fenstop for Downy Mildew
- April 13: Pylon + Azagard + Avid spray for insects
- April 26 (Vinca & Begonia): Rycar + Affirm for insects

**HARVESTED:** April 29, 2021

## SUMMARY

**VINCA**

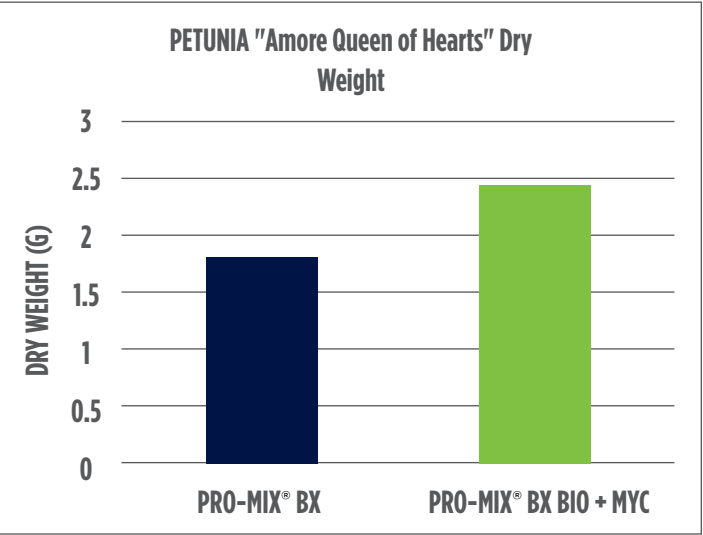
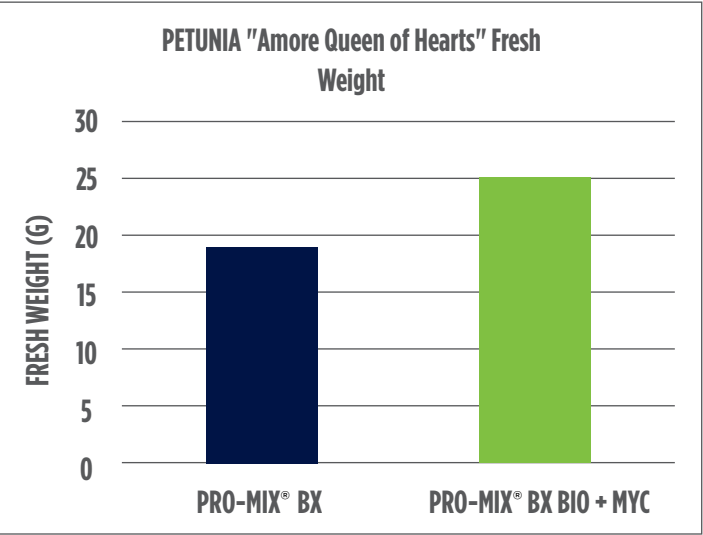
- Vinca ‘Titan Polka Dot’ grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ were visually taller and darker green than those grown in PRO-MIX® BX.
- 38 days after planting vinca in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ vs. PRO-MIX® BX:
  - Fresh weight was 23% higher and dry weight was 8% higher, but results were not statistically significant.
  - Plant height was significantly higher by 15%.

**BEGONIA**

- Begonia ‘Nonstop Orange’ grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ were visually larger and darker green than those grown in PRO-MIX® BX.
- Begonia ‘Nonstop Orange’ grown in PRO-MIX® BX were showing iron deficiency.
- 43 days after planting crops in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ vs. PRO-MIX® BX, dry weight significantly increased by 47%.
- Plant height was 24%, 32% and 28% significantly greater and plant width was 17%, 26% and 30% significantly greater 12, 27 and 43 days after planting in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ vs. PRO-MIX® BX, respectively.

**PETUNIA**

- Petunia ‘Amore Queen of Hearts’ grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ were darker green than those grown in PRO-MIX® BX.
- 36 days after planting crops in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ vs. PRO-MIX® BX:
  - Fresh weight significantly increased by 30%.
  - Dry weight significantly increased by 35%.
  - Flower number was not significantly different.



# EFFICACY REPORT

2021 – PRO-MIX® BX AND PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™

GREENHOUSE DEMONSTRATION | Ray’s Greenhouse SITE: Telford, PA



TREATMENTS:  
A) PRO-MIX® BX  
B) PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™  
VARIETY: Super Sonic Hot Pink

SEEDING DETAILS:  
Seeded on March 10, 2021.  
Liners planted in 5” pot, 12 pots per flat on March 29, 2021.  
Harvested 7 weeks after seeding.

