



PRO-MIX[®]

ORNAMENTAL
EFFICACY REPORT

A DEDICATED COMPANY

Premier Tech is a leader in the innovation of quality growing media products for edible, floriculture, and nursery crops. Thanks to its numerous manufacturing facilities and vast distribution network, products are offered from coast to coast, throughout North America.

A LEADING BRAND

Since its launch in 1968, PRO-MIX® has provided commercial growers and consumers with cutting-edge and value-added growing media products. PRO-MIX® growing media are enhanced with high-performance active ingredients and are considered a reference in the market, as they represent innovative and unique solutions. Fine-tuned for growers who seek efficiency, superior plant quality, disease suppression, and resistance to environmental stresses, PRO-MIX® optimizes results. For many years now, Premier Tech has used a unique approach to peat moss gradation and selection. It ensures consistency in the final product while setting a high standard for the industry.

OUR COMMITMENT

We have created a solid bond with growers seeking the best. By using our ability to innovate and by paying careful attention to the growers' needs, it has become essential in our daily activities to incorporate something unique in both our products and the services we offer.

SUSTAINABLE SOLUTIONS

Sphagnum peat moss is an important component of growing media, and the peatlands it comes from must be managed in a responsible way. Our sustainable management of this valuable resource ensures a long-term supply for our customers and for future generations. PRO-MIX® improves crop performance by bringing life into the plant root zone with natural active ingredients. Its distinctive solutions incorporate biostimulants and biocontrols that enrich growing media and fortify plants in an ecological and responsible manner.



Premier Tech's peat moss comes from bogs that are certified under the Veriflora® Program. This certification ensures the application of good management principles in all aspects of sustainable development. The criteria include environmental assessment, social engagement and product quality.

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2023 EDITION

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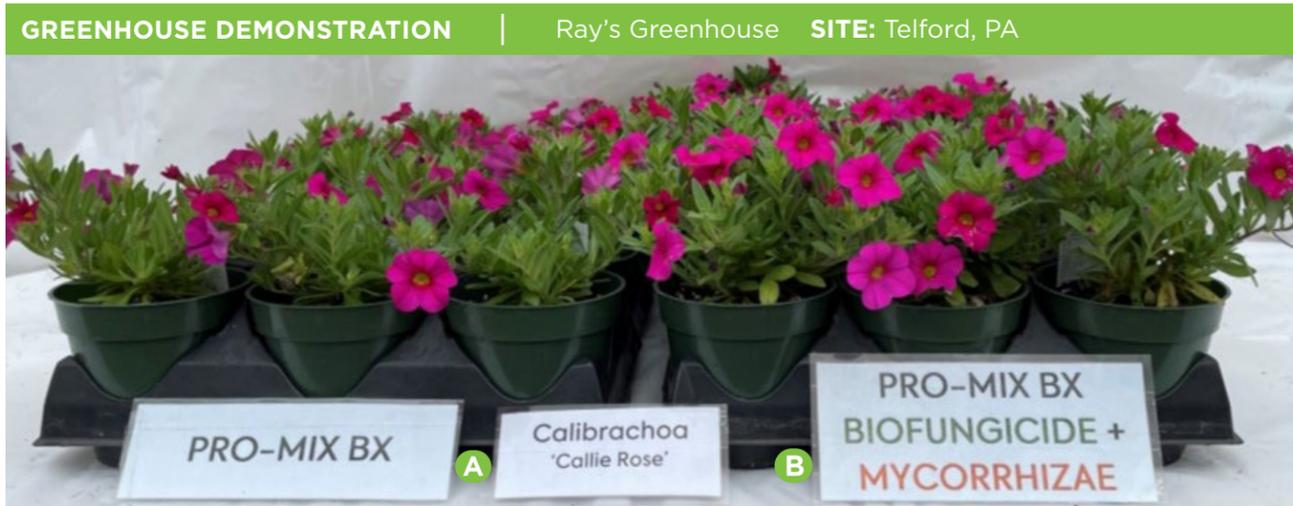
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EFFICACY REPORT

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

CALIBRACHOA



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 ^a	-	79.00 ^a	-
B	173.60 ^b	22.7	94.67 ^b	19.8

