

Leaves

Leaf function ::

- Is the organ that produces food for the plant by carrying on photosynthesis .
- An expansive surface facilitates the control of solar energy and gas exchange .
- Water and nutrients are transported to the cells of a leaf by leaf veins , which are extensions of the vascular bundles from the stem.

External features of leaves :: Consist of :

1-**flate blade** .

2-**petiole** : stalk which attaches the leaf to the stem .

3-**axillary bud** :: Will always be found . it can give rise to branches on the stem .

4-**stipules** :: A pair of appendages are sometimes present where the petiole attaches to the stem .

5-**veins** :: Vascular tissue will be visible as veins in the leaves .

There are two types of leaves ::

1-simple leaf : has a single blade .

2-compound leaf : has a blade divided into leaflets .



Simple leaf



compound leaf

Differences between monocot leaf and dicot leaf

| Monocot leaf | Dicot leaf |
|--------------------------------------------------|--------------------------------------------------------------|
| Motor cells present in the upper epidermis | Motor cells is absent |
| Mesophyll undifferentiated | Mesophyll differentiated into palisade and spongy parenchyma |
| Bundle sheath extensions made up of sclerenchyma | Made up of collenchyma |

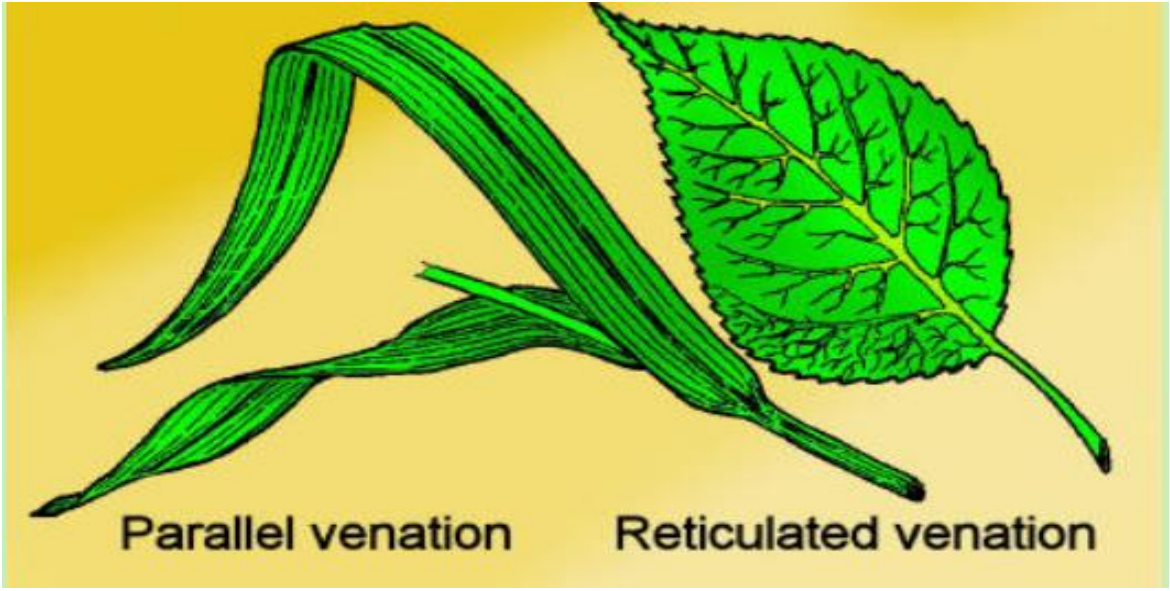
Venation :

is the arrangement of veins and the veinlets in the lamina of the leaves .different plants show different types of venation .

There are two types of venation in leaf :

A- Parallel venation in (monocot leaf).

B- Reticulate venation in (dicot).



Parallel venation

Reticulated venation