

CHAPTER:- SEXUAL REPRODUCTION IN FLOWERING PLANTS

POST FERTILISATION EVENTS



- **THE MAJOR POST FERTILISATION EVENTS :-**
 - i. DEVELOPMENT OF ENDOSPERM AND EMBRYO
 - ii. MATURATION OF OVULE INTO SEED AND OVARY INTO FRUITS.



ENDOSPERM

- An endosperm is the nutritive tissue and is the main source of food for the embryo.

Note:-

In **Gymnosperm**, it is haploid structure.

In **Angiosperm**, it is triploid structure.



Types of Endosperm

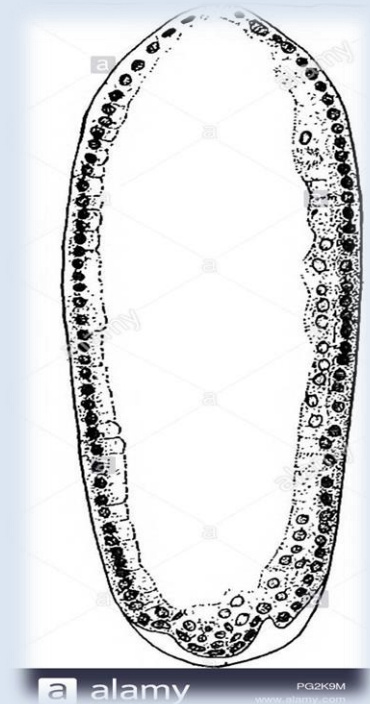
1. Nuclear type
2. Cellular type
3. Helobial type



Nuclear type

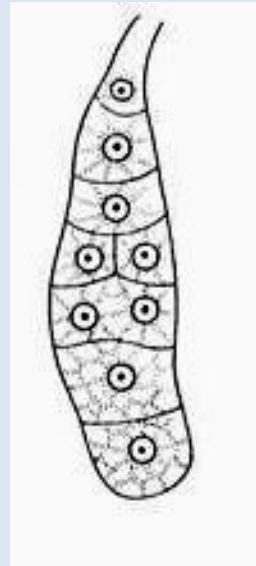
- Primary endosperm nucleus undergoes repeated divisions and nuclei produced get arranged at the periphery, leaving a large central vacuole.

Example:- **maize, wheat, rice, coconut**



Cellular type

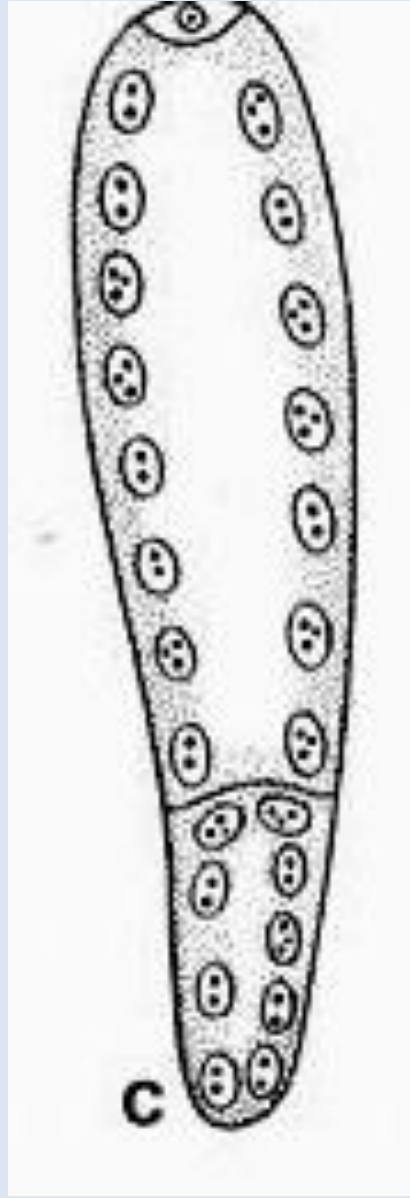
- Nucleus divides and every nuclear division is followed by cytokinesis, making the endosperm cellular from the beginning.
- Example:- Petunia , Datura

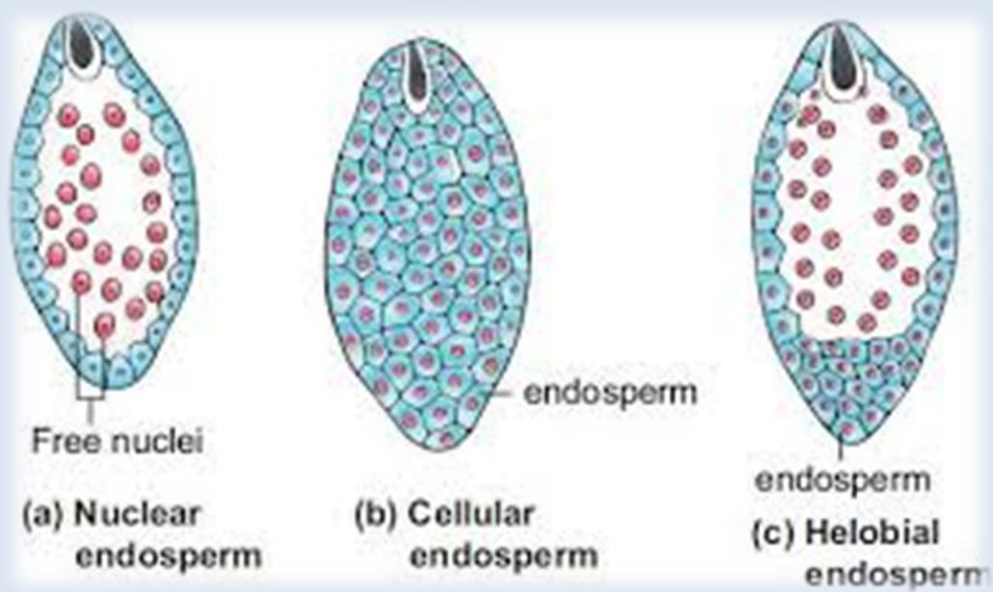


Helobial type

- This type is an **intermediate** between free nuclear and cellular type.
- The 1st division of endosperm mother nucleus is followed by wall formation forming two unequal cells
- The micropylar cell divides by free nuclear division later followed by wall formation.
- In the chalazal cell, one or two division may take place and it function as a small haustorial cell







ENDOSPERM

- Endosperm is the most common nutritive tissue for the developing embryo in angiosperms.
- In gymnosperms, it represents the female gametophyte whereas the female gametophyte in angiosperms differentiates before fertilization and is haploid, the endosperm is the product of fertilization and is usually triploid.
- After double fertilization the egg is called zygote, and the fusion product of polars and the second male gamete is termed Primary endosperm nucleus.
- The only angiosperms that do not form endosperm are the members of the families Orchidaceae, Podostemaceae and Trapaceae.

