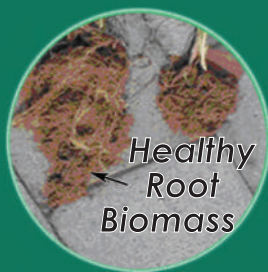




Beneficial
Bacteria



Healthy
Root
Biomass



Beneficial
Fungi

TROFORTE[®] MMM

Microbes - Minerals - Mulch

“Biologically Coated Slow & Controlled Release Fertilisers”



LANGLEY FERTILIZERS



Troforte® - MMM (Biological recipe for Plant Success)

Triple M concept essentially underpins the importance of natural balance of Mineral, Microbes and Mulch (organic matters) in the soil and their role while working with minimum required chemical fertilisers in Slow/Controlled Release form.

Langley's Troforte® MMM is a relatively new approach to the cultivation of virtually all plants in that we emphasize on use of proven biological coating on specifically engineered mineral base containing up to 60 natural minerals, together with various forms of natural and chemical Slow/Controlled release fertilisers. These in turn maintain optimal nutrient availability to feed the crop as required and most efficient use of fertilisers.

Biological coating on specifically designed and engineered mineral base contains combination of Australian cultured beneficial (probiotics) microorganisms that allow bacteria to interact synergistically, providing bio available mineral nutrients through microbial activities on the "natural" ores, removing growth inhibitory substances from soils, and stimulating biochemical activities that enhance overall plant physiology like nitrogen fixation and plant growth.

Well designed and engineered mineral support provides a more suitable microenvironment temporarily at the time of application to facilitate competitive environment to beneficial microbes for better adaptability to native micro flora and for their rapid growth. This is an utmost need, so that microbes can find a niche in the soil for survival except in sterilized soil, a condition which does not exist in heterogeneous and unpredictable environment.

Indiscriminate and intensive practices in the nurseries heavily cropped and fumigated fields, the golf courses, land reclamation sites or the urban development rely on heavy applications of chemical fertiliser, fungicide, pesticide and water. The same growth principles apply for plants used for food, ornamental, forestry, and landscape or amenity sports turf.

High analysis of chemical fertiliser applied to soils leads to soft growth and fungal disease, fungicide is applied, and the natural beneficial microbes that recycle nutrient are destroyed so more fertiliser is used and the circle repeats itself.

At Langley Fertilizers, our Research and development programme in close cooperation with various research institutions and through strategic alliances ensures that product range is ready for now and for the future when profitable plant/crop production and landscaping will go hand in hand with environmental responsibility. This essentially addresses major nutritional and environmental issues such as leaching of phosphorous and nitrates into our water ways, chemical contaminations, reduction in usage of pesticides and herbicides etc, as well as economic considerations, as our aim is to give innovative and cost effective products to growers at less environmental cost.

Why Troforte® - MMM approach?

The simple answer is that plants grown with the help of the soil microorganisms found in their natural growing environment are stronger, healthier, require less chemical maintenance and provide better flowers, fruit and crops.

Modern growing techniques including using sterile growing media, sterilised or overworked chemically depleted fields, landscaping on marginal soils or sandy golf greens, rely heavily on chemical fertiliser and fungicide use to get plants to grow.

Unlike with other "fertilisers", our Troforte® MMM encompasses microbial- based biological approach, which is designed to enhance plant nutrition through beneficial soil biology. As this process increases, the beneficial microbes and Mycorrhizal hyphae grow throughout the soil, mobilizing and recovering minerals and nutrients, ultimately softening and aerating the soil. At the same time hydrophobic areas and compacted soils are penetrated. Earthworm populations begin returning and assist in aeration, which assists additional and deeper water penetration, and organic recycling. Our biological approach also helps prevent fungal diseases using a specifically selected suite of beneficial soil microbes.

Various studies and field trials show that Troforte® MMM range of products allow plants to flourish as nature intended, with less chemical input.

