Seeds

Embryo

- Root and shoot, in a miniature form

Food reserves

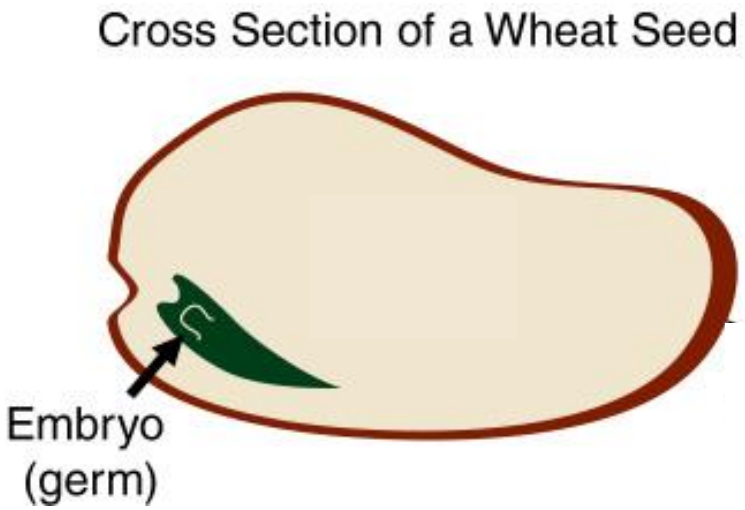
- Allow seedling to grow before it is capable of performing photosynthesis

Seed coat

- Provides protection from the environment

Embryo

- The seed contains a well-formed multicellular young plant embryo (germ)
- Embryo is _____ (2n)
- It will become a whole plant

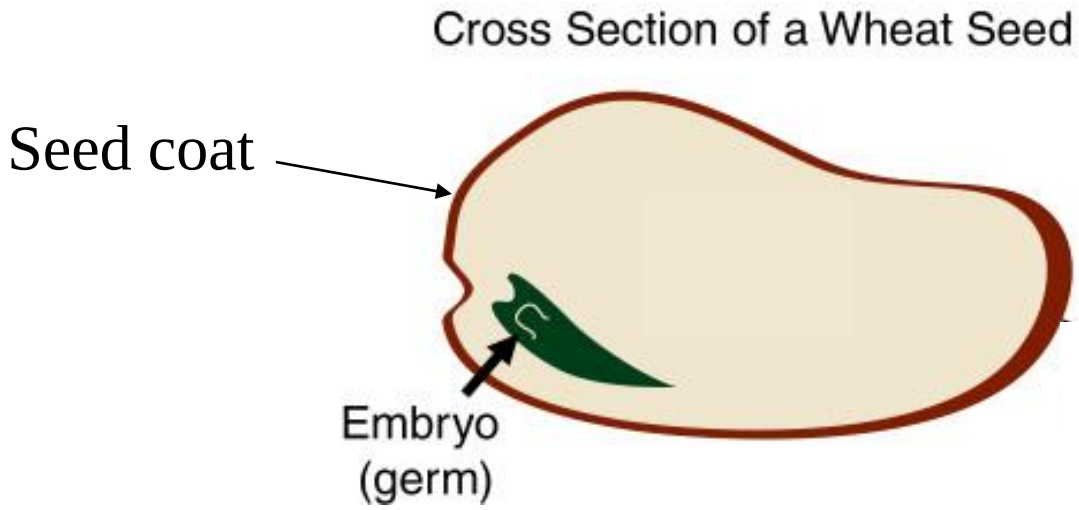


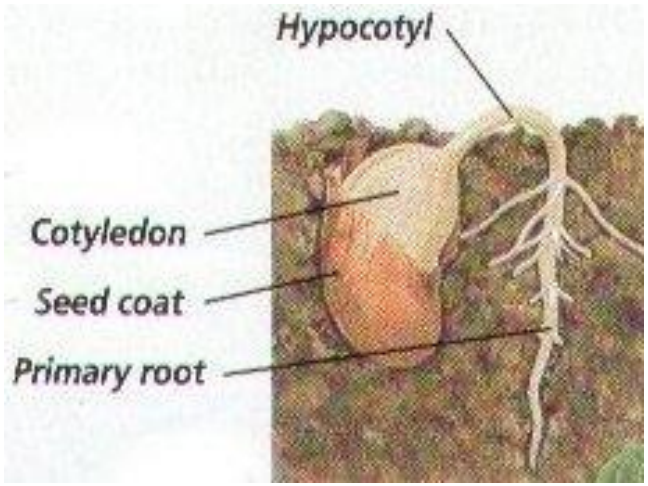
Nutritive tissue

- Seed contains a food supply
- Stored food contains enough energy for the embryo to grow through the soil, when seedling is unable to photosynthesize.
- Food source can be the _____, which is _____ (_n) – as a result of double fertilization

