



Thursday, 13 February 2025

### ➤ **Key Characteristics of the Plant Kingdom:**

- **Eukaryotic:** Their cells have a true nucleus and membrane-bound organelles.
- **Autotrophic:** Most plants are autotrophs, meaning they produce their own food through photosynthesis using chlorophyll.
- **Cell Wall:** Plant cells have a rigid cell wall made of cellulose.
- **Multicellular:** All plants are multicellular organisms.
- **Non-motile:** Plants are generally stationary (fixed in one place).
- **Reproduction:** They reproduce both sexually and asexually. Alternation of generations (gametophyte and sporophyte stages) is common.

### ➤ **Classification of the Plant Kingdom**

- The plant kingdom is classified into two broad groups:

#### ➤ **1. Non-Vascular Plants (Bryophytes)**

- Lack vascular tissues (xylem and phloem) for transporting water and nutrients.
- Usually small and grow in moist environments.
- Examples: Mosses, liverworts, and hornworts.

#### ➤ **2. Vascular Plants (Tracheophytes)**

- Possess vascular tissues (xylem for water and phloem for nutrients).
- Divided into:
  - **Seedless Plants:** Reproduce via spores.
    - Examples: Ferns and horsetails.
  - **Seed Plants:** Reproduce via seeds.
    - **Gymnosperms:** Seeds are "naked" (not enclosed in fruits). Examples: Pine trees, conifers.
    - **Angiosperms:** Seeds are enclosed in fruits. These are flowering plants and represent the most diverse group. Examples: Roses, grasses, and oak trees.