## PLOT OPERATIONAL NOTES AND IRRIGATION

FERTILIZERS:  
• March 29: Nutricote 14-14-14, Type 100, no liquid fertilizer  
• April 13 and 29: 150 ppm nitrogen 21-5-20 - once per week

PESTICIDES:  
• March 19: Azagard (insect growth regulator) + Avid (insecticide) spray

• March 22: Pylon (for mites, thrips) + Avid (for thrips) +EcoSwing (foliar fungicide) Tank Mix spray  
• April 7: Pylon + Azagard + Avid spray for insects  
• April 10: Adorn + Fenstop for Downy Mildew  
• April 26: Rycar + Affirm for insects

IRRIGATION: Hand watered

HARVESTED: April 29, 2021

Table 1. Summary of results per treatment at harvest

| TREATMENT | WIDTH (MM)          | INCREASE (%) | HEIGHT (MM)         | INCREASE (%) |
|-----------|---------------------|--------------|---------------------|--------------|
| A         | 162.25 <sup>a</sup> | -            | 128.33 <sup>a</sup> | -            |
| B         | 182.08 <sup>b</sup> | 12.2         | 144.2 <sup>b</sup>  | 12.4         |

Yields with same letter are not statistically different according to a Tukey HSD test (p≤0.05).

## SUMMARY

- New Guinea Impatiens ‘Super Sonic Hot Pink’ grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ were visually taller, wider and darker green than those grown in PRO-MIX® BX. Only those in PRO-MIX® BX were showing minor iron deficiency.
- 50 days after planting crops in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ vs PRO-MIX® BX:
  - Plant height significantly increased by 12%.
  - Plant width significantly increased by 12%.

# EFFICACY REPORT

2021 – PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ VS COMPETITOR

GREENHOUSE DEMONSTRATION | Moss Hill Foliage Inc. SITE: Apopka, FL



TREATMENTS:  
A) Competitor growing medium with active ingredients  
B) PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™  
VARIETY: Asparagus Ming

SEEDING DETAILS:  
Started from cutting.  
Plugs planted in 4”pot on September 6, 2021.  
15 pot carry trays initially, then spaced 2:1:2 in 15 pot carry trays.

EXPERIMENTAL DESIGN: complete randomized design

## PLOT OPERATIONAL NOTES AND IRRIGATION

FERTILIZERS:  
• Peters 20-10-20 liquid, + Nutricote 18-6-8 T100 CRF  
• 150-200 ppm N Liquid Feed  
• One application of Nutricote

PESTICIDES: Avid and Tristar

IRRIGATION: Hand watered and by mist

HARVESTED: January 13, 2022

Table 1. Summary of results per treatment at harvest

| TREATMENT | FRESH PLANT BIOMASS (G) | ROOT LENGTH (CM)  |
|-----------|-------------------------|-------------------|
| A         | 70.5 <sup>a</sup>       | 17.2 <sup>a</sup> |
| B         | 73.2 <sup>a</sup>       | 19.7 <sup>b</sup> |

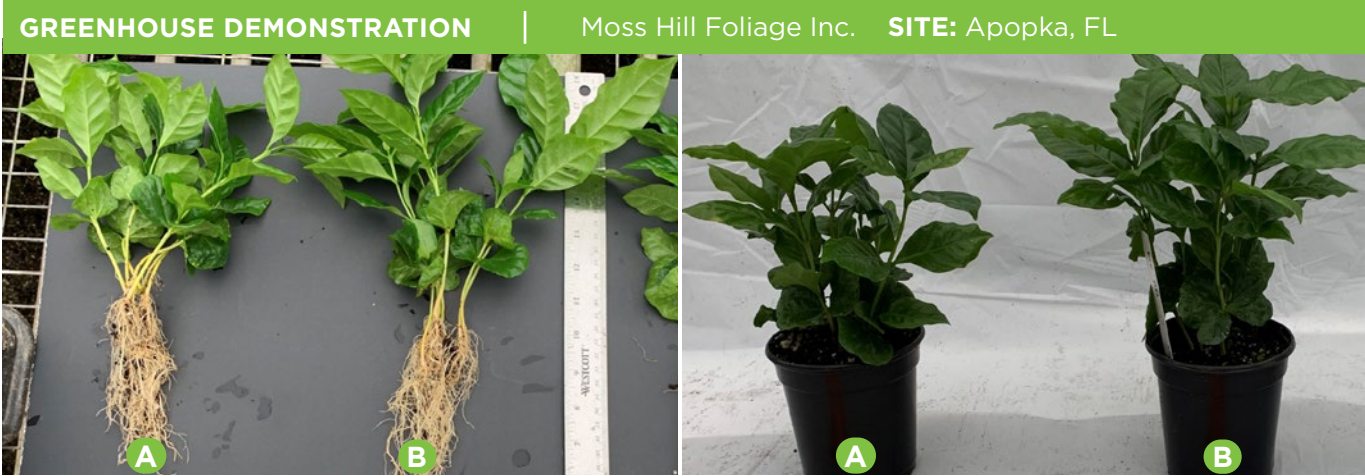
Results per category with same letter are not statistically different according to a Tukey HSD test (p≤0.05).

