

# Crop nutrition for plants: The key to higher crop yields

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For many, the idea of growing a plant is as simple as planting them in soil and making sure the plants are watered. The reality is that plant health is very reliant on not only the soil, but exactly what is found in the soil. Especially when crop plants are grown commercially, what is in the soil will play a huge part in not only the health of the plants but also ultimately the yield of those plants.



Companies like [AECI Plant Health](#) have been helping the South African agricultural sector with plant nutrition management for years.

## Macronutrients essential for normal crop growth

There are a few [macronutrients](#) that most plants require in larger amounts. Especially when the same crops are grown in the same soil, season after season, the soil will soon lack the essential macronutrients that a plant needs to be healthy. When plant health suffers because of lack of nutrients, the yield of the plants will also be reduced.

The essential macronutrients for normal crop growth are:

- Nitrogen (N)
- Phosphorus (P)
- Potassium (K)
- Calcium (Ca)
- Magnesium (Mg)
- Sulfur (S)

## The most important crop nutrients

Of the macronutrients listed above, there are three that are the most important, namely Nitrogen, Phosphorus and Potassium. These three macronutrients directly affect plant growth and are used by the plants to produce roots, leaves, stems and fruit or seeds.

### Nitrogen in plants

Nitrogen plays a crucial role in plant metabolism. Therefore, it is seen as the most important nutritional element for crop growth as it directly influences seed germination as well as vegetative growth.

Nitrogen is also a component of chlorophyll and plays a vital role in photosynthesis. Nitrogen is responsible for faster growth of foliage and a plant's green colour.

Indications of nitrogen shortage:

- Light green or yellowing leaves
- Stunted plant growth
- Plant weakness and lower yields during flowering and fruiting

### Phosphorus in plants

Phosphorus is also an extremely important plant macronutrient. It has a direct impact on the root development, the flowering, fruiting and seed production of a plant. Along with that Phosphorus is also used by plants for energy storage and disease resistance.

Indications of Phosphorus deficiency:

- Weak rooting
- Thin shoots and stems
- Overly dark green, purple or red leaves

### Potassium in plants

The third essential crop nutrient is Potassium. Potassium is important to plant health as it plays a role in water uptake and drought resistance. It also helps resistance against fungal diseases and insect pests.

Indications of potassium deficiency:

- Burning an yellowing of leaf edges
- Dead spots on adult leaves
- Reduced growth

## Crop nutrition management

Proper [crop nutrition management](#) is essential to maximise yields. Macronutrients have a vital role in a plant's life cycle and modern day science has ensured that we can supplement where there are deficiencies. Soil nutrition can easily be managed correctly by professionals.

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