

BIO-SYNERGY...

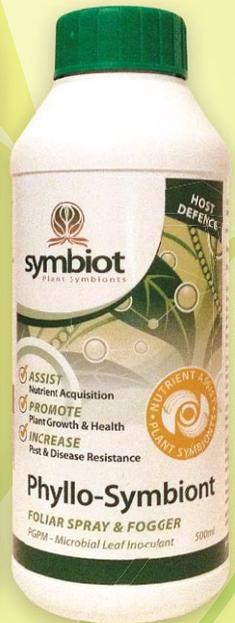
Realise an **unprecedented level** of genetic potential, plant quality and yield!



1 **ROOT CONDITIONER**
Mycorrhizal Root Inoculant



2 **NUTRIENT ENHANCER**
Microbial Nutrient Additive



3 **FOLIAR SPRAY**
Microbial Leaf Inoculant

Utilise the latest scientifically proven advancements in Plant Growth Promoting biotechnologies.

 symbiot.com.au


symbiot
Plant Symbionts

Myco-Symbiont

HOST
DEFENCE

ROOT CONDITIONER VAM - Mycorrhizal Root Inoculant

STEP
1

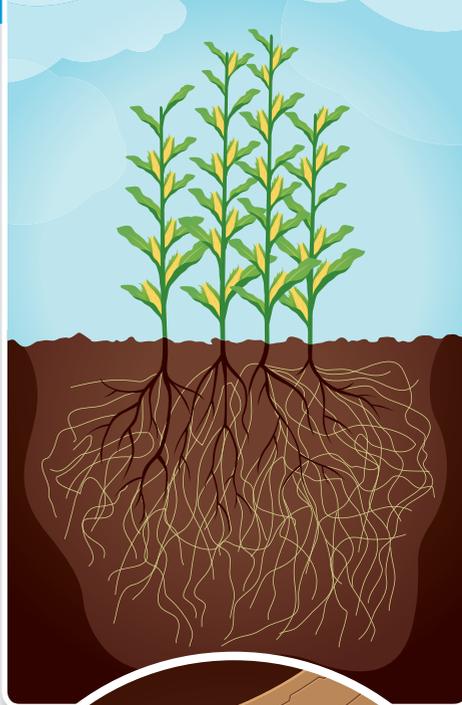
ROOT CONDITIONER

Mycorrhizal Root Inoculant

NON-INOCULATED

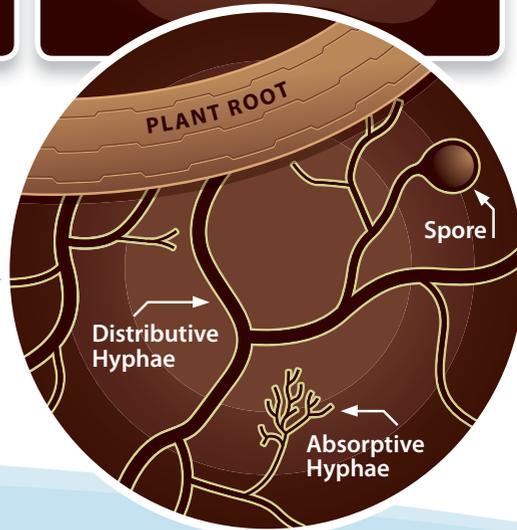


INOCULATED



(ABOVE)
Myco-Symbiont inoculated rhizosphere on right as compared to non-inoculated on the left.

(RIGHT)
Close-up illustrates fungal hyphae.



Use separately or **MAXIMISE** growth results by using Myco-Rhizo-Phyllo as a 1-2-3 combination in conjunction with your existing nutrient regime.



- ✓ **ASSIST** Nutrient Acquisition
- ✓ **PROMOTE** Root Growth & Health
- ✓ **INCREASE** Pest & Disease Resistance



When it comes to plant growth, Symbiot believes that nature knows best. We believe producing healthier consumable produce without reliance on heavy nutrient and chemical applications is what it's all about.

Myco-Symbiont is a revolutionary biological plant media and nutrient additive that contains a select formulation of VAM - Vesicular Arbuscular Mycorrhizal fungi, PGPR - Plant Growth Promoting Rhizobacteria and MHB - Mycorrhizal Helper Bacteria.

