**Transports in plants**

Transports in plants

Carrier proteins

**Channel proteins**

**Transport proteins**

**Types**

**Cotransport**

Uniport

**Diffusion**

Methods of Transplants

**Plant water relations**

Lmbibition

**Facilitated diffusion**

Water Potential

Osmosis

Active Transport

Plasmoysis

**Apoplast**

Pathways of water movement

Symplast

Transpiration

Ascent of sap

Phloem Transport

**Transports in plants**

**On the basis of energy consumption and carries**

Transports in plants

**Carry the molecule with them**

Carrier proteins

**Remain at their channel for molecules. may be of two types ion channel print**

**Channel proteins**

**Transport proteins**

**Types**

**Simultancous movement of two molecules; symport of antiport occur**

**Cotransport**

**On the basis of direction of molecular movements**

Only one molecule either or exists the cell at a time

Uniport

Movement same as diffusion but requires transport proteins

**Diffusion**

Difference between free energy of water molecules in pure water and that in any othersystem

Adsorption of liquid by solid particles without forming a solution

Methods of Transplants

**Plant water relations**

Lmbibition

**Facilitated diffusion**

Water Potential

**Movement same as diffusion but requires transport proteins**

Osmosis

Active Transport

Special type of diffusion of solvent molecules along their concentration gradient through semipermeable membrane; can be of two types exosmosis and endosmosis

Against concentration gradient and requires metabolic energy and transport

Plasmoysis

Shrinkage of protoplast after exosmosis

**Apoplast**

Movement through cell walls

Pathways of water movement

Symplast

Movement through cell cytoplasm

Transpiration

Loss of water movement

Ascent of sap

Sap consists of the mineral nutrients dissolved in water. They are transported upwards in the plant via xylem. It is absorbed by root hairs

Phloem Transport

Bidirectional transport of food from source to sink actively