Balancing crop nutrition for healthy crops and fertile soils

A good crop feeding strategy at farm level can be achieved with a balanced supply of the main nutrients needed. Balanced nutrition is essential to help crops reaching high yields and quality, moving towards a crop's maximum genetic potential.

Balanced plant nutrition is a vital element of sustainable crop and soil management.

The importance of balanced nutrition is clearly evident with phosphorus, due to its importance for a root development. Crop phosphorus nutrition depends on the ability of the soil to replenish the soil solution with phosphorus as the crop takes it up. It also depends on the ability of the plant to produce a healthy and extensive root system that has access to the maximum amount of soil phosphorus. Young seedlings can suffer from phosphorus deficiency even in soils with high available phosphorus levels because they have very limited root systems that are growing very slowly in cold, wet, early-season conditions or high pH soils. Some crops need additional phosphorus application from mineral sources during planting in starter fertilizers even in relatively high phosphorus soils.

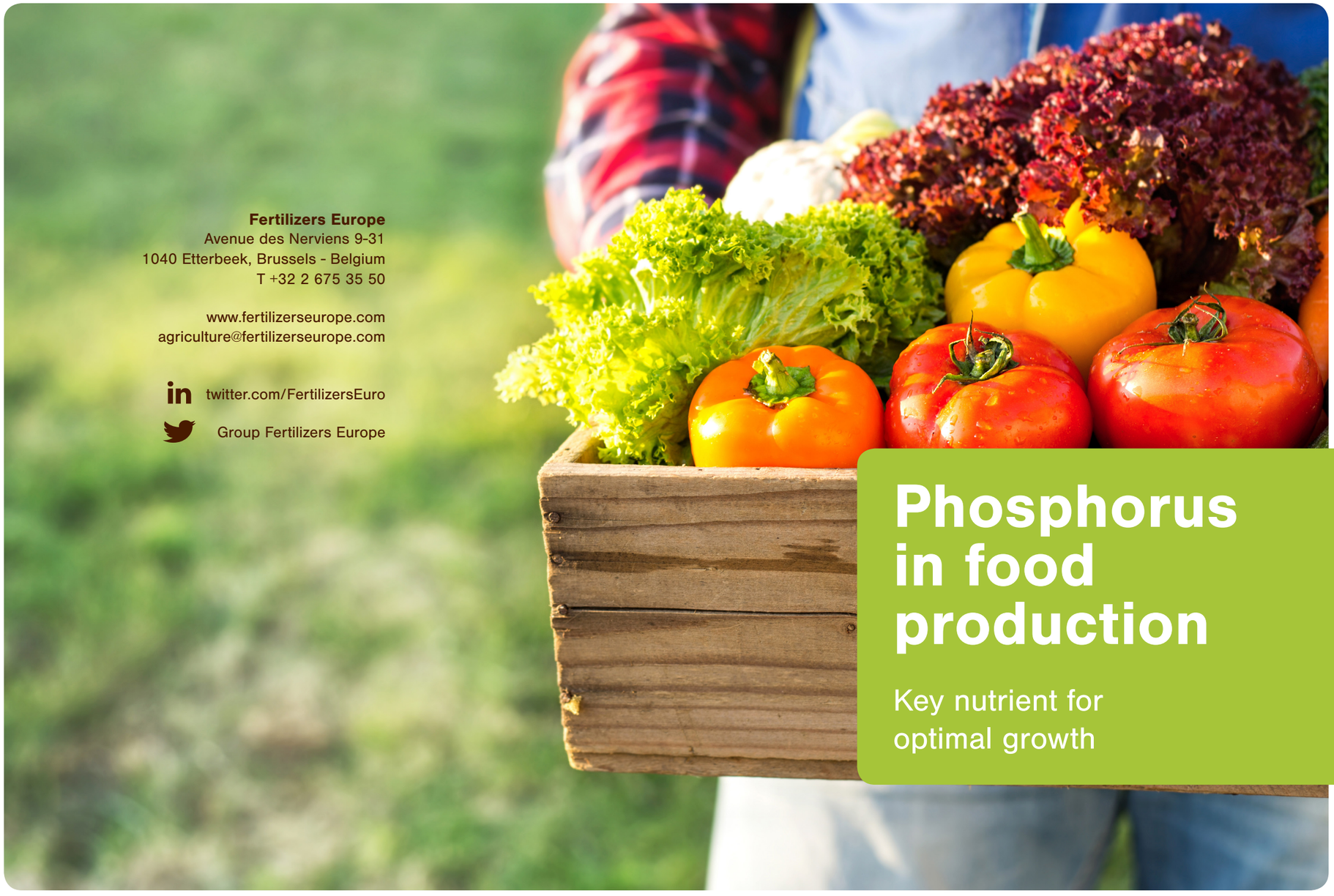
A fertile soil has the capacity to retain a reserve of essential nutrients for the crops, including phosphorus. This nutrient retention capacity of the soil depends from the presence of clay particles and from the soil organic content. In particular, phosphorus is retained in soil by being fixed via calcium on the clay-humus complex.

