

THE FRUIT

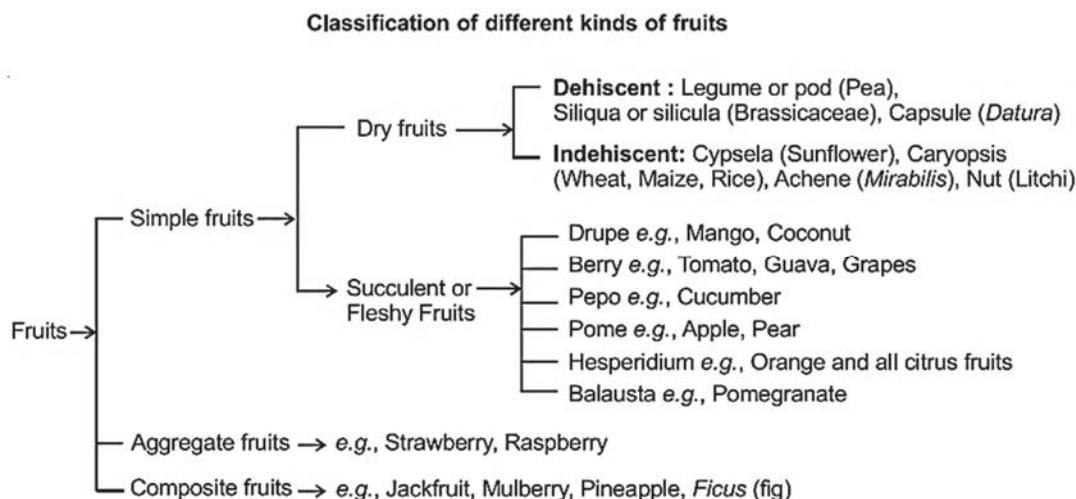
Angiosperms, or flowering plants, are distinguished by the presence of a crucial reproductive structure known as the fruit. Post-fertilization, the matured ovary transforms into what is commonly referred to as the fruit. However, it is worth noting that certain fruits can form without the process of fertilization; these are termed parthenocarpic fruits. A classic example of parthenocarp is observed in bananas.

Parts of a Fruit:

A fruit comprises primarily two integral components: the fruit wall and the seed.

- Fruit Wall:** The fruit wall, or pericarp, originates from the ovary wall and can exhibit either a dry or fleshy nature. In instances where the pericarp is thick and fleshy, it differentiates into three distinct layers:
 - Epicarp (Outer Cover):** The outermost layer of the pericarp.
 - Mesocarp (Middle Layer):** The intermediate layer situated between the outer and inner layers.
 - Endocarp (Innermost Layer):** The innermost layer of the pericarp.
- Seed Development from Ovules:** Seeds, the vital reproductive structures, develop from ovules. Notably, in certain plants, the ovary can evolve into a fruit without the need for fertilization, leading to the formation of seedless fruits. This phenomenon is termed parthenocarp and is exemplified by fruits like bananas and grapes. A fruit deriving directly from the ovary is referred to as a true fruit, constituting the majority of fruits. In cases where other floral components contribute to fruit formation, it is classified as a false fruit or pseudocarp. Examples include apples and pears.

Classification of Fruits:



- Simple Fruit:** Originating from the syncarpous ovary of a single flower, a simple fruit may or may not involve accessory parts.
- Aggregate Fruit:** Formed from a polycarpellary, apocarpous ovary, an aggregate fruit results from each carpel developing into a fruitlet. The aggregate fruit comprises multiple fruitlets.
- Composite Fruit:** Emerging from the entire inflorescence, a multiple fruit represents the collective development of fruits from various flowers in the inflorescence.

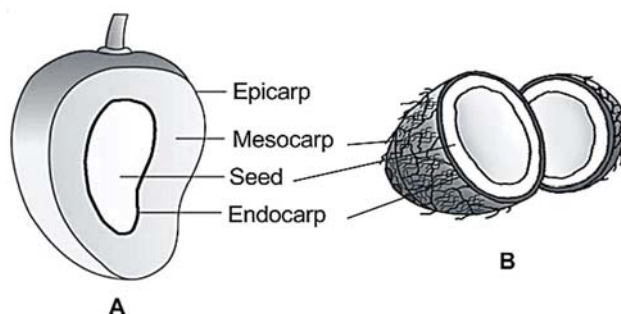
Types of Fruits

- **Simple Fruits:** Simple fruits are those that develop from the syncarpous ovary of a single flower, with or without accessory parts. There are several subcategories of simple fruits:

Dry Indehiscent Fruits: Dry indehiscent fruits do not undergo spontaneous splitting or bursting. Seed release occurs only through the decomposition or destruction of the pericarp.

Dry Dehiscent Fruits: Dry dehiscent fruits have the characteristic of bursting automatically, facilitating the discharge of seeds.

Fleshy or Succulent Fruits: This category includes fruits with a fleshy and juicy texture. One example is the drupe, characterized by mostly one-seeded fruits. The pericarp of a drupe is differentiated into three layers: epicarp (outer skin), mesocarp (fleshy and edible), and a hard, stony endocarp. Examples of drupes include Mango (*Mangifera indica*), Coconut (*Cocos nucifera*), and Walnut (*Juglans regia*).



Parts of a fruit. A. Mango; B. Coconut

- **Aggregate Fruits:** Aggregate fruits are those that develop from a polycarpellary, apocarpous ovary. In this type, each carpel transforms into a distinct fruitlet, and collectively, they form the aggregate fruit.
- **Multiple or Composite Fruits:** Multiple or composite fruits are those that develop from the entire inflorescence. This type of fruit showcases the intricate connection between the floral components, resulting in a collective structure representing the culmination of multiple flowers.