Seed coat

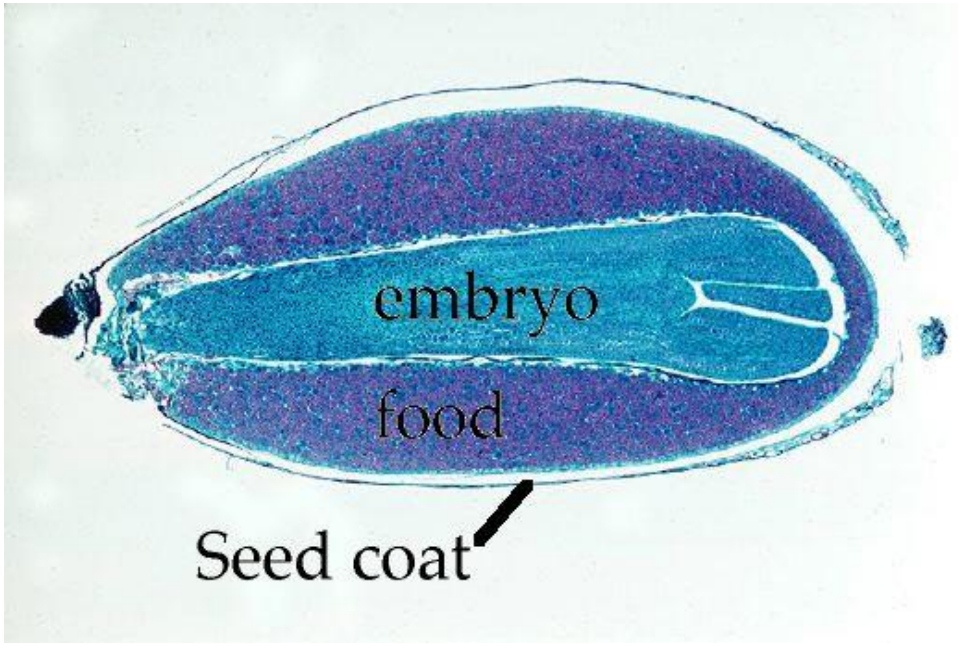
- A thick protective coat – outer layer of the seed
- Formed from the _____





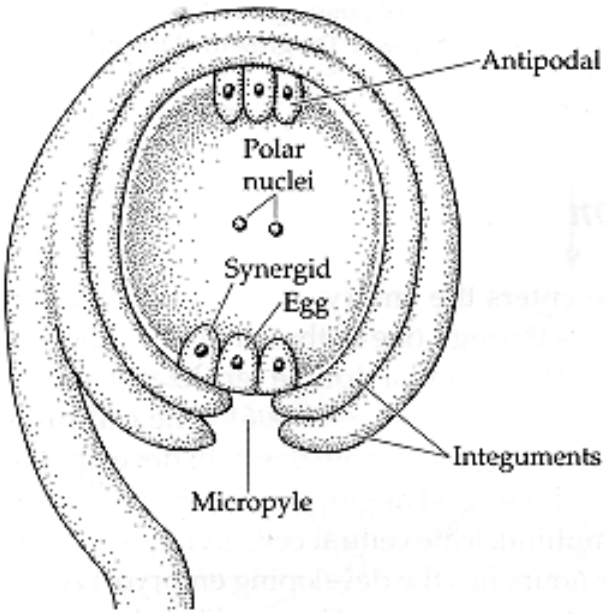
Gymnosperm seed

- Single fertilization produces the diploid embryo (2n)
- Food source is the haploid megagametophyte



