Function of Endosperm:-

Serves as a storage tissue as its cells are laden up with food materials. This may be deposited as hemi-cellulose on the cell wall, become very thick eg. Date (Phoenix) Areca & phytelephas macrocarpa (veg. ivory)

Endospemic or Albuminous → Monocots & some dicotyledons (castor, cotton & all grasses) endosperm persists as permanent tissue in the seed. starchy (wheat, rice & other cereals) oil (castor & coconut)

ex-albuminous or non endospemic → In most dicotyledons, the cotyledons become fleshy by absorbing food from nucellus and the endosperm. In such case endosperm disappears completely. eg gram, Bean, Almond etc.

collectively termed **post-fertilisation events.**

2.4.1 Endosperm

Endosperm development precedes embryo development. *Why?* The primary endosperm cell divides repeatedly and forms a triploid

Endosperm → triploid endosper
↓
reserve food ma
tion of embryo

endosperm tissue. The cells of this tissue are filled with reserve food materials and are used for the nutrition of the developing embryo. In the most common type of endosperm development, (the PEN undergoes successive nuclear divisions to give rise to free nuclei. This stage of endosperm development is called free-nuclear endosperm.) Subsequently cell wall formation occurs and the endosperm becomes cellular. The number of free nuclei formed before cellularisation varies greatly. The coconut water from tender coconut that you are familiar with, is nothing but (free-nuclear endosperm) (made up of thousands of nuclei) and the surrounding white kernel is the cellular endosperm.

Endosperm may either be completely consumed by the developing embryo (e.g., pea, groundnut, beans) before seed maturation or it may persist in the mature seed (e.g. castor and coconut) and be used up during seed germination. *Split open some seeds of castor, peas, beans, groundnut, fruit of coconut and look for the endosperm in each case. Find out whether the endosperm is persistent in cereals – wheat, rice and maize.*

* PEN undergoes