## SUMMARY

- Asparagus Ming grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ were better-looking plants and were greener and taller compared to the plants grown in the competitor growing medium.
- 4 months after planting plants grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ had a significantly greater root length than plants grown in the competitor growing medium.
- At each measured interval, plants grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ had a significantly greater height than plants grown in the competitor growing medium.

# EFFICACY REPORT

2021 – PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ VS COMPETITOR



**TREATMENTS:**  
A) Competitor growing medium with active ingredients  
B) PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™  
**VARIETY:** Coffee plant (foliage)  
**EXPERIMENTAL DESIGN:** complete randomized design

**SEEDING DETAILS:**  
Started from cuttings.  
Plugs planted in 4" pot in September 2021.  
15 pot carry trays initially then spaced 2:1:2 in 15 pot carry trays.

## PLOT OPERATIONAL NOTES AND IRRIGATION

**FERTILIZERS:**

- Peters 20-10-20 liquid, + Nutricote CRF
- 150-200 ppm nitrogen Liquid Feed
- One application of Nutricote 18-6-8 T100

**PESTICIDES:** Avid, Tristard and b-nine plant growth regulator to a rate 5ppm  
**IRRIGATION:** Hand watered and by mist  
**HARVESTED:** December 15, 2021

Table 1. Summary of results per treatment at the harvest

| TREATMENT | FRESH PLANT BIOMASS (G) | ROOT LENGTH (CM)   | TOTAL DRY WEIGHT (G) |
|-----------|-------------------------|--------------------|----------------------|
| A         | 20.63 <sup>b</sup>      | 15.76 <sup>a</sup> | 2.94 <sup>b</sup>    |
| B         | 23.68 <sup>a</sup>      | 16.18 <sup>a</sup> | 3.33 <sup>a</sup>    |

Results per category with same letter are not statistically different according to a Tukey HSD test (p≤0.05).

## SUMMARY

- Coffee plant grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ had a significantly higher fresh and dry plant biomass compared to the competitor growing medium.
- Shoot and root dry weight was significantly higher on plants grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ compared to plants grown in the competitor growing medium.

# INNOVATION

## AN INTEGRAL PART OF PREMIER TECH COLLECTIVE DNA

At Premier Tech, Innovation goes beyond the concept of research and development. More than a process leading to the creation of new products, it is a **state of mind that is strongly embedded in our corporate DNA**. Always seeking to **create unique and addictive experiences** for our clients, we simply never cease to push the boundaries of our abilities, competencies and technological platforms.



We first structured our Innovation efforts and approach back in 1983, driven by the ambition of developing value-added products derived from peat moss through technological advances. Today, **more than 260 Premier Tech team members** are devoted full-time to mastering the technologies behind the next leading-edge solutions that will make a difference for our clients, helping them stand out in their marketplaces.

Driven by a collective Culture and rooted in Values which revolve around our tradition of Innovation, the entire Premier Tech team holds a restless ambition to shake up the status quo and shift industry paradigms. Through the current innovation program IPSO: Innovation in Products-Processes, Services and commercial Offers, we are **constantly challenging the way we do business and how we can improve everything we do**.

This mindset is key to how we operate on a daily basis. Contributing to the loyalty of our clients around the world, it sets the ground rules for how collaborating with Premier Tech turns out to be a contagious experience they are willing to share with others.