Flowering plant seed

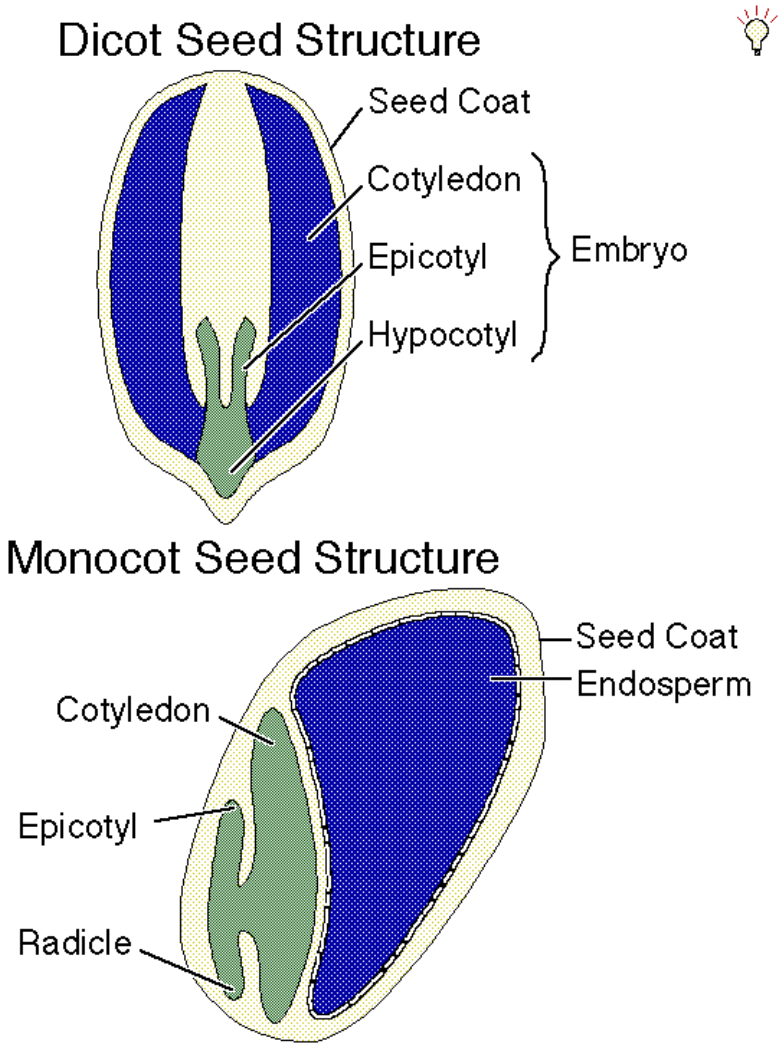
- In angiosperms (flowering plants) there is
- DOUBLE _____
- Which produces a diploid _____(2n) and,
- A triploid (3n) _____
- Endosperm is the food source



