

Aim :-

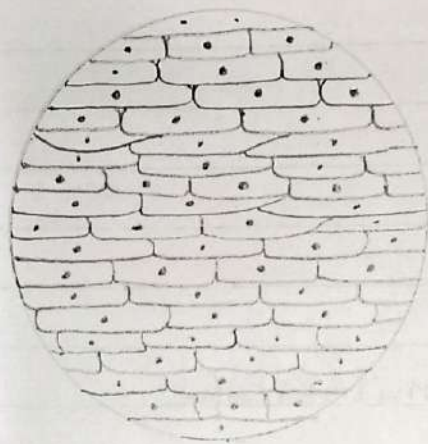
To perform microscopical study of epidermal cell of onion.

Reference :Requirement :

- Fresh onion
- A compound microscope
- Glass slide
- Cover Slip
- Dropper
- Blade
- Pen Brush
- Safranin Reagent
- Watch glass.

Theory :

The epidermal cells of onions provide a protective layer against viruses and fungi that may harm the sensitive tissues. Because of their simple structure and transparency they are often used to introduce students to plant anatomy or



Epidermal Cell of Onion.

to demonstrate plasmolysis. The clear epidermal cells exist in a single layer and do not contain chloroplasts, because the onion fruiting body (bulb) is used for storing energy, not photosynthesis. Each plant cell has a cell wall, cell membrane, cytoplasm, nucleus, and a large vacuole. The nucleus is present at the periphery of the cytoplasm. The vacuole is prominent and present at the center of the cell, surrounded by cytoplasm.

Procedure :

- i) Take a fresh ~~and~~ ~~peel~~ onion and peel off the outer layer of onion.
- ii) Cut a small portion / part of the sample.
- iii) Remove out the thin transparent layer of onion.
- iv) Cut the thin transparent layer into rectangular shape.
- v) Put the thin layer of onion into a watch glass containing fresh water.

- vi) Again transfer thin layer (T.S.) into the another watch glass containing safranin reagent.
- vii) After it again transfer the thin layer (T.S.) into a watch glass containing fresh water to remove out excess amount of safranin reagent.
- viii) With the help of pen brush transfer the thin layer above glass slide.
- ix) Cover the slide with cover slip.
- x) Now observe and draw the figure.

Ocular / Eye piece - 10x
Objective lens - 10x

Result :-

The microscopical study of epidermal cell of onion was successfully performed in the laboratory.