



(For pricing see page 2 below)

## Product Description

**WMF Soil Microbes** are ENVIRONMENTALLY-FRIENDLY, EASY & SAFE TO USE. They are a combination of Australian cultured BENEFICIAL soil bacteria and fungal micro-organisms. There are several blends available, including: “Agriculture”, “Horticulture”, “Lupin Inoculant”, “Post-Lupin/Canola”, “VAM Plus” and “*Trichoderma Plus*” (see also [WMF Microbe Product Selection Table](#)) - specially selected for their use in soil restoration & better nutrient release, while helping with soil health. Each blend is a special combination of beneficial microbes (including various strains of *Azospirillum*, *Azotobacter*, *Bacilli*, *Cellulosic fungi*, *Myxobacteria*, *Phosphobacteria*, *Pseudomonas*, *Rhizobium*, *Streptomyces*, *Saccharomyces*, *Trichoderma*, *VA Mycorrhiza* & *Yarrowia*).

Western Australian glasshouse and field trials show **WMF Soil Microbes** are highly effective (see [www.wmf1.com](http://www.wmf1.com)). The Microbe products come in a powdered form and when stored correctly have an exceptional shelf life.

Soil microbes, which include bacteria, fungi and algae, carry out a wide range of activity within the soil such as:

- **Nitrogen Fixers**, which include bacteria that convert nitrogen from organic matter and ones that fix atmosphere nitrogen.
- **Nutrient Builders**, Microbes that convert phosphorus, potassium, magnesium, calcium and trace elements into a plant available form.
- **Growth Hormones**, Produce natural plant stimulants like, indole-acetic acid, amino acid, Gibberellic acid and vitamins as a metabolic by product. All necessary for plant growth and vigour.
- **Decomposers**, The converters of organic matter to organic carbon and converting crop residue into plant available nutrient.
- **Protecting Bacteria**, Organism that release antibiotics that inhibit disease producing microbes like, root rot, fungi and pythium.
- **Soil Conditioners**, algae that secrete a polysaccharide by product that form soil aggregates, which play an important role in soil structure.

## Modes of Action

Beneficial micro-organisms form a vital part in the world's cyclic food chain. When organic matter dies and decomposes, bacteria and fungi metabolise the highly complex organic molecules into simple bio-available nutrients – which can then be utilized as food by earthworms and plants. Some bacterial species release nitrogen, sulphur, phosphorus, and trace elements from organic matter. Others break down soil minerals and release potassium, phosphorus, magnesium, calcium and iron. Still other species make and release natural plant growth hormones, which stimulate root growth. A few species of bacteria fix nitrogen in the root nodules of legumes while others can fix nitrogen independently of plant association. Bacteria are also responsible for converting nitrogen from ammonium to nitrate and back again depending on certain soil conditions. Other benefits to plants provided by various species of bacteria include increasing the solubility of nutrients, improving soil structure, fighting root diseases, and detoxifying soil.

**Mineral imbalances and deficiencies in our soil lead to poor viability (both from plant nutrition and stock points of view, as well as from an economic one). The first step to correcting these soil imbalances is to input a broad spectrum of fundamental minerals via natural-ore, silicate-based mineral fertilisers. Beneficial microbes can then mobilize the essential fundamental minerals and create and maintain excellent soil structure and humus content – all contributing to a balanced healthy micro-environment, and an ecologically sustainable soil system working to the benefit of plant production.**

Synthetic chemical fertilisers do little to build soil health and quality. They simply provide plants with an instant fix of growth elements. Most beneficial microbes and earthworms are very susceptible to concentrated toxic chemicals (most pesticides, insecticides, fungicides and herbicides). Many believe that by simply adding water soluble inorganic fertilisers (NPK) to their soils they are “feeding their plants”. In reality, if there are quantities of organic matter in the soil, approximately 80-90% of the inorganic fertilisers are taken up into the life cycles of certain *opportunistic* microbes – this can lead to an overgrowth of these microbes; to the detriment of other *beneficial* soil micro-organisms. Eventually, these *opportunistic* microbes die and then the inorganic nutrients are released into the soil in a bio-available form to be taken up by plant roots.

