



Lecture No- 1

Date: - 04th Aug 20

TOPIC: - PLANT PHYSIOLOGY- Transpiration- I

Subsidiary Part II, Group – C

1. The loss of water from the living tissue of aerial parts of the plants in form of vapour is called transpiration.
2. Transpiration differs from evaporation in the fact that- The former is a physiological phenomenon controlled and regulated by the protoplasmic contents of the cell, while the latter is a purely physical process.

The former occurs in order to prevent dryness of surface of cells whereas the latter results in drying of the surface itself.

3. In general transpiration mostly occurs through the leaves (Foliar transpiration), although some amount of water is often also transpired through the lenticels of woody stem (Lenticular transpiration). The lenticles represent the loose cells in the corky layers of the bark.
4. Foliar transpiration occurs either through cuticle (waxy covering on the epidermis of leaves and herbaceous stems called cuticular transpiration or through the stomata (minute pores in epidermal layers) called stomatal transpiration.
5. While stomatal transpiration is the main source of water loss (approximately 90 % of total transpiration), cuticular transpiration accounts for hardly 10 %

Lenticular transpiration on the other hand amounts to merely about 0.1 % of the total loss.



LALIT NARAYAN MITHILA UNIVERSITY, DARBHANGA

**DEPARTMENT OF BOTANY
D.B COLLEGE, JAINAGAR**

DR. RANJANA

ASSISTANT PROFESSOR
(GUEST FACULTY)

6. While stomatal transpiration is active during day time (when stomata opens) the cuticular transpiration becomes active in night (when stomata remains closed as also in the shade plants like ferns. The transpiration from stem, flowers and fruits is mostly cuticular however lenticular transpiration is characteristics of order trees as well as the deciduous trees during winter season.