We deeply believe that in order to continue to be sustainable and grow our market share, it is essential to never let our innovative spirit rest — to keep pushing forward and eliminate any barriers on the path to bringing new technologies, products and services to life in the marketplace. With the agility to truly make a difference by tapping into our full potential, **we make a difference for our clients’ profitability**, and ultimately ensure our continued relevance as a strategic partner.

# PROMIX<sup>®</sup>

## AGTIV<sup>®</sup>

Optimize your production, save time, labor, and make better use of your resources with biological active ingredients integrated in PRO-MIX<sup>®</sup> growing media.

Select **PRO-MIX<sup>®</sup> with AGTIV<sup>®</sup>** for higher crop yields, improved quality, and extended shelf life, while reducing costs by minimizing drenches and optimizing fertilizer use.

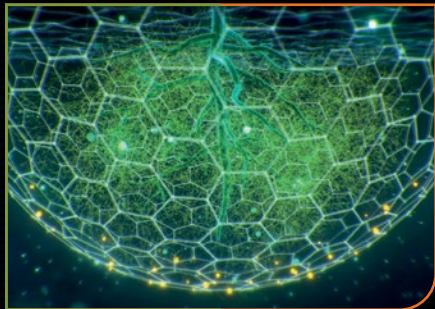
### AGTIV FORTIFY

AGTIV<sup>®</sup> FORTIFY™ PROTECTS THE ROOT SYSTEM WITH AN EXPANDED BARRIER AGAINST PATHOGENS\* AND IMPROVES NUTRIENT AND WATER ABSORPTION THANKS TO **BACILLUS** & **MYCORRHIZAE**

#### **BACILLUS + MYCORRHIZAE**

PTB297 + PTB180 Technologies

- ++ Forms a protective physical barrier around the expanded root system
- ++ Protects plants against pathogens and reduces disease incidence\*
- ++ Boosts plant growth and productivity



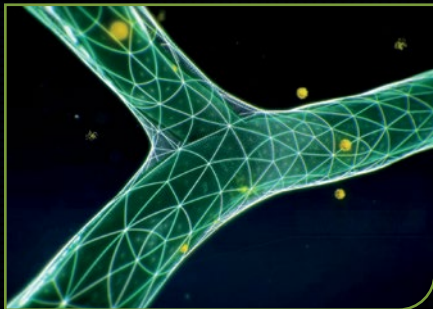
### AGTIV DEFEND

AGTIV<sup>®</sup> DEFEND™ GIVES PLANTS PROTECTION AGAINST ROOT PATHOGENS\* THANKS TO **BACILLUS**

#### **BACILLUS**

PTB180 Technology, *Bacillus pumilus*

- + Forms a protective barrier around the roots
- + Reduces the incidence of root diseases\*
- + Increases plant survival and health



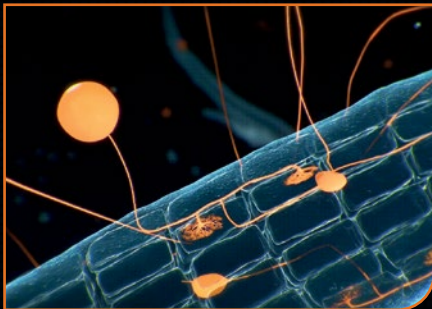
### AGTIV REACH

AGTIV<sup>®</sup> REACH™ HELPS PLANTS REACH AND ABSORB MORE NUTRIENTS AND WATER THANKS TO **MYCORRHIZAE**

#### **MYCORRHIZAE**

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

- + Expands root system
- + Enhances nutrient and water uptake
- + Promotes plant robustness and vigor



## PEOPLE AND TECHNOLOGIES MAKING A DIFFERENCE

At Premier Tech, we are all about making a difference by connecting People and Technologies for more than 100 years. One team driven by a shared will to deliver sustainable solutions that help feed, protect and improve our world. Premier Tech has a wide range of products, services, brands, and technologies allowing to increase crop yields, bring beautiful gardens to life, automate the handling and packaging operations of many manufacturing facilities, treat and recycle water, support companies in their digital transformation, and offer bio-ingredients for the well-being of humans and animals.



### PT Growers and Consumers

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\*Suppresses root diseases caused by specific pathogens (such as *Fusarium*, *Pythium* and *Rhizoctonia*), and also suppresses fungus gnats and thrips.

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