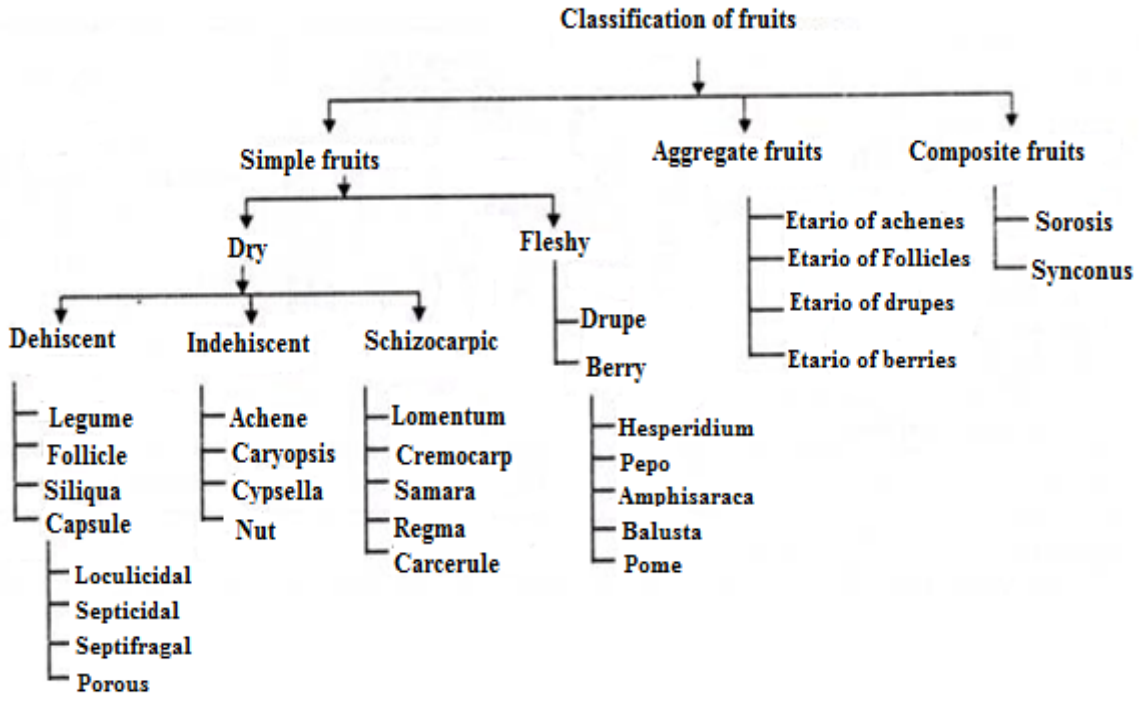


The following points highlight the three main types of fruits.

The types are: 1. Simple Fruits 2. Aggregate Fruits 3. Multiple Fruits.

I. Simple Fruits: The fruits develop from the ovary of a solitary pistil in a single flower, e.g., pea, *Pisum sativum*

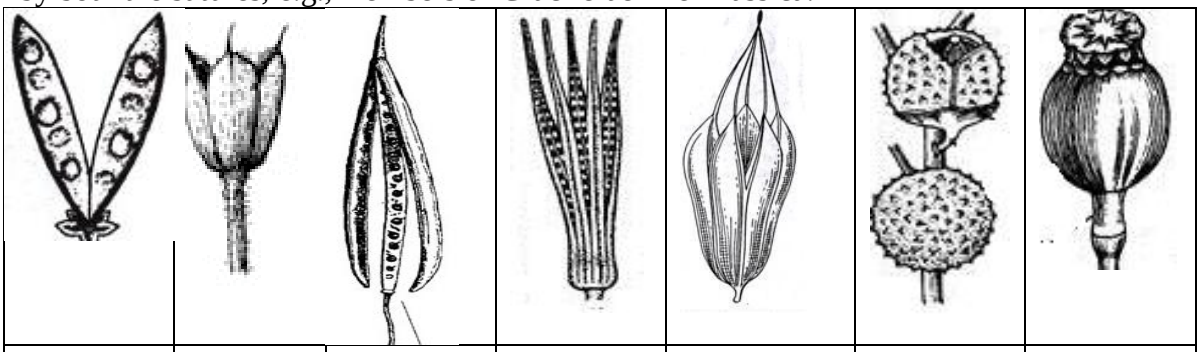
(A) Dry Simple Fruits: In this type, the pericarp of fruit is simple, dry, membranous, leathery or woody and is not differentiated into three layers.