Although plants essentially require nitrogen, potassium, and phosphorus (NPK), they also require many other trace nutrients, minerals, hormones etc readily available in healthy living soils full of *beneficial* microbes. **The goal is to restore and / or maintain healthy soil – by stimulating beneficial soil biology and providing plants with all the nutrients and growth factors required to be healthy.**



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## WMF Agriculture Blend Soil Microbes

Container Size	Price Per Kg	Price Per Container	Total incl. GST
1 kg	\$96.00	\$ 96.00	\$105.60
5 kg	\$92.00	\$460.00	\$506.00
10 kg	\$88.00	\$880.00	\$968.00

For broad acre cropping and pasture with 25 strains of Microbes including WA Mycorrhiza and VAM.

**Application:** Applied as a seed/fertiliser dressing at 500 – 750 grams/Tonne or Foliar at 100 – 150 grams/ha.

## WMF Horticulture Blend Soil Microbes

Container Size	Price Per Kg	Price Per Container	Total incl. GST
1 kg	\$107.00	\$107.00	\$ 117.70
5 kg	\$103.00	\$515.00	\$ 566.50
10kg	\$ 99.00	\$990.00	\$1089.00

For Horticulture and Viticulture applications and high Fungi load in cropping situations like Barley with 30 Microbe strains including 2x Trichoderma and higher concentrations of WA Mycorrhiza, VAM.

**Application:** Can be applied as a seed/fertiliser dressing at 500 – 750 grams/Tonne or Foliar at 150 grams/ha.

## WMF VAM Plus Blend Soil Microbes

Container Size	Price Per Kg	Price Per Container	Total incl. GST
1 kg	\$107.00	\$107.00	\$ 117.70
5 kg	\$103.00	\$515.00	\$ 566.50
10kg	\$ 99.00	\$990.00	\$1089.00

For broad acre, horticulture and nurseries with higher Mycorrhiza dependant crops and depleted soils.

25 Microbe strains with high concentrations of WA Mycorrhiza and VAM with support bacteria.

**Application:** Applied as a seed/fertiliser dressing at 500 – 700 grams/Tonne or folia at 150 - 200grams/ha.

## WMF Trichoderma Plus Blend Soil Microbes

Container Size	Price Per Kg	Price Per Container	Total incl. GST
1 kg	\$135.00	\$ 135.00	\$ 148.50
5 kg	\$131.00	\$ 655.00	\$ 720.50
10kg	\$127.00	\$1270.00	\$1397.00

For Horticulture and Viticulture to assist in the control of Fungal Pathogens.

12 Microbe strains with high concentrations of 2x Trichoderma species and support bacteria.

**Application:** Applied as a seed dressing at 600 – 750 grams/Tonne or foliar at 150 - 200 grams/ha.

## WMF Post Lupin/Canola Blend Soil Microbes

Container Size	Price Per Kg	Price Per Container	Total incl. GST
1 kg	\$107.00	\$107.00	\$ 117.70
5 kg	\$103.00	\$515.00	\$ 566.50
10kg	\$ 99.00	\$990.00	\$1089.00

For use on Mycorrhiza dependent crops (cereals), after Canola (Brassica Family), Lupins or long drought periods.

30 Microbe strains with high concentrations of Mycorrhiza and specialised support bacteria.

**Application:** Applied as a seed/fertiliser dressing at 500 – 750 grams/Tonne or foliar at min. 150 grams/ha.

## EAZYRHIZ Freeze-dried Soluble Grain Legume Inoculant

Treat 1 Tonne of Seed	Includes Rhizobium and Protector	Total/tonne seed	Total including GST
		\$58.00	\$63.80

Long Storage Life, Legume Inoculant for **LUPINS, FABER BEANS, CHICK PEAS AND PEAS** with outstanding Nodulation results. Can be used as a seed coat or Liquid Injection.

## WMF MICRO-STIX2 Microbial Sticking Polymer

Container Size	Price Per Litre	Price Per Container	Total incl. GST
4 ltr	\$5.90	\$ 23.60	\$ 25.96
20ltr	\$5.70	\$114.00	\$ 125.40
200ltr	\$5.40	\$1,080.00	\$1,188.00

Micro-STIX2 is an organic polymer used for mixing WMF Soil Microbe Products for coating seed and fertiliser. The polymer coats the Microbes onto the seed or fertiliser\* in a protective coating where the Microbes remain in an inactive state until in contact with adequate soil moisture. Used in dry seeding conditions and extends the shelf life of coated products. \* Not for acidic fertilisers. \*\* Store and use above 15°C.