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

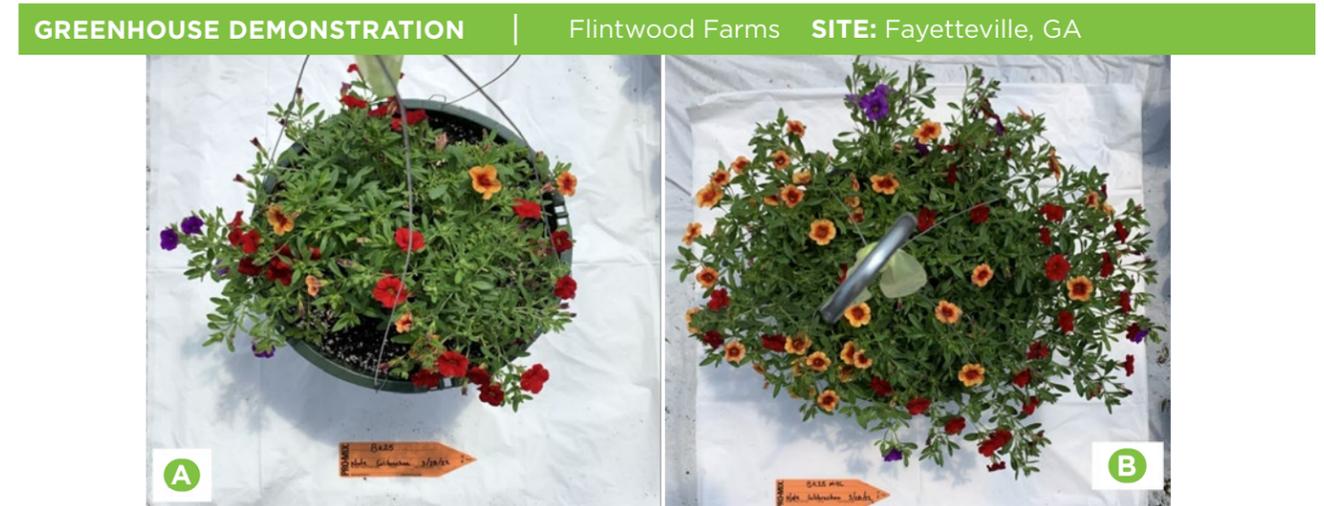
SUMMARY

- 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® BK25 WITH MYCORRHIZAE™

CALIBRACHOA



TREATMENTS:
 A) PRO-MIX® BK25
 B) PRO-MIX® BK25 MYCORRHIZAE™
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 4th, 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 ^a	17.96	4.71 ^a
B	74.10 ^b	19.07	6.34 ^b

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® BK25, Calibrachoa plants grown in PRO-MIX® BK25 MYCORRHIZAE™:
 - 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.

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 ^a	83.3 ^a	1.1 ^a	149.8 ^b	106.7 ^b	1.7 ^b
Petunia	170.9 ^a	81.6 ^a	1.8 ^a	181.7 ^a	86.3 ^a	2.5 ^b
Vinca	77.9 ^a	83.4 ^a	0.5 ^a	86.8 ^b	95.6 ^b	0.54 ^b

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

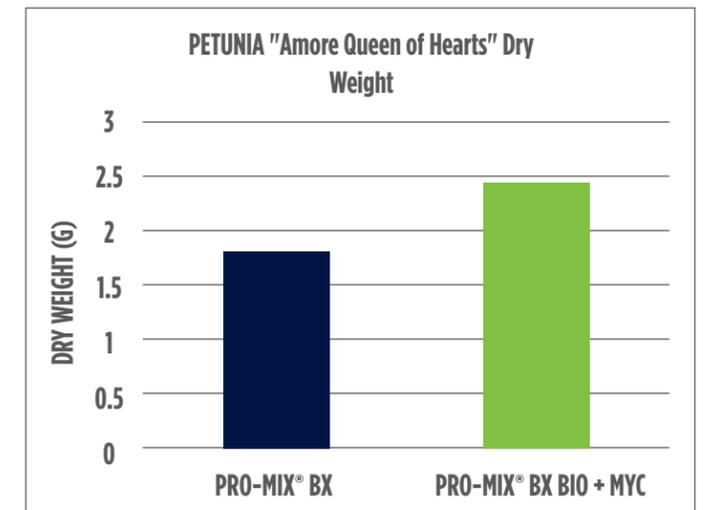
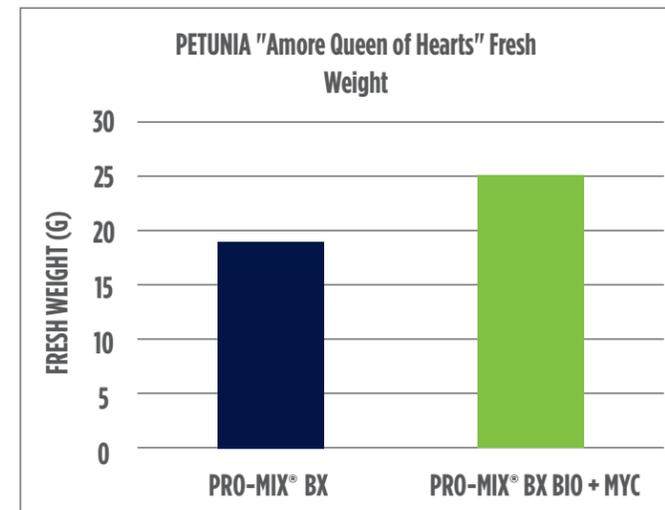
- Vinca 'Titan Polka Dot' grown in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ were visually taller and darker green than those grown in PRO-MIX® BX.
- 38 days after planting vinca in PRO-MIX® BX BIOFUNGICIDE™ + MYCORRHIZAE™ vs. PRO-MIX® BX:
 - Fresh weight was 23% higher and dry weight was 8% higher, but 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 ^a	-	128.33 ^a	-
B	182.08 ^b	12.2	144.2 ^b	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
EXPERIMENTAL DESIGN: complete randomized design