(a) Dry and Dehiscent Simple Fruits: The pericarp of the fruits rupture after ripening and then the seeds are dispersed.

1. Legume: It develops from monocarpellary, superior ovary with marginal placentation. It dehisces along both the dorsal and ventral sutures, e.g., *Pisum*, *Lathyrus*, etc.

2. Follicle: It is derived from a monocarpellary, superior ovary and dehisces only along one suture, e.g., *Delphinium*.

3. Siliqua: It develops from bicarpellary, syncarpous gynoecium with parietal placentation and a false septum. It is long, narrow, multiseeded fruit which dehisces from below upward by both the sutures, e.g., members of Cruciferae like Brassica.



Legume	Follicle	Siliqua	Loculicidal	Septicidal	Septifragal	Porous
			Capsule			

4. Capsule: It develops from bi-, tri- or multicarpellary superior or inferior ovary. It may dehisce either longitudinally, transversely or by the formation of pores. It can be further classified as below.

i. **Loculicidal:** The dehiscence takes place along the dorsal sutures, e.g. Lady's finger

ii. Septicidal: The dehiscence takes place along the line of union of carpels, e.g. *Aristolochia*

iii. Septifragal: The dehiscence can be loculicidal oe septicidal but the walls fall off leaving the seeds attached vto the central axis, e.g. *Datura*

iv. Porous: The dehiscence takes place by one or more pores near the apex, e.g. *Opium*

(b) Dry and Indehiscent Simple Fruits: The fruits do not dehisce even after ripening and the seeds remain inside the fruits.

			
Achene	**Caryopsis**	**Cypsella**	**Nut**

1. Achene: It develops from monocarpellary, superior ovary. Wall of the single seed is free from the hard pericarp or wall of the fruit, e.g., *Clematis, Boerhaavia, Mirabilis*.

2. Caryopsis: It develops from monocarpellary ovary in which the pericarp is inseparably fused with testa, e.g., *Triticum, Zea*, etc.

3. Cypsella: Dry, one – chambered, one-seeded fruit derived from bicarpellary or polycarpellary, syncarpous, inferior ovary having basal placentation. Testa and pericarp are free in cypsella, e.g., *Launea, Helianthus*, etc.

4. Nut: When fruit wall is hard and bony of one – chambered, one – seeded fruit developing from bicarpellary to polycarpellary, superior ovary, e.g., *Trapa, Anacardium*, etc.

(c) Dry and Schizocarpic Simple Fruits: When the ripe fruits are divided into one- seeded segments (mericarps) and the segments do not rupture further, it is called Schizocarpic fruit.