Fertilizers Europe
Avenue des Nerviens 9-31
1040 Etterbeek, Brussels - Belgium
T +32 2 675 35 50

www.fertilizerseurope.com
agriculture@fertilizerseurope.com

twitter.com/FertilizersEuro

Group Fertilizers Europe

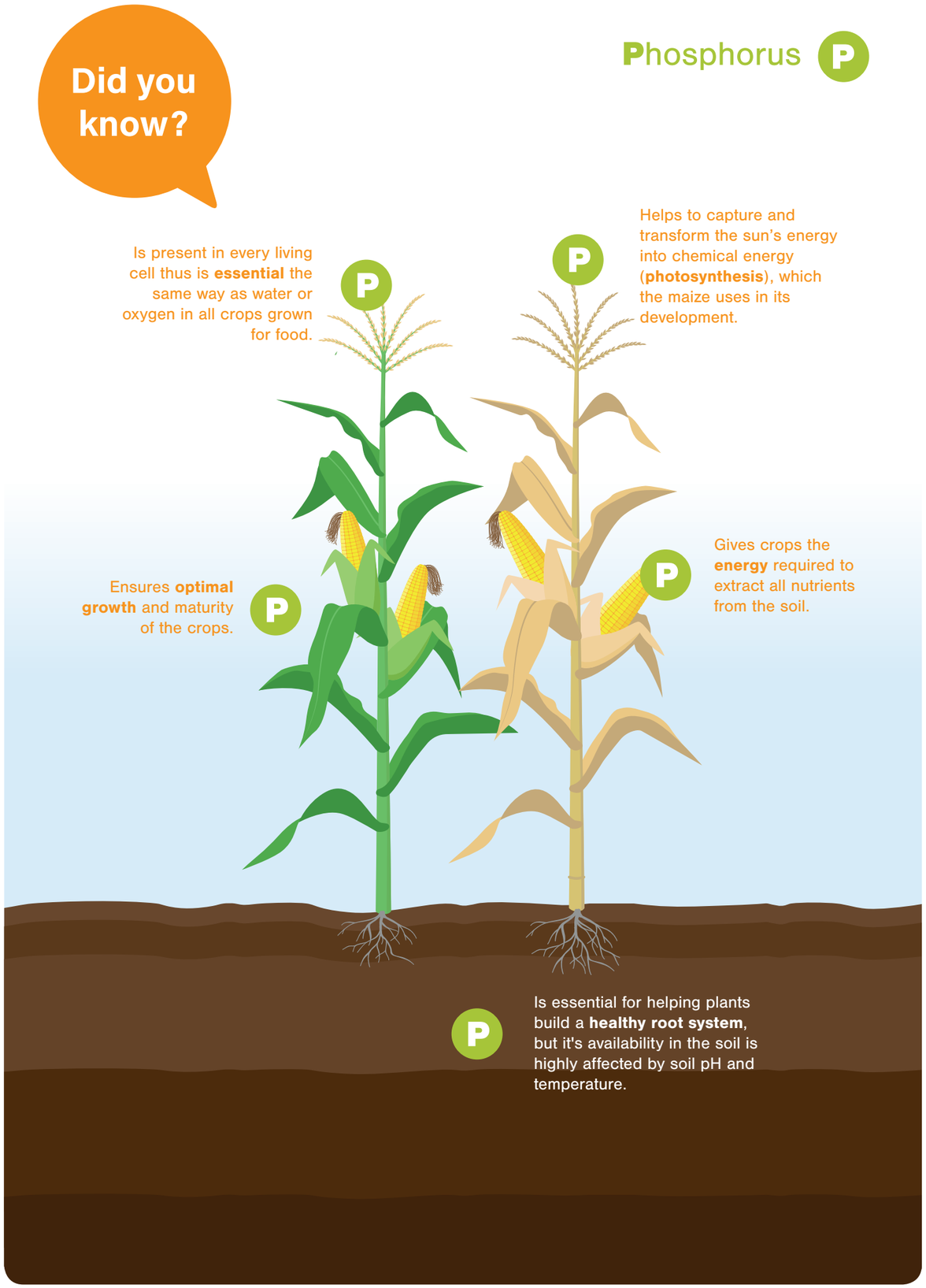


Phosphorus in food production

Key nutrient for optimal growth

Did you know?

Phosphorus P



Phosphorus sources available to farmers

Farmers cannot profitably grow food without phosphorus.

Arable crops need an average of 50-100 kg of phosphorus 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, the phosporus availability from organic manure sources is very low in the year of application. This is why the contribution of mineral fertilizers is not only complementary but ultimately necessary.

Mineral fertilizers containing phosphorus have several very beneficial advantages:

- **Guaranteed content of phosphorus**
- **Ease of spreading for greater application precision**
- **Choice of a fertilizer containing only phosphorus, or a balance of several mineral nutrients adapted to the needs of each crop**

"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]

[1] Efficiency of soil and fertilizer phosphorus use, FAO FERTILIZER AND PLANT NUTRITION BULLETIN, 2008: ftp://ftp.fao.org/agl/agll/docs/fpnb18.pdf
[2] Fertilizers Europe, Forecast of food, farming and fertilizer use in the European Union 2016-2026