Lab -7- Plant Taxonomy Practical

Fruits: are the mature ovaries or pistils of flowering plants plus any associated accessory parts.

Accessory parts: are organs attached to a fruit but not derived directly from the ovary, including the bracts, axes and receptacle.

Pericarp: is the fruit wall, derived from the mature ovary, sometimes pericarp divided into layers: **1- Endocarp 2- Mesocarp 3- Exocarp**

Note: The nature of the fruits, shape, type of walls and seeds are used as important taxonomic characteristics in isolating important taxonomic.

Note: Fruits are classified based on their origin, type of walls, number and nature of seeds, and among these methods:

Fruit types: are based first on fruit developed:

1) **Simple fruit:** derived from a single pistil of one flower.

A) Simple succulent or fleshy fruits:

- **Drupe or stone fruit: in Olea,Pruns.**
- **Pome: in Pyrus**
- **Pepo: in Cucumis**
- **Berry: in Vitis**
- **Hesperidium: in Citrus**

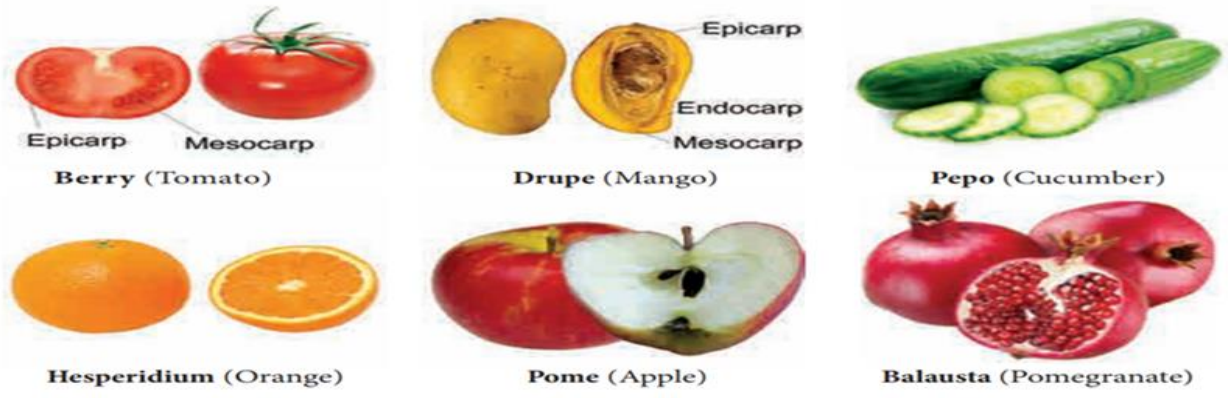


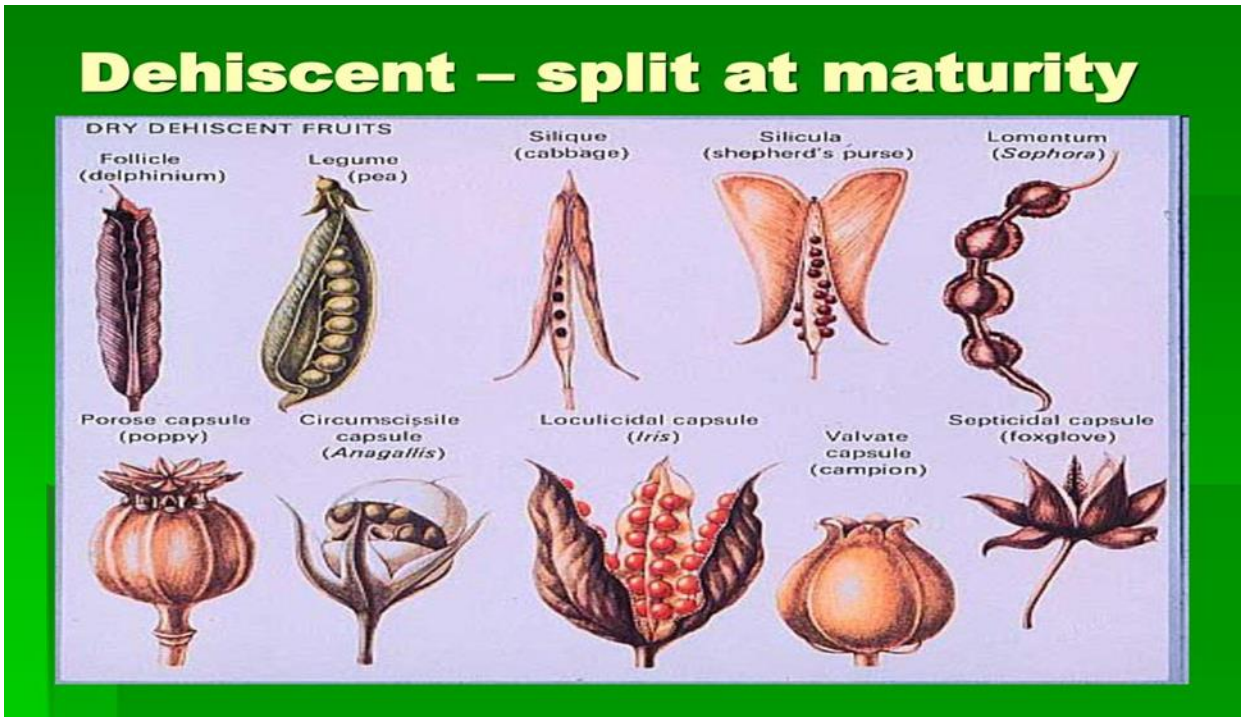
Figure 4.40: Simple fleshy fruits

B) Simple dry fruits:

- **Dry Dehiscent:**

1) Follicle: in Nerium oleander. **2) Legume: in Vicia.**

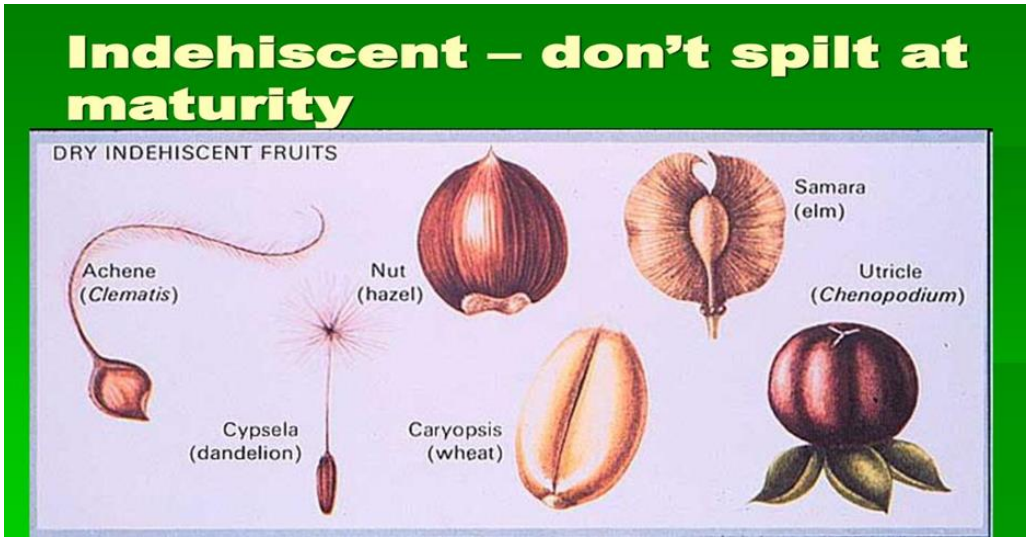
3) Silique: in Brassica. **4) Capsule: in Dianthus**



- **Dry indehiscent:**

1) Achene: in sunflower. **2) Grain in Triticum.**

3) Samara: in Acer. **4) Nut: in Castania.**



2) **Aggregate fruit:** derived from multiple pistil of a single flowers, thus having an apocarpous gynoecium.

1-Achenecetum: in Fragaria.

2-Drupecetum: Magnolia.

3-Syncarp: in Annona.

3) Multiple fruit: derived from many coalescent flowers.

1-Sorosis: in Ananas.

