

Osmosis

Osmosis is the diffusion of water through a semi-permeable membrane, from a low concentrate solution to a more concentrated solution.

It is a physical process in which a solvent moves(e.g. water), without input of energy, across a semi-permeable membrane (permeable to the solvent, but not the solute) separating two solutions of different concentrations.

Net movement of solvent is from the less-concentrated (hypotonic) to the more-concentrated (hypertonic) solution, which tends to reduce the difference in concentrations.

Osmosis is important in biological systems as many biological membranes are semipermeable. In general, these membranes are impermeable to organic solutes with large molecules, such as polysaccharides, while permeable to water and small solutes. Permeability may depend on solubility properties, charge, or chemistry as well as solute size.

Osmosis provides the primary means by which water is transported into and out of cells.

Nutrients Essential for Plant Growth

From Air and Water:

Carbon(C)

Hydrogen(H)

Oxygen(O)

From Soil, Lime and Fertilizers:

Primary Nutrients

Nitrogen(N)

Phosphorus(P)

Potassium(K)

Secondary

Calcium(Ca)

Magnesium(Mg)

Sulphur(S)

Micronutrients

Boron(B)

Chlorine(Cl)

Copper(Cu)

Iron(Fe)

Manganese(Mn)

Molybdenum(Mo)

Zinc(Zn)

Others

Chromium(Cr)

Cobalt(Co)

Fluorine(F)

Iodine(I)

Selenium(Se)

Availability of nutrients in soils at various pH levels