VAM fungi, commonly referred to as *endomycorrhizae*, are root inhabiting fungi that form a symbiotic relationship with the roots of plants. They colonise the plants' roots extending their nutrient transporting hyphae far beyond the nutrient depleted zone immediately surrounding growing feeder roots, and greatly increase the host plants ability to acquire nutrients such as N-Nitrogen, P-Phosphorus and K-Potassium.

PGPR inhabit the roots and rhizosphere of plants and influence plant health and productivity by a variety of mechanisms that involve solubilisation and acquisition of mineral nutrients, stimulation of root growth and suppression of disease carrying organisms.

MHB consist of two different overlapping groups of bacteria that firstly promote mycorrhizal formation and secondly interact positively with the functioning of established mycorrhizae.

Symbiot's **HOST DEFENCE** inoculations also contain numerous pest and disease preventing micro-organisms that perform defence jobs for their hosts that cannot be performed by the plants themselves.

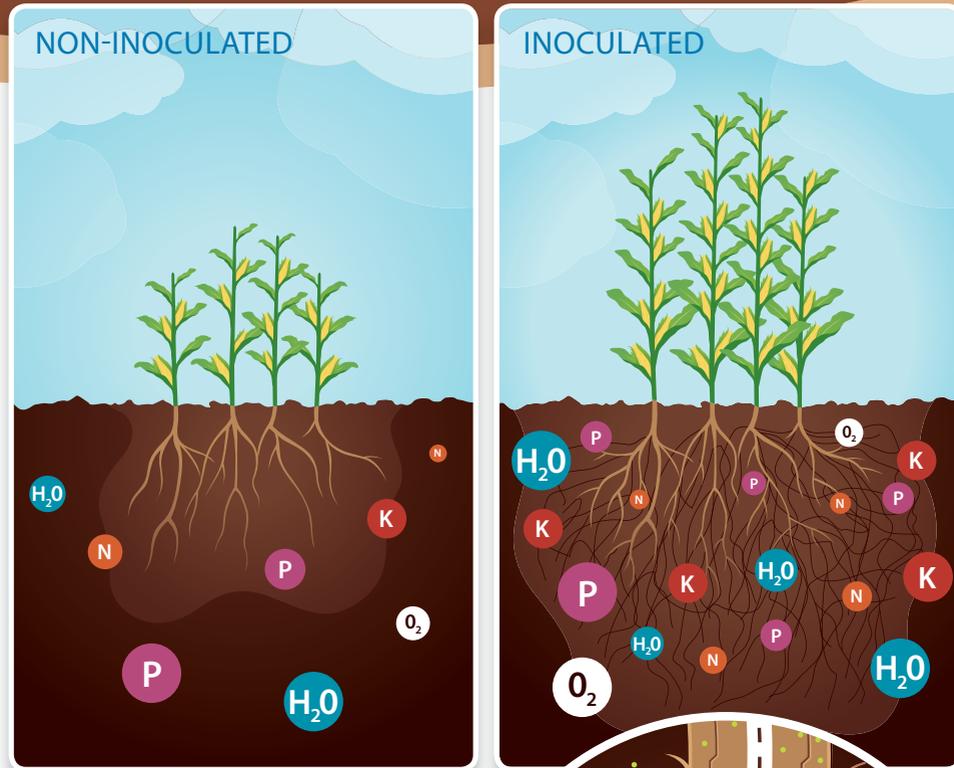
Rhizo-Symbiont

NUTRIENT ENHANCER PGPR - Microbial Nutrient Additive

STEP
2

NUTRIENT ENHANCER

Microbial Nutrient Additive



(ABOVE)

Rhizo-Symbiont inoculated rhizosphere on right as compared to non-inoculated on the left.

(RIGHT)

Close-up illustrates right half of root system with colonies of endophytic micro-organisms and PGPR living on and within the roots and rhizosphere.

Use separately or **MAXIMISE** growth results by using Myco-Rhizo-Phyllo as a 1-2-3 combination in conjunction with your existing nutrient regime.



- ✓ **ASSIST**
Nutrient Acquisition
- ✓ **PROMOTE**
Plant Growth & Health
- ✓ **INCREASE**
Nutrient Efficiency



river
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product



environmentally
responsible
product

The rhizosphere is an inter-kingdom crossroads between plants and micro-organisms that have co-evolved in a synergistic, mutuality of symbioses for hundreds of millions of years.

