NON-VASCULAR PLANTS

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DIVISIONS OF THE PLANT KINGDOM

- Plant Kingdom is divided into two main groups:

  i. **CRYPTOGAMS** (flowerless or seedless plants)

  ii. **PHANEROGAMS** (flowering or seed-bearing plants) or **SPERMATOPHYTA**

- The Cryptogams form three main groups: **Thallophyta**, **Bryophyta** and **Pteridophyta**

- **Thallophyta** are characterized by:

✓ Undifferentiated thallus that has no roots, stems or leaves

✓Are single-celled or simple multicellular plants

✓Include **Algae** and **Fungi**

- **Bryophyta** are simple plants with stems and leaves but lack true roots

✓Include the **Mosses** and the **Liverworts**

- **Pteridophyta** have true roots, stems, leaves and vascular system but lack flowers

✓Include the **Ferns** and their allies.

- **PHANEROGAMS** (**SPERMATOPHYTA**) have flowers which produce seeds

✓Consist of **Gymnosperms** (naked-seeded plants) e.g. Cycads and Conifers, and **Angiosperms** (closed-seeded plants)

- **Angiosperms** further divided into **Dicotyledons** (have embryos with two cotyledons) and the **Monocotyledons** (have embryos with one cotyledon).

- **Thallophyta** (Fungi and **Algae**) and **Bryophyta** are described as NON-VASCULAR

✓because they do not have specialized internal tissues (**xylem** and **phloem**) for conveyance of materials (**water**, **mineral salts** and **food**) from one part of the body to the other.

- **Pteridophyta**, **Gymnospermae** and **Angiospermae** are described as **VASCULAR** (or **TRACHEOPHYTES**)

✓ because they have specialized vascular tissue (**phloem** and **xylem**) in most of their organs