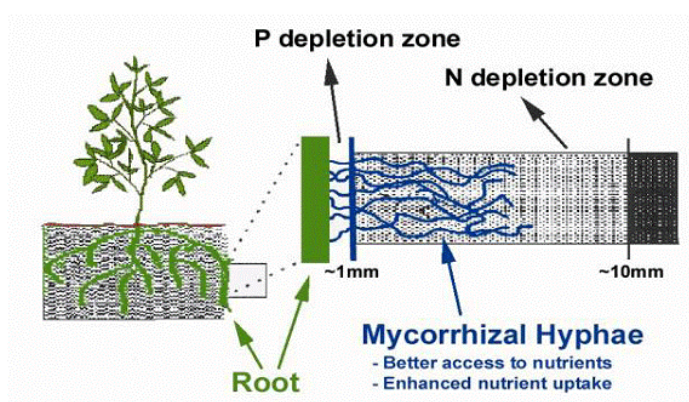
Target Mechanism and commercial benefits for Growers

The products in the Troforte® MMM range contains a scientifically balanced blend of up to 24 strains of beneficial well researched and trialed soil microbes which include bacteria, fungi and algae to carry out wide range of activities within the soil such as Nitrogen fixing, Nutrients building, producing growth hormones, decomposing organic matter to organic carbon, protecting beneficial bacteria by releasing antibiotics that can assist in inhibiting disease producing microbes like root rot, fungi and pythium as well as conditioning of soils by improving soil structure. Some of strains included are Azobacter, Azospirillum, Bacilli, Cellulosic fungi, Myxobacteria, Phosphobacteria, Pseudomonas, Rhizobium, Streptomyces, Saccharomyces, Trichoderma, VAM and Yarrowia.

Certain species of bacteria fix nitrogen in the root nodules of legumes while other can fix nitrogen independently of plant association. Some bacterial species break down soil minerals and release potassium, phosphorus, magnesium, calcium and iron to make them plant available and other species make and release natural plant growth hormones like auxins, gibberellins and cytokines.

For example, Biological nitrogen fixation through Azospirillum is the enzymatic conversion of atmospheric nitrogen gas to ammonia which plant can use for growth. Plants need a large amount of nitrogen for growth and atmosphere comprises of 70 to 80% of nitrogen. However, plants are unable to reduce nitrogen gas from atmosphere to ammonia themselves. That is why, Troforte® MMM range of products are low analysis NPK fertilisers but more efficient, environmental friendly and economical than high analysis chemical fertilisers. Some of their commercial benefits include:

- ✓ Cost effective
- ✓ Increased productivity and yield
- ✓ Increased crop uniformity
- ✓ Increased Shelf life of the crops
- ✓ Reduced time to market
- ✓ Reduced transplant losses
- ✓ Reduced fertiliser and fungicide applications
- ✓ Increased disease resistance and drought tolerance
- ✓ Improved crop marketability
- ✓ Accelerated growth rates
- ✓ Accelerated budding and flowering
- ✓ Gradual improvement of soil health

