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fluid focus
product information
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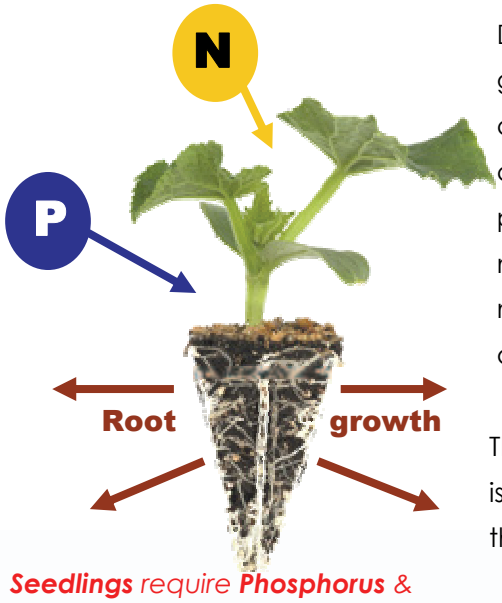
Avoid P lock up and free insoluble trace elements

Do you have highly alkaline soils? Is P lock up a problem in your soils? Do you want a more residual phosphorus fertiliser? Are trace elements not plant available in your soils? Do you have difficulty establishing vigorous growth and root establishment in your seedlings after transplanting?

Polyphos is an ammonium polyphosphate solution which contains phosphorus in the form of polyphosphate and nitrogen in the form of ammonium. Polyphosphates are long chain phosphate polymers that provide a slow release source of phosphorus to maintain even growth. This unique polymer characteristic ensures phosphorus remains readily available in all conditions including highly alkaline soils. The unique polymers also give Polyphos the ability to sequester and free insoluble trace elements.

Phosphorus	**20%**
Nitrogen	**13%**

Plants need **phosphorus** at all growth stages, particularly in early growth stages as it is necessary for cell division and growth within the plant. Although mobile within the plant, it is relatively immobile in soil. **Nitrogen** is an essential element in all living systems. Shortages of nitrogen decrease the plants ability to carry out their basic function of trapping energy and play a significant role in determining yield and quality.



***Seedlings** require **Phosphorus** & **Nitrogen** when transplanted for strong active root growth to break through the plug and establish in the soil*

Why Polyphosphate and Ammonia?

During the production of ammonium polyphosphate, extreme temperatures generated from the reaction, force water out of the structure forming polymer chains between phosphate molecules called **polyphosphates**. These polymer chains vary in size, giving the effect of a slow release phosphorus source. The polymer characteristic of Polyphos allows it to form stable compounds with metal micronutrients, known as "*sequestering nutrients*". This means that micronutrients in the soil will be significantly more soluble when Polyphos is applied to the soil than other phosphate fertilisers.

The **ammonium** in Polyphos is used by the plant as a source of nitrogen after it is converted through a process called nitrification. The process helps to acidify the root zone, which in turn helps release phosphorus in highly alkaline soils.

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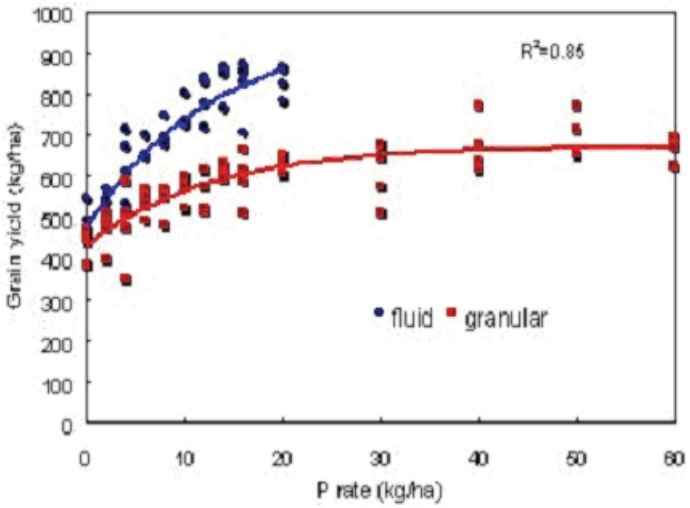
Phosphorus Lock Up in Alkaline Soils of Australia

Highly alkaline soils are called Calcarosols or **Calcareous** soils; they are widespread across lower rainfall regions of WA, SA, NT and western NSW. Due to the high alkalinity of these soils they have very low phosphorus availability and can lock up some phosphorus fertilisers once applied to the soil. **Polyphos** is the ideal fertiliser in these soils as it not only adds plant available phosphorus but will sequester micronutrients locked up in the soil.

Grain Yield vs P rate for both granular and fluid fertilisers. GRDC, Eyre Peninsula, SA 1999



Profiles of Typical Calcarosols of Australia

Hypocalcic *Supracalci* *Hypercalcic* *Calcic*

*Locations in Australia of **highly alkaline** soils - Calcarosols', where **P lock up** is problematic*

Trials conducted by the GRDC South Australia (graph shown below), showed that ammonium polyphosphate fertilisers significantly **increased yield** in wheat compared to granular fertilisers at the same rates. Another study also found that use of ammonium polyphosphate fertilisers over time will **increase organic matter** in calcareous soils (GRDC, Dec 2003, HOR0002).

Polyphos is an Excellent Starter for Horticulture

A trial was conducted on a block of processing tomatoes in Victoria's Mallee district(Quambatook Rural supplies, 2002) where at planting stage both the standard treatment of DAP at varying rates was applied to one block and Polyphos was applied at planting stage to the other. The results showed that even at lower rates of DAP; Polyphos gave a higher availability of Phosphorus to the plants at this stage. This also resulted in improved yield at the harvest time.

Polyphos can be applied by fertigation, foliar spray, in furrow, and as a soil drench. Polyphos can be applied to a large range of field crops, horticultural crops, tree crops, turf, and vines. Please check the label for rates or for further information contact your area manager or our agronomy team.

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