

Distribution of Stomata on the Dorsal and Ventral Side of a Monocot leaf

AIM: To study the distribution of stomata on the dorsal and ventral side of a monocot leaf and to calculate the stomata index.

REQUIREMENT: Fresh leaf of any herbaceous plant, cover slips, glass slides, methylene blue, dropper, water.

THEORY: Stomata are microscopic pores present in the epidermis of leaves and young shoots of plants.

They are chiefly concerned with the exchange of gases during photosynthesis and respiration.

They are also responsible for the loss of water during transpiration.

Each stomata has a slit like opening called stomata pore, which is surrounded by 2 spherical kidney shaped indirect leaves and dumbbell shaped in monocot leaves cells called guard cells.

PROCEDURE: Take a monocot leaf and from the dorsal surface of the leaf carefully peel out the epidermis of the leaf.

Carefully put it on the glass slide and add 2 to 3 drops of methylene blue so that the stomata could be identified.

Add a few drops of water to remove the excess colour and carefully put a cover slip at an angle of 45 degrees to avoid air bubbles.

Now observe the slide under the microscope and repeat the procedure for the ventral side as well.

OBSERVATION:

MONOCOT LEAF

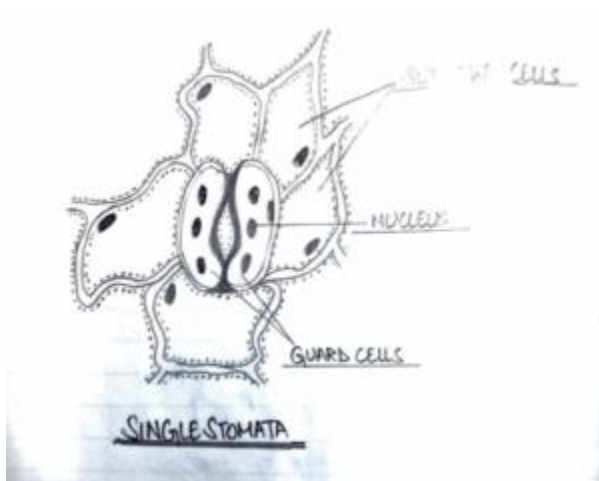
DORSAL	13-16
VENTRAL	20-23

PRECAUTIONS: The cutting of peel should be avoided.

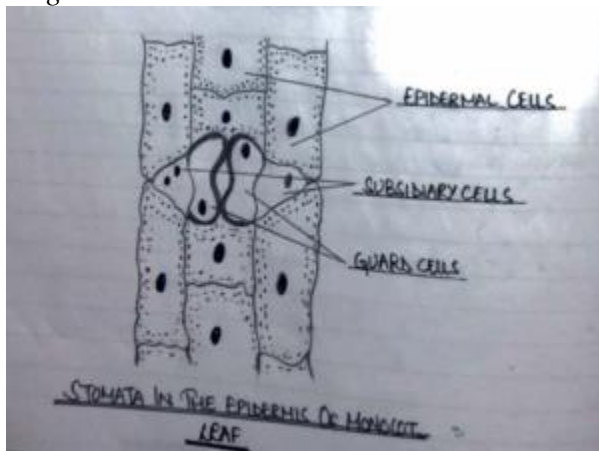
Always use filter paper to remove the excess of methylene blue.

Use the brush to transfer the pills from water glass to the slide.

Air bubbles must be avoided.



Single Stomata



Stomata in the epidermis of monocot leaf.