

PHOSPHORUS AND FOOD PRODUCTION

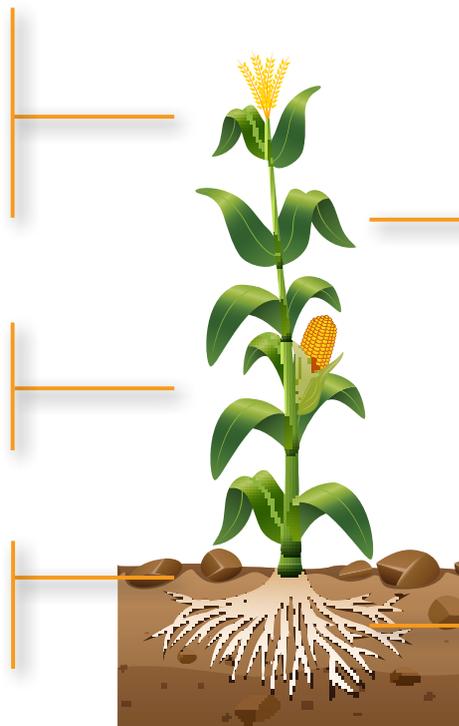
Putting things into perspective

DID YOU KNOW?

Phosphorus is present in every living cell, being it the cell of a plant, an animal or human being. Therefore, it is as essential as water or oxygen.

Availability of phosphorus is critical to ensuring a good start of the crops.

Phosphorus gives crops the energy required to extract all nutrients from the soil.



Phosphorus helps to capture and transform the sun's energy into chemical energy (photosynthesis), which the plant uses in its development.

Phosphorus is essential for helping plants build a healthy root system, which in turn contributes to the crops' resistance to extreme weather conditions such as low temperature and drought. It thus makes them more resilient to climate change.

In spring, wheat takes up to 1 kg of Phosphorus per hectare per day. This amount of Phosphorus is used to build the protein content of the wheat, which is essential to bake our daily bread.

"There is a need to maintain and improve the Phosphorus status of many soils for the growth of crops for food and fibre." FAO, 2008.¹

TWO COMPLEMENTARY SOURCES OF PHOSPHORUS IN AGRICULTURE:

Farmers cannot grow food without Phosphorus. Arable crops need an average of 50 - 100 kg of P per hectare.

This essential nutrient is present in organic fertilizers such as crop residues, animal manure and slurry. Recycling of organic fertilizers has always been the farmers' first strategy in feeding their crops. However, organic fertilizers do not meet all the needs of plants. This is why the contribution of mineral fertilizers is both necessary and complementary.

Mineral fertilizers containing Phosphorus have several very beneficial advantages:

- ✓ Guaranteed content of Phosphorus
- ✓ Ease of spreading for a greater precision intake
- ✓ Choice of a fertilizer containing only P or a balance of several mineral nutrients corresponding to the needs of each culture
- ✓ Solubility identified on the label indicating the agronomic efficacy

Currently, farmers in Europe annually apply an average of 23 kg of mineral phosphorus per hectare of arable land.²



NO PHOSPHORUS LEADS TO SOIL DEPLETION

In addition, using no Phosphorus leads to soil depletion. As the crops continually extract Phosphorus from the soil reserves during harvest, lower inputs of Phosphorus into the soil will inexorably lead to reduced soil fertility. This makes a balanced nutrition of crops a vital element of sustainable soil management.

PHOSPHORUS IS INTERLINKED WITH OTHER PLANT NUTRIENTS

A good crop feeding strategy incorporates a balanced supply of main nutrients needed for crop growth. The relatively high costs of inputs can lead to a situation where farmers focus only on Nitrogen, while skipping the use of other nutrients like Phosphorus (P) or Potassium (K). Thus, balanced crop nutrition with regular supply of Phosphorus and Potassium makes it possible to improve the nitrogen use efficiency in order to reduce losses to the environment and obtain higher yields.



² Fertilizers Europe, Fertilizer Forecast 2016-2026, www.fertilizerseurope.com