

Coordination in Plants

Nastic Movements

- The movement of a plant in response to an external stimulus, in which the direction of response is not determined by the direction of stimulus, is called **nastic movement**.
- Nastic movements are shown by flat parts of the plants such as leaves and petals.
- Example-

Daisy flowers close at dusk and open at daybreak; this may be referred to as sleep movements. This response however should not be confused with thigmotropism as the folding of leaves always occurs in the same direction irrespective of the direction of the stimulus.

- Two types of nastic movements are:

A. Photonasty is a nastic movement to the light and dark phases of the day.

Example- Flowers of primrose blossom during the evening but close during the day.

B. Nyctinasty is the movement in response to dark. Certain parts of a plant such as the leaves and flowers take up a different posture at night than that in the day.

Example- Leaves of the rain tree fold by nightfall.

Movement Due to Growth

The movement of plant organs towards or away from a stimulus is known as **tropism**.

Since the tropic movements are slow, the stimulus needs to be continued for a long time for the effects to be noticed.

The different types of tropic movements in plants are:

1. Phototropism	- The movement of plant parts towards or away from light is termed as phototropism.  - Because shoots of most plants grow towards the source of light, it is termed as positive phototropism. - Roots grow away from light and hence are negatively phototropic.
2. Geotropism	- The movement of plant organs in response to gravity is termed as geotropism.  - Roots are positively geotropic because they grow in the direction of gravity. - The shoot grows upwards, i.e. against gravity, and hence is negatively geotropic.