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.

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 ^a	17.2 ^a
B	73.2 ^a	19.7 ^b

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

COFFEE PLANT

GREENHOUSE DEMONSTRATION

Moss Hill Foliage Inc. **SITE:** Apopka, FL



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 ^b	15.76 ^a	2.94 ^b
B	23.68 ^a	16.18 ^a	3.33 ^a

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.



Creativity is a mix of knowledge, expertise and passion for unprecedented efficient solutions. Innovation, Research & Development and biological active ingredients have combined forces to put commercial offers to the horticultural market.

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.

ACTIVE INGREDIENTS WORK TOGETHER TO ENHANCE PLANT PERFORMANCE, QUALITY AND YIELD

Backed by almost 40 years of expertise in biological active ingredients, Premier Tech masters a unique large-scale manufacturing process in aseptic laboratories that meets the highest quality control standards, allowing you to fully benefit from the added value integrated into PRO-MIX®. Proven consistency of viable spores, no contamination and reliable active ingredients. It's how we make a difference.

Learn more



B

BACILLUS

PTB180 Technology, *Bacillus pumilus*

Bacillus is a bacterium that produces an antibiotic which helps suppress root rot diseases caused by *Fusarium*, *Pythium* and *Rhizoctonia*. It also secretes biostimulant molecules (auxins) to form a biofilm around the root system that ensures protection and induces the proliferation of the root hairs to favor the absorption of nutrients and water.

- ✓ ACCELERATES SEED GERMINATION & PLANT ESTABLISHMENT
- ✓ REDUCES NEED FOR FUNGICIDE DRENCHES
- ✓ STRENGTHENS PLANT DISEASE RESISTANCE

M

+ MYCORRHIZAE

PTB297 Technology, *Glomus intraradices*

Mycorrhizae are beneficial associations between a mycorrhizal fungus and roots. Mycorrhizal spores germinate in the growing medium and produce filaments (hyphae) which will enter into root cells. This association allows 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
- ✓ REDUCE TRANSPLANT SHOCK

+ BIOFUNGICIDE™ MYCORRHIZAE™



The use of fertilizer and water. Increase resistance to stresses. Improve plant strength and productivity. Optimize plant growth rate and uniformity.



By reducing incidence of plant root diseases (*Fusarium*, *Pythium* and *Rhizoctonia*) and risk of pathogens that develop resistance to chemical fungicides.



Certain insects, including fungus gnats and thrips that pupate into the growing media, by suppressing their food sources and plant susceptibility.

Exclusive to US, PRO-MIX® BIOFUNGICIDE™ + MYCORRHIZAE™, ENHANCE plant growth with MYCORRHIZAE™, PROTECT against root diseases caused by specific root pathogens, and also SUPPRESS fungus gnats and thrips. (EPA Reg #: 74267-4)
Product availability may vary depending on the US region.



PT Growers and Consumers

World Headquarters
1, avenue Premier
Campus Premier Tech
Rivière-du-Loup (Québec)
G5R 6C1 CANADA
Fax: 418 862-6642

Regional Office
200 Kelly Rd, Unit E-1
Quakertown, PA 18951
Tel.: 1 800 525-2553
Fax: 215 529-1288



PTHORTICULTURE.COM

CUSTOMER SERVICE: 1 800 667-5366
GROWER SERVICES: 1 800 424-2554
services@pthorticulture.com

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