Rhizo-Symbiont contains a select formulation of synergistic plant symbionts or PGPR - Plant Growth Promoting Rhizobacteria, including endophytic, rhizospheric and free living soil micro-organisms.

They provide an incredible range of microbial diversity to the plants' roots and rhizosphere (region immediately surrounding and influenced by the roots of a plant) resulting in healthier, vigorous, fast growing plants.

PGPR inhabit the roots and rhizosphere of plants and influence plant health and productivity by a variety of mechanisms that involve solubilisation and acquisition of mineral nutrients, stimulation of root growth and suppression of disease carrying organisms.

They have also been shown to considerably enhance mycorrhizal colonisation.

Endophytic micro-organisms inhabit the interior of plants and are extremely important to host protection against insect attacks and in the control of plant diseases.

Free-living soil micro-organisms inhabit the rhizosphere of plants though do not require a host plant for survival. They are involved in atmospheric nitrogen fixation, nutrient cycling and mineral solubilisation. They also influence the symbioses between plants and micro-organisms, thereby stimulating plant growth indirectly.

Phyllo-Symbiont

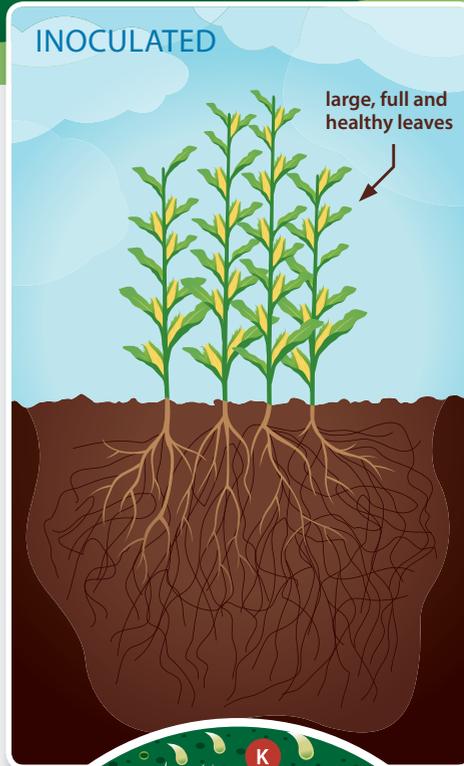
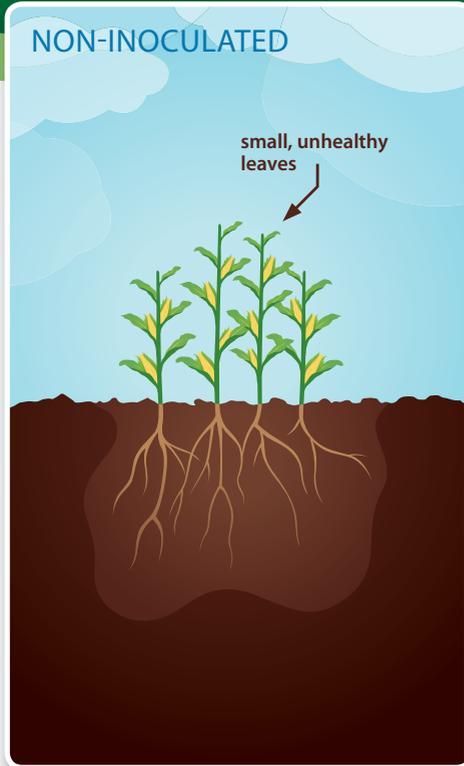
HOST
DEFENCE

FOLIAR SPRAY & FOGGER PGPM - Microbial Leaf Inoculant

STEP
3

FOLIAR SPRAY

Microbial Leaf Inoculant

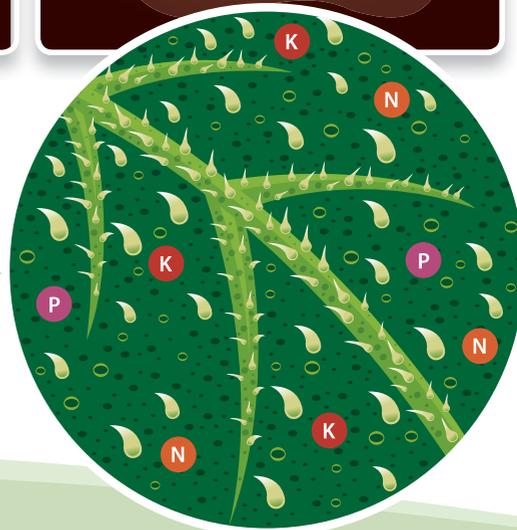


(ABOVE)

Phyllo-Symbiont inoculated phyllosphere on right as compared to non-inoculated on the left.