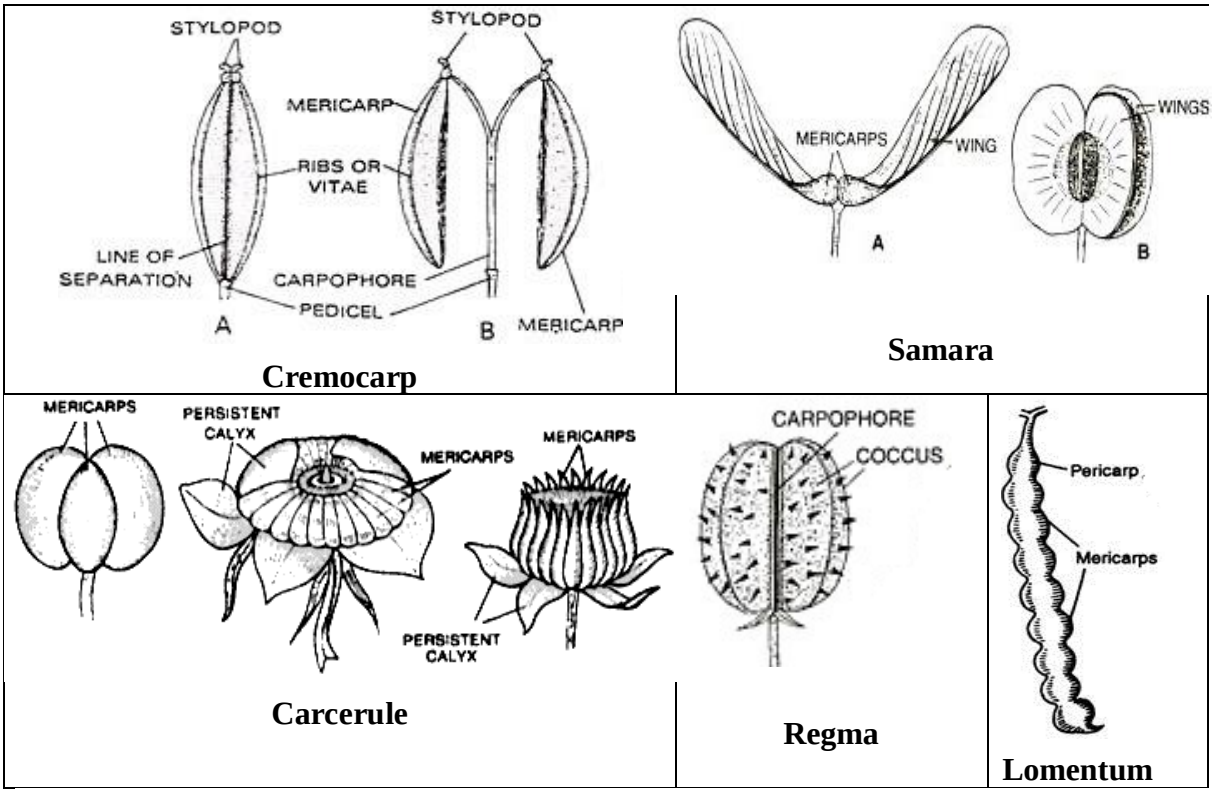
1. Cremocarp: It develops from bicarpellary, syncarpous bilocular, inferior ovary with one ovule in each locule. The fruit dehisces from two indehiscent, single-seeded mericarps which remain attached with carpophore, e.g., Apiaceae.

2. Carcerule: It develops from bi- to multicarpellay syncarpous, superior ovary with many locules, each having one or more ovules on axile placentation. It is characteristic of Labiatae.

3. Regma: It develops from tricarpellary, syncarpous, superior, trilocular ovary, and bears many spinous tubercles. It splits into many parts called cocci, i.e., *Ricinus*.

4. Lomentum: It develops from monocarpellary, superior ovary with marginal placentation, like legume, but dehiscing sutures are transverse. At maturity the fruit is broken up into many one- seeded segments, e.g., Acacia, *Arachis hypogaea*, etc.

5. Samara: It develops from bi- to tricarpellary, syncarpous, superior ovary having single ovule in each locule. Fruit bears wings and breaks up into two or three one – seeded mericarps, e.g., *Dodonaea*, *Acer* etc.



(B) Simple Fleshy Fruits:

1. Drupe: Fruit with thin inedible epicarp, fleshy edible mesocarp and stony endocarp, e.g., mango. Sometimes the mesocarp is fibrous as in coconut or dry as in almond.