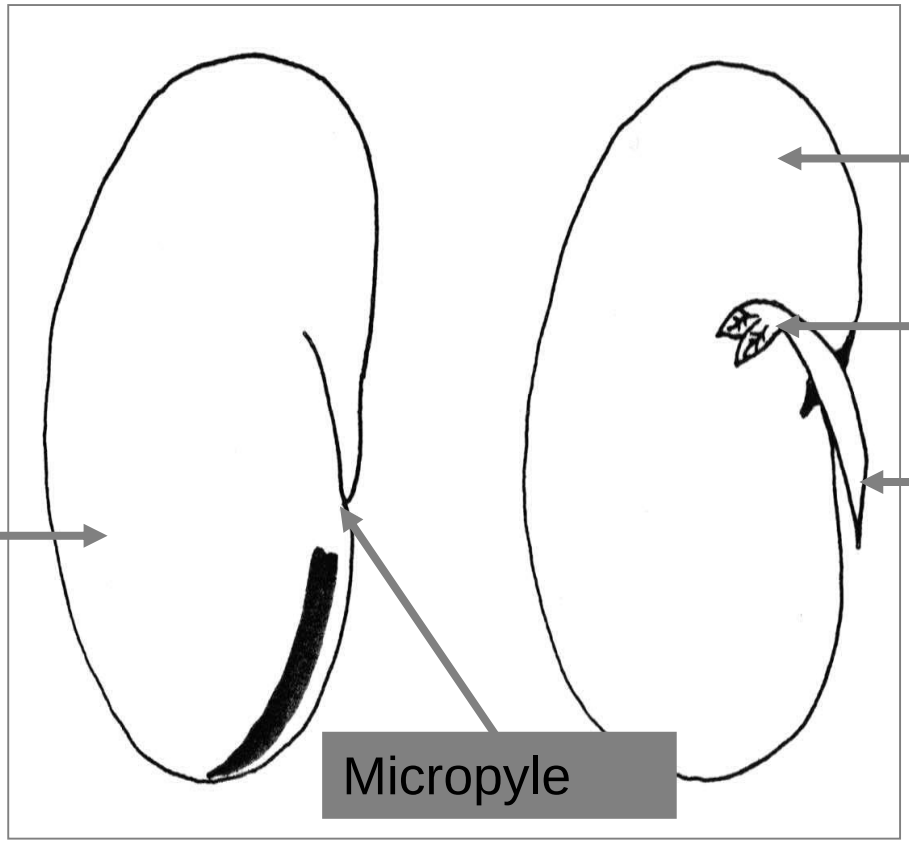
Dicot vs. monocot seed

- **Dicot** has two cotyledons (like bean)
- Endosperm (food) is kept in the _____

- **Monocot** has one _____ which absorbs the endosperm tissue during germination (corn)