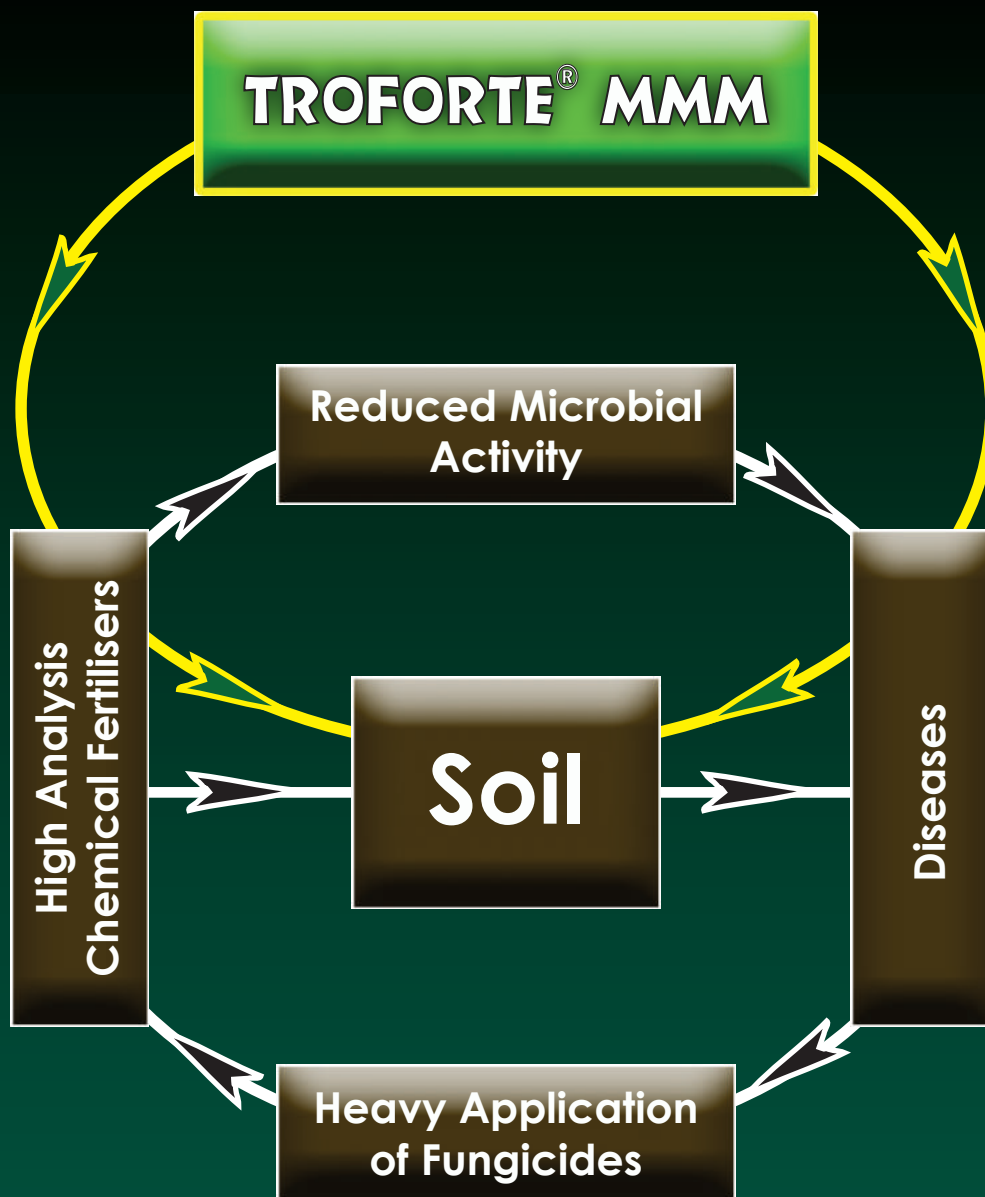


Troforte®- MMM product range

Langley Fertilizers has developed various formulations in Troforte® - MMM range in an easy -to-use powder, mini prill, granular and tablet forms and in various sizes to suit the various applications. The products in Troforte® - MMM range contains:

Troforte M	Powder	Mini Prill	Granular	Tablet	Available in:	
					Bulk	Retail
Complete - Pro *NEW		15 3 9 + TE			20kg	
Fert-O-Hort		15 1 5 + TE			20kg	10kg
Fert-O-Lawn		18 1 4 + TE			20kg	10kg
Fert-O-Turf		20 1 1 + TE			20kg	
Fruit & Citrus			12 2 8 + TE			3.5kg
General Purpose			14 2 4 + TE	10 3 5 + TE	20kg	10 kg 3.5kg
High "K"			5 3 8 + TE	10 2 7 + TE	20kg	
High "P"			10 6 3 + TE		20kg	
Native			14 1 4 + TE	10 1 6 + TE	20kg	
Rejuven8tor		15 1 5 + TE				3.5kg
Rose, Azaleas & Camellias			10 2 9 + TE			3.5kg
Trace Elements	0 1 0.6 + TE			0 1 0.6 + TE	20kg 10kg	
Vegetable & Herbs			14 2 6 + TE			3.5kg

The above mentioned fertilisers are available in various longevities



Let the Biology work through **TROFORTE® MMM** and break the cycle

"High analysis of chemical fertiliser applied to soils leads to soft growth and fungal disease, fungicide applied, and the natural beneficial microbes that recycle nutrient are destroyed so more fertiliser is used and the circle repeats itself."

LANGLEY FERTILIZERS

(Fertiliser Division of Sunpalm Australia)

www.langleyfertilizers.com.au

PREMIUM PLASTICS

(Plastics Division of Sunpalm Australia)

www.premiumplastics.com.au

P: +61 (0)8 9302 1633

F: +61 (0)8 9302 1644

E: info@sunpalmaustralia.com.au

www.sunpalmaustralia.com.au

36 Paramount Drive, Wangara,
Western Australia 6065



LANGLEY FERTILIZERS