2. Berry: It is indehiscent, many-seeded fruit with fleshy and edible endocarp, e.g., tomato, watermelon, banana, etc.

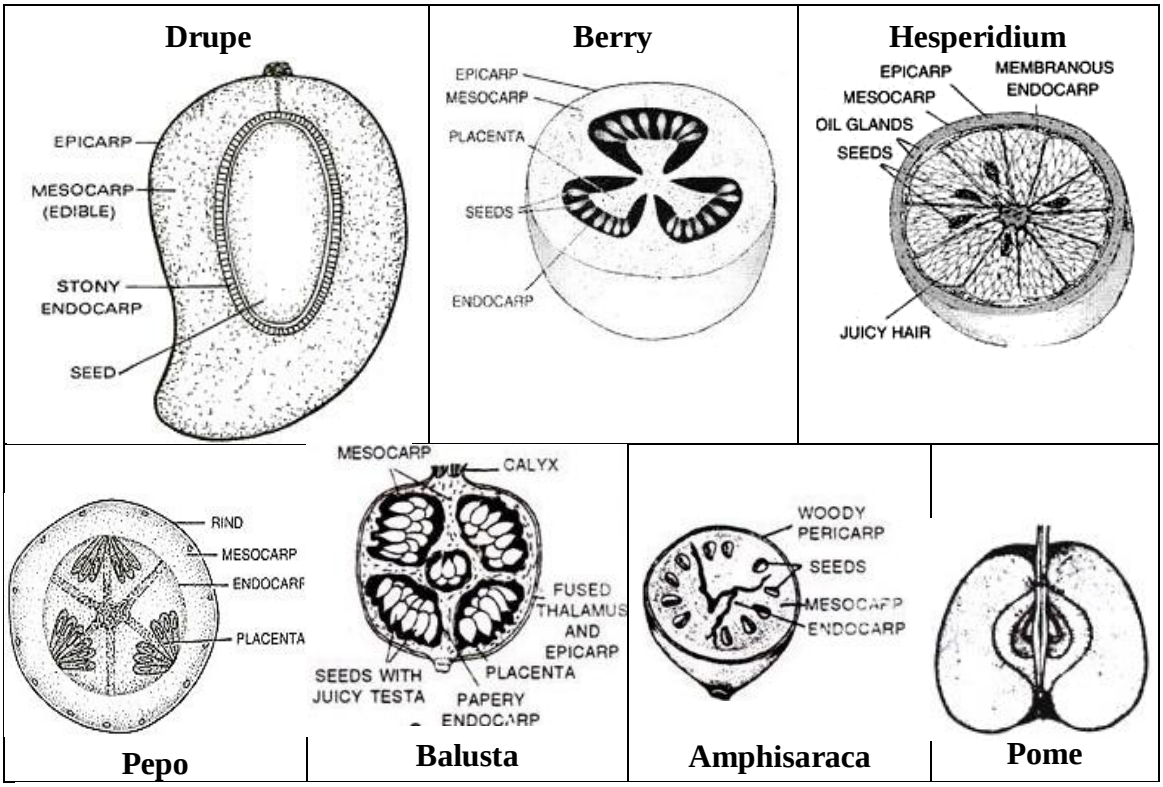
a. Hesperidium: It is a berry with hard and leathery pericarp. It develops from polycarpellary, multilocular, superior ovary, e.g., oranges, lemon etc.

b. Pepo: It is similar to berry in being fleshy and multi seeded but it develops from a tricarpellary, syncarpous, inferior ovary with parietal placentation, e.g., Cucurbitaceae.

c. Amphisaraca: It is developed from many chambered ovary in which the outer part of pericarp is woody, e.g., Bael fruit.

d. Balusta: It develops from inferior many chambered ovary. The pericarp is leathery. The thin, yellow, membranous structures which divide the fruit into number of chambers represent the wall of carpel. The edible portion is juicy testa of the seed, calyx persistent, e.g., Pomegranate.

e. Pome: This is a pseudocarp or false fruit which has developed from the receptacle and not from the ovary, e.g., apple.



