Nutrients from soil

Nutrients in soil

Nutrients are usually found in soil as ions. Two exceptions are nitrogen, which may be present as ammonia molecules, and the micronutrient boron, which is usually present as boric acid molecules.

Elements	Forms in which they are found in soil		
	Molecules	Anions	Cations
Primary nutrients			
Nitrogen, N	NH_3	NO_2^- and NO_3^-	NH_4^+
Phosphorus, P		$H_2PO_4^-$ and HPO_4^{2-}	
Potassium, K			K^+
Secondary nutrients			
Calcium, Ca			Ca^{2+}
Magnesium, Mg			Mg^{2+}
Sulfur, S		SO_4^{2-}	
Micronutrients			
Boron, B	$B(OH)_3$		
Copper, Cu			Cu^{2+}
Iron, Fe			Fe^{2+}
Manganese, Mn			Mn^{2+}
Molybdenum, Mo		MoO_4^{2-}	
Zinc, Zn			Zn^{2+}

Absorption of nutrients

Plants obtain nutrients from the nutrients dissolve in the water through the plant's roots.

The availability of nutrients depends on

- the water content of soil;
- the nature of the soil
- soil pH.

See *Availability of nutrients*.

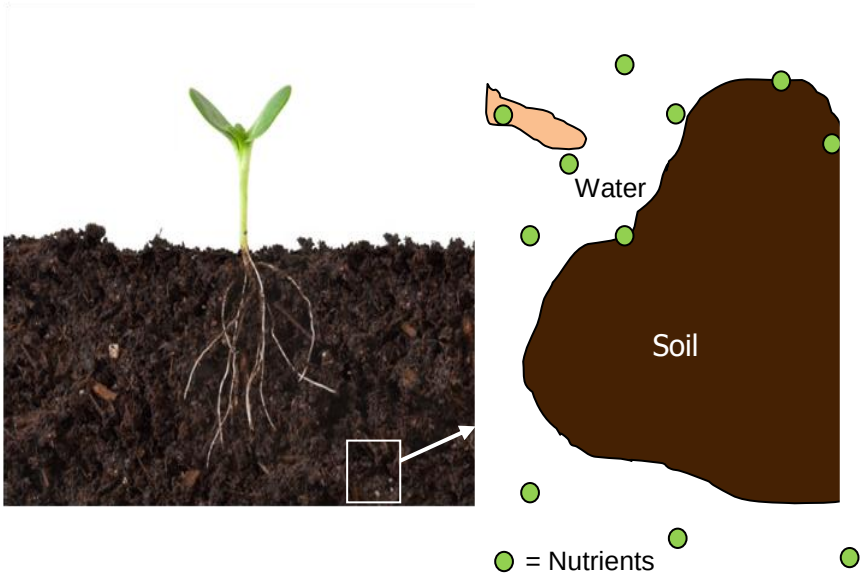

Figure 1 Nutrients released from soil particles move into soil water and, when close enough to a root, are absorbed. The diagram is not to scale.