Seed structure

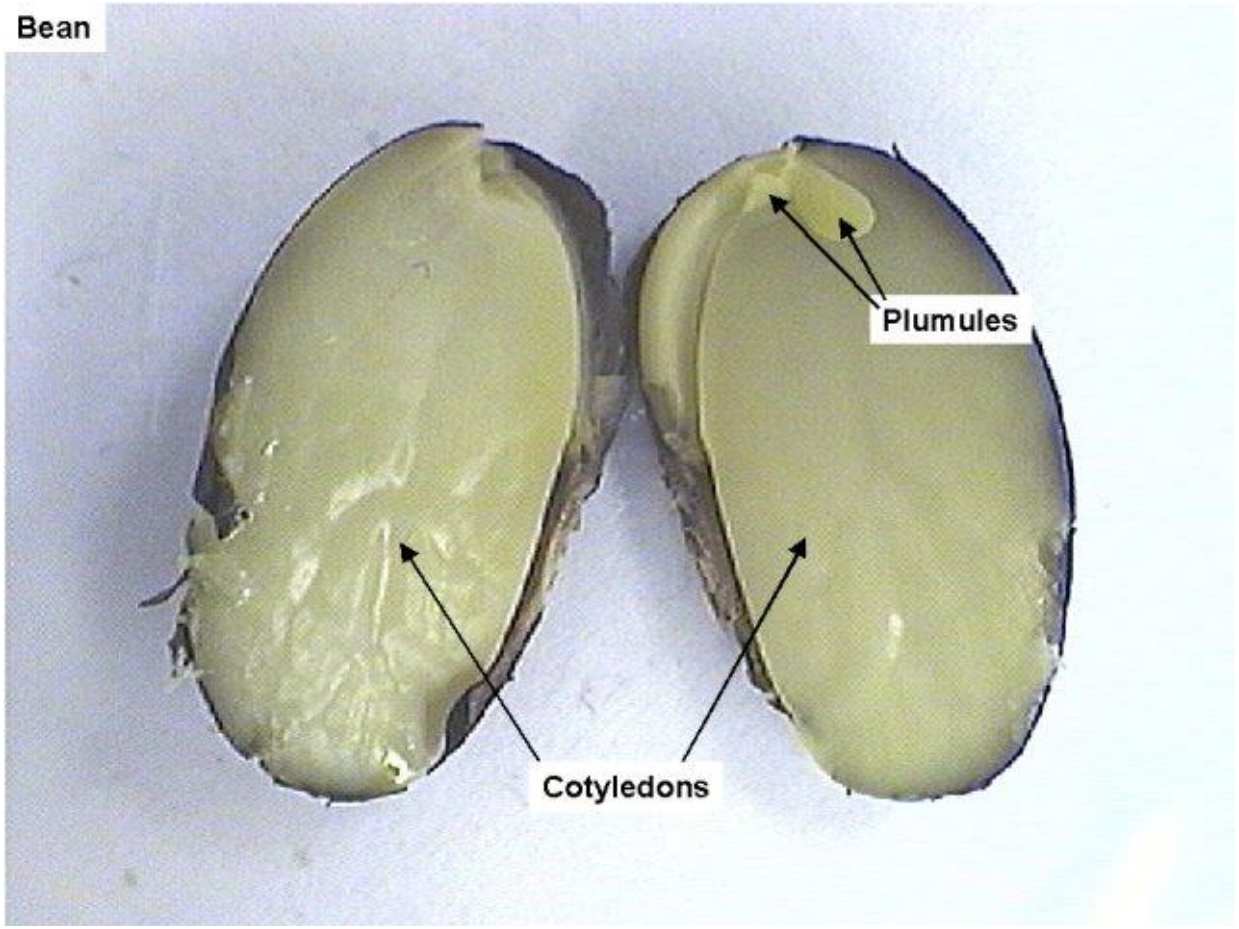


Endospermous and non-Endospermous seeds

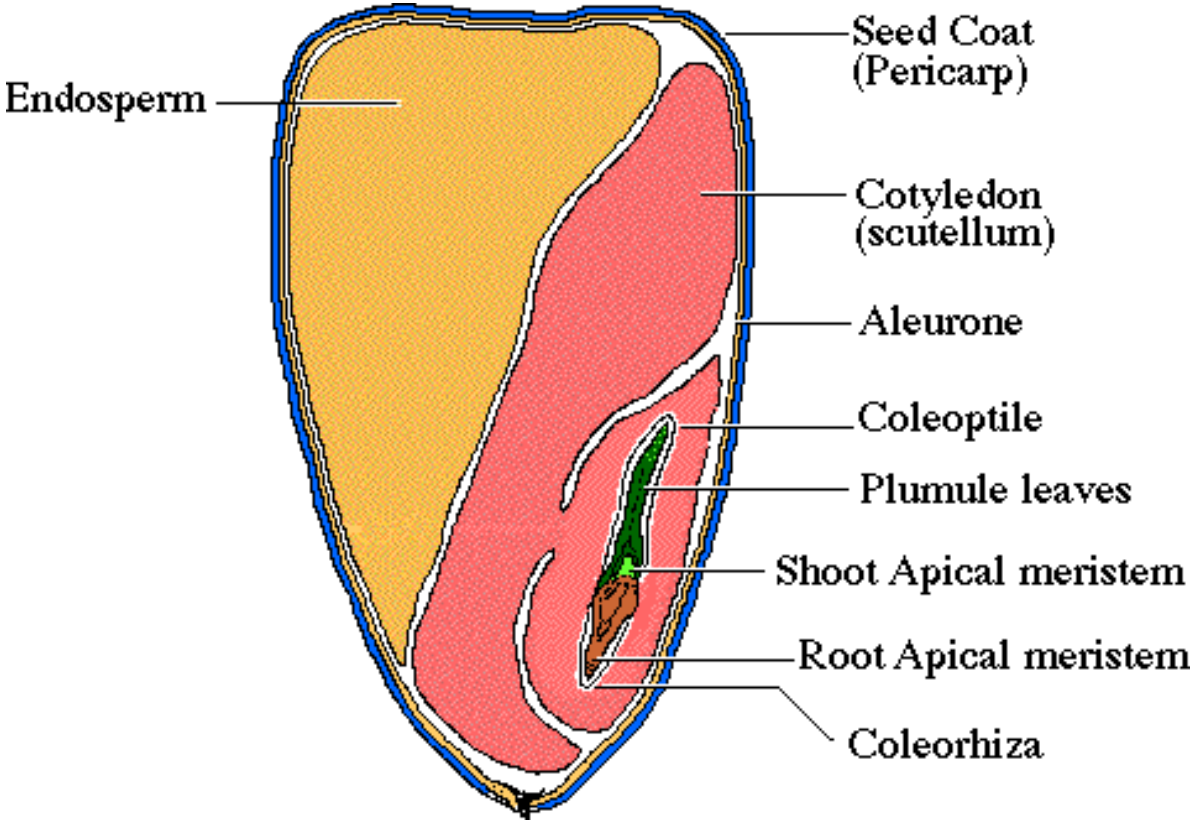
- Takes place in the fruit on the parent plant
- **Endospermous seeds:** Retain the endosperm tissue, and is surrounded by a layer of living cells, **the** aleurone layer.

- **Non-endospermous seeds:** The endosperm tissue is absorbed by the cotyledons. The cotyledons then become the food reserve for the seed.

Endospermous or non-Endospermous seeds?



Endospermous and non-Endospermous seeds



A LS of maize grain / fruit