

In order to simplify this dynamics, changes in the osmotic pressure of the cell sap resulting from volume changes into the cells, as shown in the mentioned diagram will be disregarded as usually there are not great enough to modify seriously any generalized picture of the water relations of plant cells. Accordingly water will move (by diffusion) from cell to cell according to the gradual increase in the OP of cell sap, in other words from cell with lower OP to that of higher OP. However, in the movement of water from cell to cell in plants, it is the diffusion–pressure deficits and not osmotic pressures which tend to equilibrate water movement, this is only a special aspect of the fundamental tendency of the diffusion–pressure of water to attain a uniform value throughout any system. When the DPD of two adjacent cells are dissimilar (and this naturally occur), a DPD gradient exists between them. Other conditions being equal the steeper this gradient, i.e. the greater the difference in DPDs, the more rapidly one cell gains water from the other. Movement of water from one cell to another can occur only when such a gradient exists. It is by no means impossible, therefore, water to move from a cell so higher to one of lower osmotic pressure.