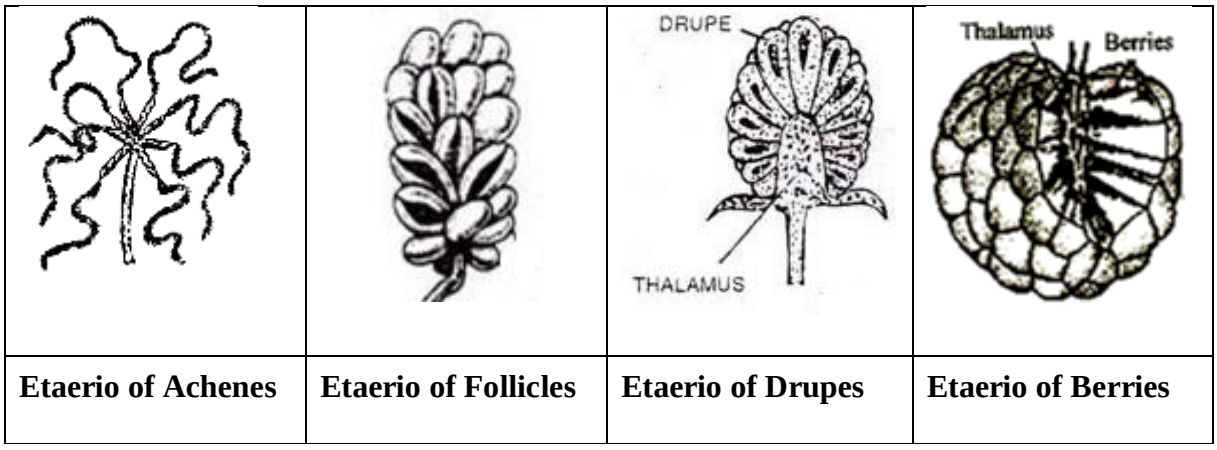
2. Aggregate Fruits:

1. Etaerio of Achenes: It is an aggregation of simple fruitlets of achenes, e.g., *Ranunculus*, *Clematis*.

2. Etaerio of Follicles: It is an aggregation of simple fruitlets of follicles, e.g., *Delphinium.*

3. Etaerio of Drupes: It is an aggregation of simple fruitlets of drupes, e.g., Raspberry.

4. Etaerio of Berries: It is an aggregation of simple fruitlets of berries, e.g., custard apple.

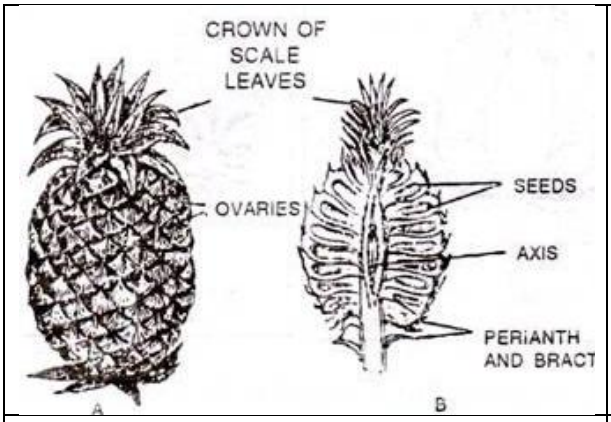
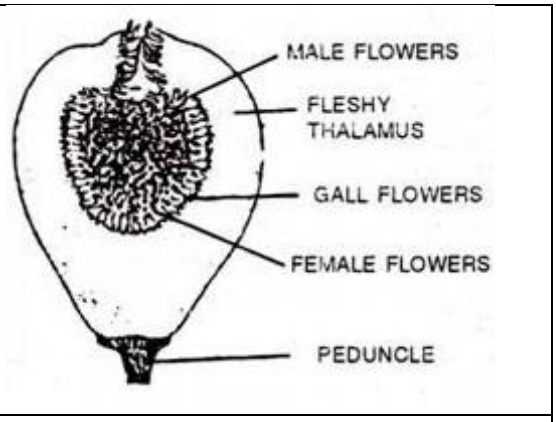


Etaerio of Achenes	Etaerio of Follicles	Etaerio of Drupes	Etaerio of Berries

III. Composite Fruits:

1. Sorosis: A multiple fruit developing from spike, spadix or catkin. Perianth of flowers become fleshy. Sometimes peduncle becomes edible and fleshy, e.g., Pineapple.

2. Syconus: It develops from hypanthodium inflorescence. In this case the peduncle is edible, fleshy and becomes hollow, e.g., fig, banyan, peepal, etc.

	
Sorosis	**Syconus**