

Innovation. Quality. Solutions.

MICROSTAR PMX

PRECISION STARTER FERTILISER

Innovation in Phosphorus Fertilisation

High Quality Placement/Starter Fertiliser

Containing N, soluble P and micronutrients

- **Microstar® PMX is applied at sowing, in contact with crop seeds**
- **Microstar PMX contributes to faster crop emergence in a wide range of crops**

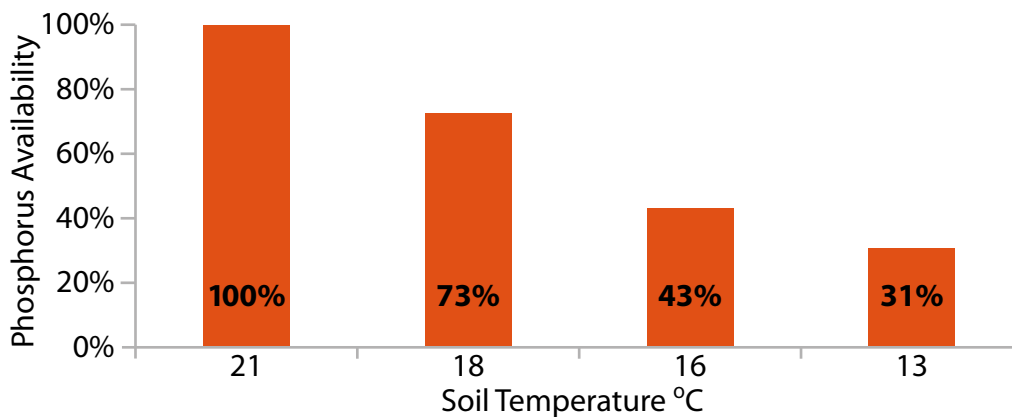
Phosphorus and Bioavailability

Many studies show that the actual use coefficient of fertilisers generally varies between 5 and 20% for phosphorus.

Why Apply Localised Phosphorus?

Even for a soil with high phosphorus reserves, many variables have a negative bearing on the availability of soil phosphorus to the plants:

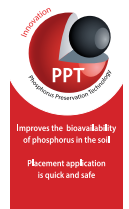
- **pH:** P is best available between soil pH of 5.8 to 7



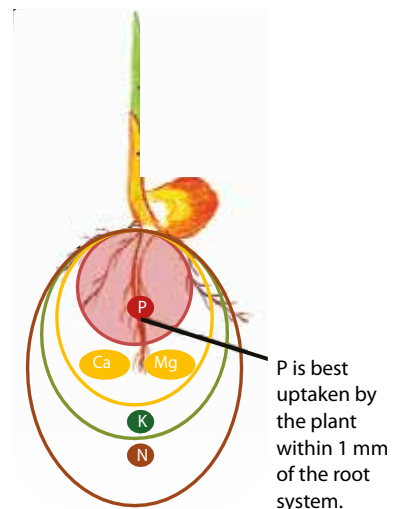
A drop in soil temperature from 21°C to 13°C reduces the availability of phosphorus by 70%. The development of the root system is also slowed down.



PMX Analysis:
Nitrogen (N): 10%
Phosphorus (P): 17.4%
Magnesium (Mg) : 1.8 %
Sulphur (S): 4.4%
Micronutrients (B, Cu, Fe, Mn, Mo, Zn)



- **temperature:** low and extreme temperature limits P availability and root growth (see graph below)
- **distance from root zone:** maximum benefit of P is when it is applied closest to the seed (see diagram below)



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How can Available Phosphorus be Applied Effectively?

Microstar PMX is applied at the same time as sowing, localised in the furrow and in contact with the seed. This placement is essential to cover the immediate needs of the seedlings and help to secure the crop potential.

Microstar PMX is a microgranule formulation containing 97.5% water-soluble P (plus B, Cu, Fe, Mn, Mo, Zn).

Microstar PMX is Used Efficiently

	APPLICATION RATES	UNITS APPLIED (P)	UNITS EFFECTIVE
Microstar PMX	30 kg/ha	5.2 units	5.2 units
DAP (P 20%)	175 kg/ha	35 units	5.2 units*

1. Microgranules
Larger surface area for nutrient exchange
2. Granules applied closer to the seed
P can be directly assimilated
3. High number of contact points
Ensures roots and microgranules are in close proximity

The placement application creates a 'fertility sphere' around the seed by multiplying the contact points and maximising the transfer of nutrients to the plant.

