



## The Root System

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The root is the underground part of a plant's body. It grows towards the force of gravity (geotropism). It provides anchorage to the plant, absorbing water and mineral nutrients from the soil. Some roots store excess food.

### Types of Roots

Roots are classified into two main types:

#### i. Tap Roots

- Consists of one main long thick root growing downward.
- Many thinner lateral roots arise from the main root.
- Grows deep into the soil in search of water and minerals.

**Examples:** Sugar beet, carrot, bean, tea, peepal.

#### ii. Fibrous Roots

- No single main root; instead, a dense network of equal-sized roots emerges from the stem.
- These roots grow downward and outward, branching repeatedly.
- Do not penetrate deeply into the soil.

**Examples:** Lilies, grasses, wheat, rice, palm, onion.

### Functions of Roots

**Anchorage & Support:** Roots attach the plant body to the ground and provide stability.

**Absorption of Water & Minerals:** Root hairs absorb water and essential nutrients from the soil and pass them to the stem.

**Food Storage:** Some roots, such as carrot, radish, and beetroot, store food produced by the plant and are edible.

**Soil Binding & Erosion Prevention:** Roots bind the soil, preventing it from being washed away by water or blown away by wind (prevents soil erosion).