Fruit

- Post fertilization product of the ovary is Fruit
- Formation of seeds inside the fruit is the characteristic feature of the angiosperms
- Time taken for the formation of the fruit varies from plant to plant.
- Normally fruits are formed in a few months
- In Lodoecia this period extends up to 10 years
- Fruits developed from any part of the flower along with ovary is called false fruit
- False fruits are always associated with true fruit
- The thalamus grows along with the ovary to from a false fruit In **Pyrus malus**
- The Pedicel develops in to a juicy succulent false fruit in Anacardium occidentalis.
- Fruits developed from the fertilized ovary is called True fruits
- The true fruit has two parts Pericarp and the seed

True fruits are 3 types

A. Simple fruits
B. Aggregate fruits
C. Composite fruits

Simple and aggregate fruits are developed from single flower where as composite fruits develop from entire inflorescence

A. Simple fruits:

Fruit that develops from the syncarpous Gynoecium of a single flower is called a simple fruit

Based on the nature of pericarp simple fruits are again classified

i. Fleshy fruits:

- pericarp becomes fleshy at the time of ripening
- it has three layers outer epicarp, middle mesocarp and inner endocarp.
- Seeds are liberated only after the disintegration of the pericarp.
- Pericarp shows great variations in different fleshy fruits
- Theses are five types

BERRY: Fleshy fruits developed from ovary of bi to multicarpillary syncarpous gynoecium with one or two seeds is called **BERRY. Eg:** Solanum melongena, Lycopersicon esculentum, Musa paradisaca.

- Mesocarp and endocarp fuses to form pulp
- In Pheonix dactylifera single is present in pulp
- In solanum and lycopersicon many seeds are scattered in pulp

POME: Fleshy fruit developed from inferior ovary of bi or multicarpillary syncarpous gynoecium surrounded by fleshy thalamus is called **POME**

- Pericarp is differentiated to outer epicarp fused with thalamus to form rind. Fleshy Meso carp and smooth endocarp
- Characteristic fruit of family Cucurbitaceae, Eg: cucumis sativa and cucurbita maxima

HESPERIDIUM: fruit developed from multilocular, superior ovary of multicarpellary syncarpous gynoecium with seeds developed from the central axis is called Hesperidium.

- Pericarp is divided in to outer leathery epicarp with many glands of volatile oils, white papery mesocarp attached to epicarp and inner endocarp with juicy edible hairs
- Characteristic fruit of **family Rutaceae is hesperidium Eg: Citrus species**

Drupe: fruit developed from unilocular superior ovary of monocarpellary or multicarpellar syncarpous gynoecium is called **DRUPE**

- Fruit characterized by stony endocarp is Drupe Eg; Mangifera India, Cocos nucifera

B. DRY FRUITS

- The ripe fruit in which pericarp remains dry and undifferentiated is called DRY fruits
    i. Dry dehiscent fruit
    ii. Dry indehiscent fruit

iii. Schizocarpous fruit

i. **Dry dehiscent fruit**: fruit dehisce at maturity to liberate seeds is called dry dehiscent fruit. Its again different types

a. Legume:

- fruit developed from unilocular half inferior ovary of monocarpellary gynoecium is legume.
- Fruit dehisces dorsiventrally in to two halves is legume.
- Characteristic fruit of family FABACEAE. Is Legume Eg. Dolichos, Pisum.

b. Capsule:

- fruit develop from uni or multi loccular superior or inferior ovary of bi or multi carpellay syncarpous gynoecium is **capsule.**
- At maturity capsule dehisces differently accordingly they are different varieties.
- Capsule that dehisces along the septa between the locules in to definite number of pieces equal to the number of carpels **Scepticida capsule** eg : Aristolochia
- Capsule that dehisces along middle portions of the locules is called **Loculicidal capsule**
- Fruit splits in to number of pieces equal to number of locules
  Eg: Gossypium herbaceum, Abelmoschus esculentus.
- Fruit that Dehisces either loculicidal or septicidal manner is called septifragal capsule. Eg. Datura

ii. **Dry indehiscent fruit**: single seede fruit which does not dehisces even at maturity is called Dry indehisxcent fruits. Seeds are liberated only after the disintegration of the pericarp.

- Fruit that develops from unilocular ovary of monocarpellay gynoecium is called **Caryopsis**
- Fruit in which pericarp and seed coat fuse together are called **Caryopsis.**
- Characteristic fruit of the family **poaceae Eg> Oryza and triticum.**
- One seeded fruit developed from unilocular inferior ovary of bicarpellary syncarpous gynoecium is called **CYPSELA**
- Fruit with persistent pappus like calyx is CYPSELA
- Charatcteristic fruit of family Asteraceae is CYPSELA Eg. Tridax procumbens, Tagetus patula
- Nut is a fruit developed from unilocular superior ovary of bi or multicarpellary syncarpous gynoecium.
- This fruit is characterized by stoney pericarp.
- Pericarp and seed coat remain free Eg. Anacardium occidentalis

iii. schizocarpic fruits:fruit with dehiscent and indehiscent fruit is called schizocarpic fruit at maturity splits up in to many one seeded bits called **Mericarp**
Lomentum develops like a legume from amonocarpellay gynoecium
Lomentum is common in family Mimosae Eg. Acacia and Mimosa
Schizocarp fruit multilocular, superior ovary of multicaropellary syncarpous gynoecium is schizocarp fruit.
Each meicarp contains one seed Eg. Sida many seeds Eg. Abutilon
Characteristic fruit of the family Malvaceae.

AGGREGRATE FRUIT

- True fruits develop from ovaries of multicarpellary apocarpous gynoecium of a single flower is called Aggregate fruit.
- Ovary of each carpel develops in to a fruit let. The bunch of fruit lets are called **Etaerio**
- In Annona each fruitlet is a single seeded berry
- In Polyalthia and Artabotrys the fruits remain free
- Etaerio of Achenes Eg: Naravelia and Nelumbo
- Etaerio of berries Eg: Polyalthia and Artabotrys
- Etaerio of drupes Eg: Rubus
- Etaerio of follicles Eg: Magnolia

COMPOSITE FRUIT:

Fruits developed from inflorescence are called composite fruits
Multiple fruit that develops from Spike or spadix or Catkin inflorescence is called **SOROSIS Eg: spike (Ananas sativus,) Spadix (Eg: Artocarpus) Catkin Eg: Morus**

Multiple fruit which develops from hypanthodium inflorescence is **Syconus.**
After fertilization female flowers present on the inner margin of the receptacle produce **achenes Eg: Ficus species**