

# Plant Histology

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(8)

# Complex Tissue

# PROTECTION (Dermal) TISSUE

*Dermal protection* tissues are the outermost layers and are usually in contact with the environment.

## There are two main protection tissues:

---Epidermis

---Peridermis

- The *epidermis* is found covering the organs with primary growth.
- The *peridermis* covers the organs with secondary growth.

# 1. Epidermis

- The epidermis is the protecting outer layer of plant.
- Epidermis is commonly a single row of cells. Some exceptions are found with multiple-layered are found in some aerial roots, xerophytes plants, or some leaves of oleander and *Ficus*.
- Multiple-layered epidermis is called *velamen* in root and *hypodermis* in leaves

- The aerial parts of epidermal cells synthesize *cutin*, a lipidic impermeable substance deposited outside of the cell wall to form a continuous layer known as **cuticle (external layer)**. The *cuticula layer* prevents the water lost and is a barrier against pathogens. *Suberin* is a cork molecule found as a out layer of root and stem and fruit epidermis.
- Some epidermal cells specialize in storing water, known as *bulliform cells* in the leaves of grasses and other monocots.

