

## Significance of Transpiration:

Transpiration acts as a significant phenomenon for the plants.

Some major advantages of transpiration:

- (i) Helps in exchange of gases in the plants.
- (ii) Provides cooling effect.
- (iii) Increases the upward movement of water into xylem.
- (iv) Also influences the movement of minerals along with water absorption.
- (v) Maintain the shape and structure of plant parts by keeping the cells turgid.
- (vi) Control the rate of absorption of water by roots through transpiration pull.

## Disadvantages of Transpiration:

If excess amount of transpiration occurs, it may lead to:

- (i) Withering of plants.
- (ii) Premature falling of leaves.
- (iii) Also reduce the production of flowers and fruits.

TOPIC: FACTORS AFFECTING TRANSPIRATION  
AND SIGNIFICANCE OF TRANSPIRATION

Q. What are the factors that affect the rate of transpiration?

A: Environmental Factors:-

- (i) Temperature: Transpiration increases with increase in temperature and vice-versa.
- (ii) Humidity: If air is humid, transpiration will be reduced.
- (iii) Intensity of sunlit sunlight: Transpiration is more in high intensity, i.e., in day time.
- (iv) CO<sub>2</sub> Concentration: Transpiration decreases with the increase in CO<sub>2</sub> concentration.
- (v) Velocity of wind: Transpiration increases with the velocity of wind.

Internal Factors:

- (i) Leaf area. Larger leaves lose more water than smaller one.
- (ii) Age of plants: Rate of transpiration is slow at the seedling stage, maximum at maturity and gradually decreases aging.
- (iii) Water content of leaves: The leaves wilt to reduce transpiration if the water content of leaves decreases due to insufficient absorption of water by roots.