

## Unit 9 Lecture 29: General Plant Characteristics

### Plant Characteristics

- Multicellular
- Eukaryotic
- Cells contain a cell wall made of cellulose
- Photosynthetic
- Stores excess food in the form of starch
- Form 2 groups nonvascular and vascular plants
- Life cycle alternates between two different plant forms, the gametophyte and sporophyte.

### Plant Divisions

#### Nonvascular (Bryophytes)

- Do not contain specialized conducting tissues
- Examples: moss, liverworts, and hornworts

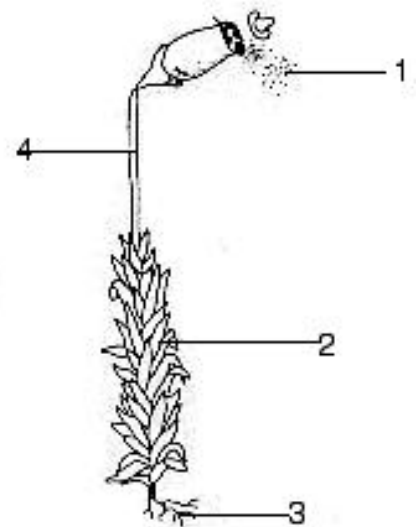
#### Vascular (Tracheophytes)

- They contain vascular tissue: xylem and phloem
- Examples: ferns, conifers, and flowering plants.

## Bryophytes

- Nonvascular
- No roots, stem, or leaves
- Transport is through diffusion
- Short in height (1-5 cm.)
- Haploid gametophyte is dominant
- Diploid sporophyte is small

1. Spores
2. Gametophyte
3. Rhizoid
4. Sporophyte



## Tracheophytes

- Vascular Plants
- The xylem conducts water
- The phloem conducts food
- The sporophyte generation is dominant
- Contain spore producing and seed producing plants.

## **Ferns**

- Contain horizontal stems, just under the soil, called rhizomes.
- The roots grow from the rhizomes
- The leaves are called fronds, which contain the spores.

## **Vascular Seed Plants**

### **Gymnosperms**

- Nonflowering
- Bear seeds on the upper surface of scales
- Contain true roots, stems, and leaves
- Examples Conifers, cycads, ginkgoes

### **Angiosperms**

- Flowering plants
- Flower is a group of modified leaves used for sexual reproduction
- Contains true roots, stems, and leaves
- Examples: rose, lily, oak, maple, pea, and grass

## **Gymnosperms**

- Leaves are needle-like
- Most are evergreen
- They are called soft wood.
- Reproductive structure is a cone or cone-like structure.

## **Angiosperms**

- Broad leaf plants
- Most are deciduous
- Called hardwood
- They are divided into two groups based on the number of seed leaves (cotyledons) they contain.