(RIGHT)

Close-up illustrates phyllospheric micro-organisms on leaf surface.



Use separately or **MAXIMISE** growth results by using Myco-Rhizo-Phyllo as a 1-2-3 combination in conjunction with your existing nutrient regime.



- ✓ **ASSIST** Nutrient Acquisition
- ✓ **PROMOTE** Plant Growth & Health
- ✓ **INCREASE** Pest & Disease Resistance



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Our select microbial formulations help create a balance between biological and mineral plant production, enabling discerning growers to utilise the latest scientifically proven advancements in Plant Growth Promoting biotechnologies.

Phyllo-Symbiont is an incredibly diverse microbial leaf inoculant containing phyllospheric and endophytic micro-organisms. They will restore the symbiotic life to your plants' phylloplane (leaf surface area), resulting in healthier, vigorous fast growing plants.

These plant symbionts perform an incredibly diverse range of essential jobs for their plant hosts that can benefit plant growth by many different mechanisms, that include atmospheric nitrogen fixation, production of plant growth promoting substances and stimulation of plants enhanced innate defensive capacity.

Symbiot's **HOST DEFENCE** inoculations also contain numerous pest and disease preventing micro-organisms that perform defence jobs for their hosts that cannot be performed by the plants themselves.

This provides the host plants with an increased protection and ability to adapt to their surrounding environment, enabling constantly changing conditions to continue supporting optimum health and growth, as compared to non-inoculated plants.

Symbiot products enable discerning growers to produce the healthiest and highest possible quality consumable hydroponic produce.

Our biological inoculations allow you to re-introduce nature's essential age old symbiotic plant / microbial associations to your favorite plants in their inert hydroponic growing environment. They provide an incredibly diverse living barrier or (bio-film) of synergistic life in the form of Plant Growth Promoting Micro-organisms for the whole plant that will seriously increase the performance of your regular nutrient regime, while protecting and feeding your plants at the same time. The result is healthy, vigorous, fast growing and high yielding plants.

The microbial formulations in Symbiot's range can reduce the need for high levels of salt-based mineral nutrients and chemical applications in horticultural and agricultural crops.

Help take the pressure off our natural systems by using natural or non-toxic products and plant production techniques.

For best results Myco-Rhizo-Phyllo should be used as a 1-2-3 combination to complement and assist your complete hydroponic nutrient regime.



Part proceeds of 50c per product sold go towards **Carbon Neutral**



Eichense & Dahlman (1992): The presence of endophytic microorganisms in plants may be of extreme importance to host protection against insect attacks and, in the control of plant diseases, caused by bacteria and fungi.

Siddiqui (2002): Application of PGPR formulations with strain mixtures perform better than individual strains for the management of pest and diseases of crop plants, in addition to plant growth promotion.

Bhowmilk & Singh (2004) demonstrate that plant growth promoting rhizo-bacteria considerably enhanced mycorrhizal colonisation. They not only stimulated VAM development but also accelerated root growth.

Martinez-Viveros et al (2010): To be effective, PGPR must maintain a critical population density of active cells.

Lucy et al (2004): Plant Growth Promoting Bacteria has diverse applications for the management of plant diseases in agriculture, horticulture and forestry. In addition it also plays a vital role in environmental remediation.

Central Institute of Medicinal and Aromatic Plants, Lucknow (India): VAM inoculation significantly increased the root colonisation, plant height, fresh herbage and dry matter yield as compared to non-inoculated cultivars.

Central Institute of Medicinal and Aromatic Plants, Lucknow (India): VAM inoculation significantly increased the uptake of N - Nitrogen, P - Phosphorus and K - Potassium, but most markedly the uptake of P - Phosphorus.

FOR MORE INFORMATION

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