How to Apply Microstar PMX

Microstar PMX is designed to be applied during sowing, in contact with the seed. It is best applied with microgranule applicators but can also be mixed with seeds (e.g. poppy, onion, canola, brassica, clover, ryegrass etc.)

Placement Application at Sowing or Planting

MAIN CROPS	RATE (KG/HA)	TIMING OF APPLICATION
Poppy and vegetables	30 to 60	Placement application at sowing with microgranule equipment or mixed with seeds (conventional drills). When mixing with seeds, thoroughly mix the microgranules with the seeds. Ensure constant mixing to retain a uniform mix.
Other crops that are direct seeded	20 to 60	

Refer to your agronomy advisor for suitable rates for your situation



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A Grower's Perspective

Microstar PMX offers a great start to emerging seed crops

Tasmanian poppy grower, George Griffin became convinced of the merits of Microstar a few years ago when his agronomist suggested he sow half a field with Microstar and half with no Microstar.

"Visually there was a stark difference in root development in the Microstar half, with the root's structure looking 30% to 40% healthier than those from the traditional side," George said.

"In my opinion, Microstar is ideally designed for small seed crops that need a helping hand in the first 6 to 8 weeks of their life."

Today, George firmly believes that "...using Microstar is like buying insurance, you don't know when something is going to hit you (like bad weather or disease), but Microstar is your insurance policy".

"If the plants have an advanced root system and stress conditions occur, such as adverse weather during the growing season, the plant is much better equipped to come through the stress without loss of quality (yield, alkaloid etc...)," he added.

"I use Microstar in my poppy nutrition program as it provides the emerging plants with a great start."

"I also find I get stronger plants with no purple struggling weak plants (purple is a sign of phosphate deficiency) which is a common sight when young plants are searching for nutrition."

"Traditional fertiliser is sown away from the seed, but Microstar is sown direct with the seed allowing the plants to form a much more even and stronger developed root system."

George's property is located on the north-west coast of Tasmania on luscious, good draining volcanic red soil. He also grows many other crops in rotation with the poppies, such as onions, flower bulbs, pyrethrum and potatoes. Currently he only uses Microstar on the poppy crop but is looking at trialing it with his onions.

The poppy crop is managed on a 4 year rotation, with this year's crop being 25 ha. The sowing program starts in mid-September with an initial soil test, followed by the pre-spreading of a single superphosphate. Microstar is

then direct drilled with the seed using an air seeder at a rate of 30 kg/ha and potash.

According to George, Microstar's point-of-difference from traditional fertilisers is that it is direct drilled with the seed.

"It really does help plants get a good start on life in the first 6 to 8 weeks and only needs to be applied once," he added.

"Microstar also sets the plants up with a strong root system that can then efficiently utilise the base fertiliser. "Irrigation is by hard hose, as the farm does not lend itself to centre pivots."

Approximately 8 weeks after sowing the herbicide program is finished and the fungicide program starts. At this point a soil nitrogen test is taken, which determines when additional top dressing nitrogen is applied, normally as the plants are running-up.

Foliar fertiliser is also used when needed at the same time as fungicides are applied. Fungicides stop around mid-flowering.

For George, the future is using Microstar when sowing his poppy crop as it helps to produce a plant "...that is the healthiest it can possibly be".



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Conventional fertiliser

applied away from the seed in soil or on soil surface

The Nutrients are distributed throughout the soil profile but not in close contact with the seed.

Use coefficient – 15%

Use coefficient
15%



MICROSTAR PMX

Precision application in the furrow and in contact with the root system. The nutrients are rapidly available to the plant.

Use coefficient - 100%

Use coefficient
100%

Between 14 to 50 times more granules per linear metre

A High-Performance Precision Starter Fertiliser

- High number of contact points close to the seed
- High use coefficient – 100% assimilable phosphorus with 'PPT' technology
- Contributes to a more even crop emergence
- Also contains 10% N
- Increases vegetative development
- Provides essential micronutrients B, Cu, Fe, Mn, Mo and Zn and maximising the transfer of nutrients to the plant

A Cost-Effective, Easy-to-Use Precision Starter Fertiliser

- Low application rate per hectare
- Reduces application time, labour, energy costs (fuel savings and equipment wear)

An Environmentally-Friendly Precision Starter Fertiliser

- Low application rate per hectare
- High use coefficient of P and N
- Safe to the crop
- Placement applications are soft on the crop and the environment

Trial Results: Maize



Control (Conventional Fertiliser)



Microstar PMX



Microstar PMX Granules

The information provided herein may include extracts from the product label and does not constitute the complete directions for use.

READ THE PRODUCT LABEL THOROUGHLY BEFORE OPENING OR USING MICROSTAR

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