



# PHOSPHORUS

is one of

# 14 NUTRIENTS

that are essential

for plants to live

Phosphorus plays a part in several key plant structure compounds and in many important biochemical reactions. Phosphorus is noted for its role in **capturing and converting the sun's energy**.

Phosphorus is an **essential part of DNA**, the genetic building blocks for all living things, and of RNA, the compound that builds proteins and other compounds that are vital for plant structure, seed yield and genetic transfer by reading DNA's genetic code. Phosphorus bonds link together the structures of both DNA and RNA.

Phosphorus is a **key component of ATP**, the energy molecule of plants. Formed during photosynthesis, ATP is used by plants to capture and store the sun's energy which is converted into carbohydrates.



Phosphorus is one of the **main structural components of membranes** that surround plant cells, is involved in **the synthesis of proteins and vitamins** and occurs in important **enzymes**.

**Phosphorus is crucial for the health and vitality of all plants.**

**Growth characteristics associated with phosphorus include:**

- Root development stimulation
- Boosted stalk and stem strength
- Flower formation and seed production improvement
- Crop uniformity and earlier maturity
- Increased nitrogen fixing capacity for legumes
- Crop quality improvements
- Increased plant disease resistance
- Supporting development throughout the life cycle

As plants mature, phosphorus is **moved into the fruiting areas** of the plant, which have **high-energy requirements** for forming seeds and fruit.

Plants **store phosphorus in seeds and grains** so that the seedling has enough to develop its first roots and shoots.

## Phosphorus deficiency

is more difficult to diagnose than nitrogen or potassium deficiency as crops generally display no clear symptoms of it, apart from **general plant stunting during early growth**. By the time a deficiency is seen, it may be too late to correct.

Phosphorus deficiencies which occur late in the growing season affect both the **development of seeds** and the normal **maturing of crops**.

Phosphorus deficiencies can **delay the ripening of crops and harvesting**, risking the quality of the produce.

Some crops such as corn tend to show an **abnormal discoloration** when they have a phosphorus deficiency, usually turning dark bluish-green while leaves and stems become purplish.

Phosphorus deficiencies affect not only plant growth, development and crop yield, but also **fruit quality and seed formation**.