2-Syconium: in Ficus.

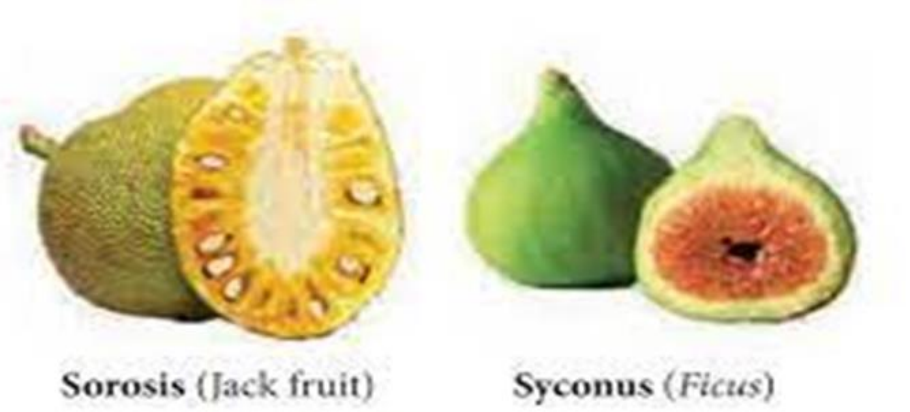


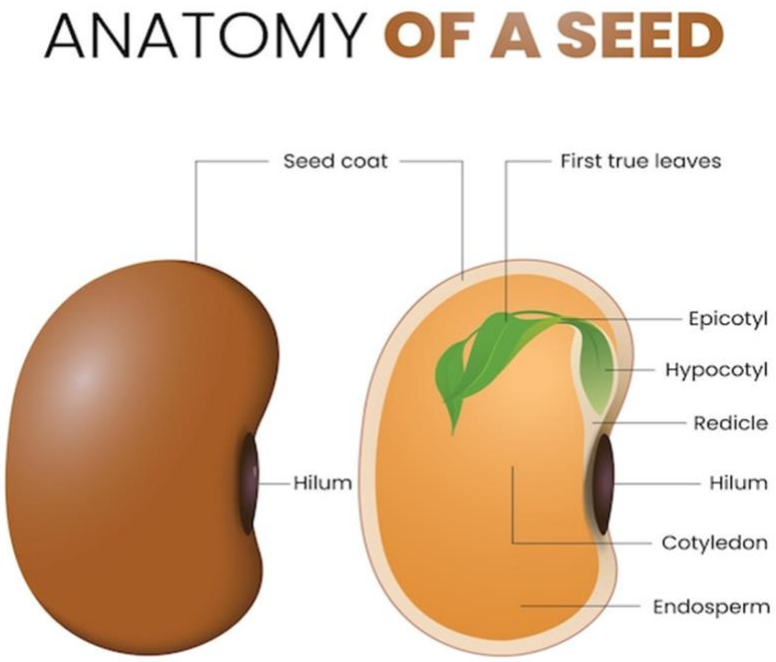
Figure 4.45: Multiple or composite fruit

Seeds: seeds are mature ovules that contain the embryonic plants of the next generation. The tremendous production of seeds ensures the renewal of plant populations. Each seed is constructed and packaged to ensure its dispersal to a favorable site for successful germination and growth. The fruit is the packaging structure for the seeds of flowering plants.

Note: Aspects of seed morphology can be important systematic characters used in plant classification and identification.

❖ part of seed is:

1-Seed coat
2-Hilum:
3-Raphe:
4-Endosperm:
5-Embryo: is the immature sporophyte, it consist of:
A-Epicotyl: the immature shoot.
B- Radical: the immature root.
C-Hypocotyl: the transition region between the root and epicotyl



❖ Seeds come in different sizes and shapes across plant species. They range from dust-sized seeds in orchids to double coconut *Lodoicea*

❖ describe shape of seeds:

•Bean-shaped (reniform).

•Triangular.

• Discoid.

•Globose – spherical.

•Ovoid

•Square or Oblong.

•Elliptic or Ovate or Obovate

•Ellipsoid.

•Lenticular

•Sectoroid