

CASE

*Curriculum for Agricultural
Science Education*

Principles of Agricultural Science – Plant

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The Seed

Unit 7 – Plant Reproduction
Lesson 7.3 Kernels of Life

Seed Formation

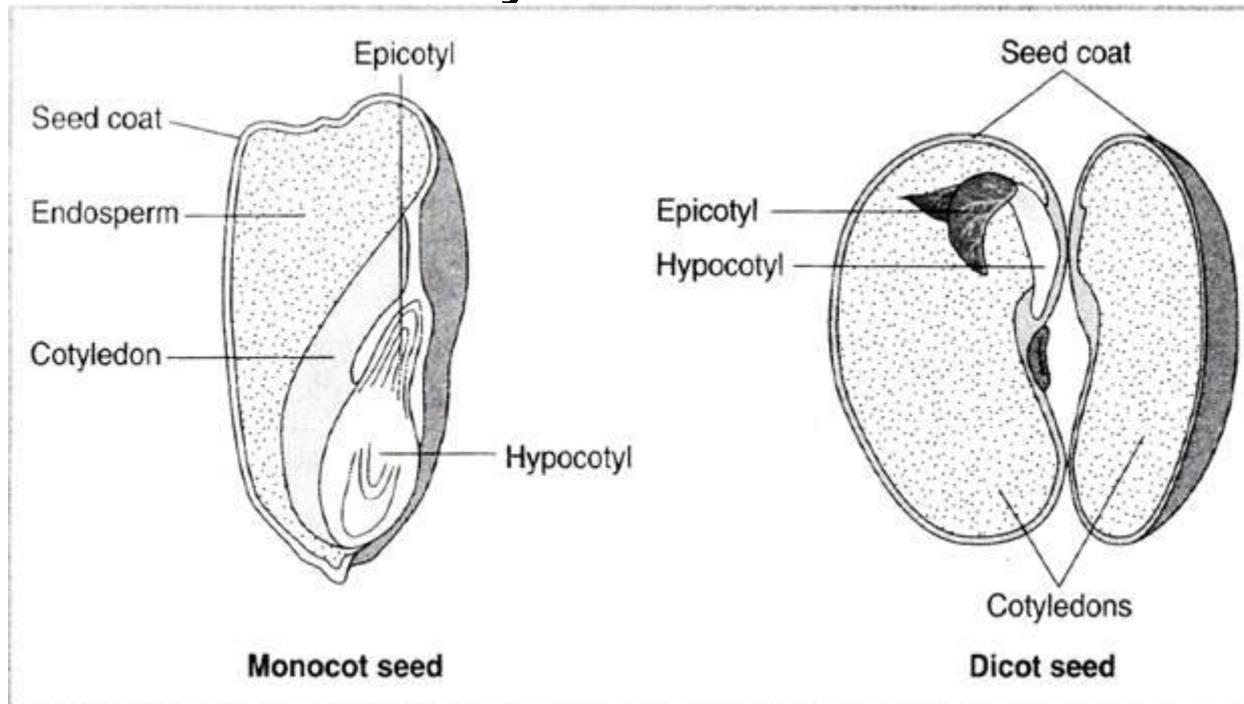


After an egg is fertilized in the ovule:

- ✿ The egg develops into an embryo
- ✿ The ovule develops into the seed testa or seed coat

Seed Parts

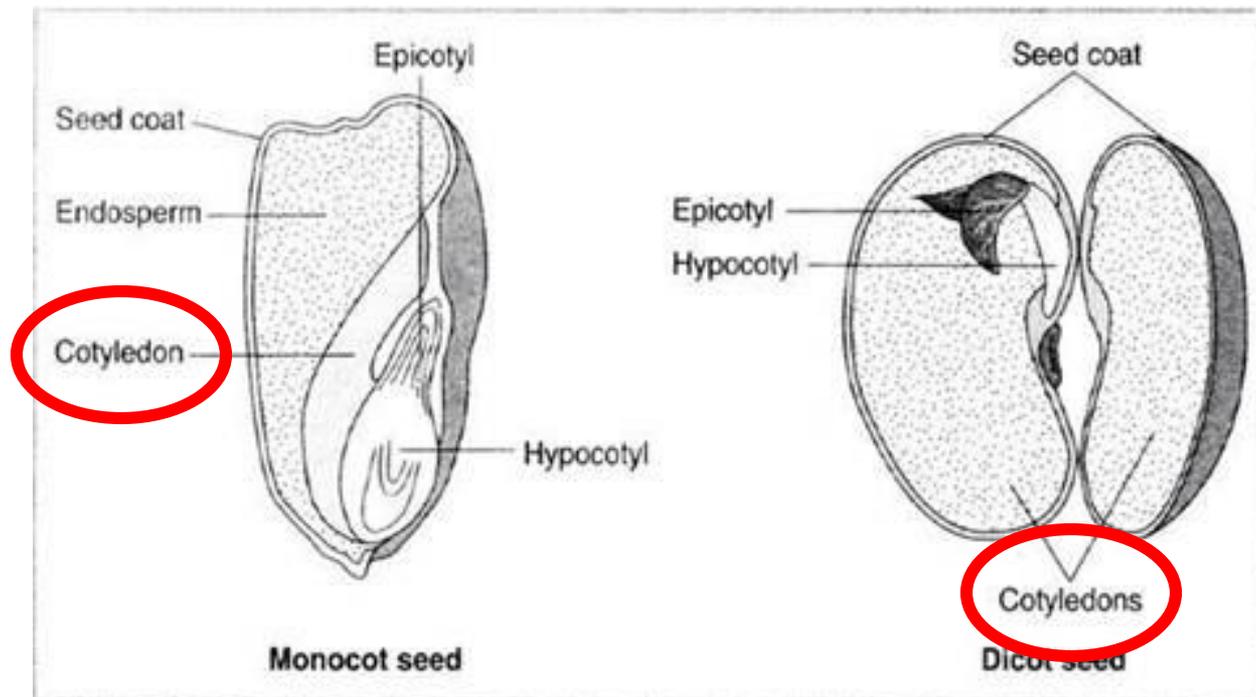
Basic parts of the monocotyledon and dicotyledon seeds:



(Parker, 2004)

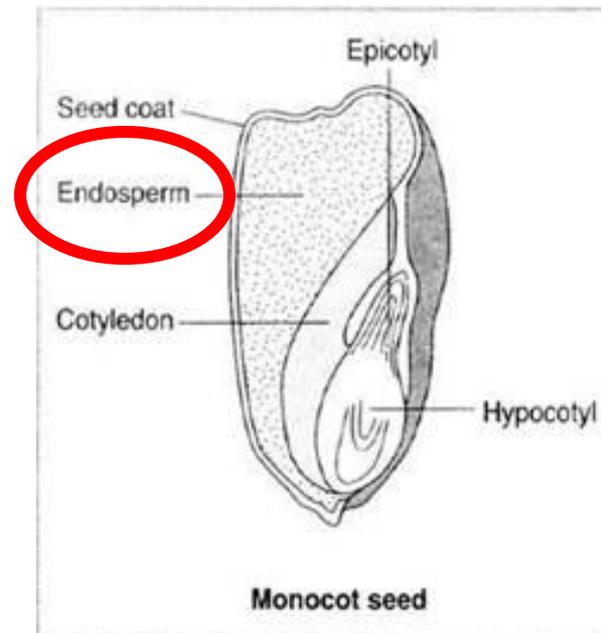
Cotyledon

The first leaf to be developed by the embryo in seed plants. Also called seed leaf.



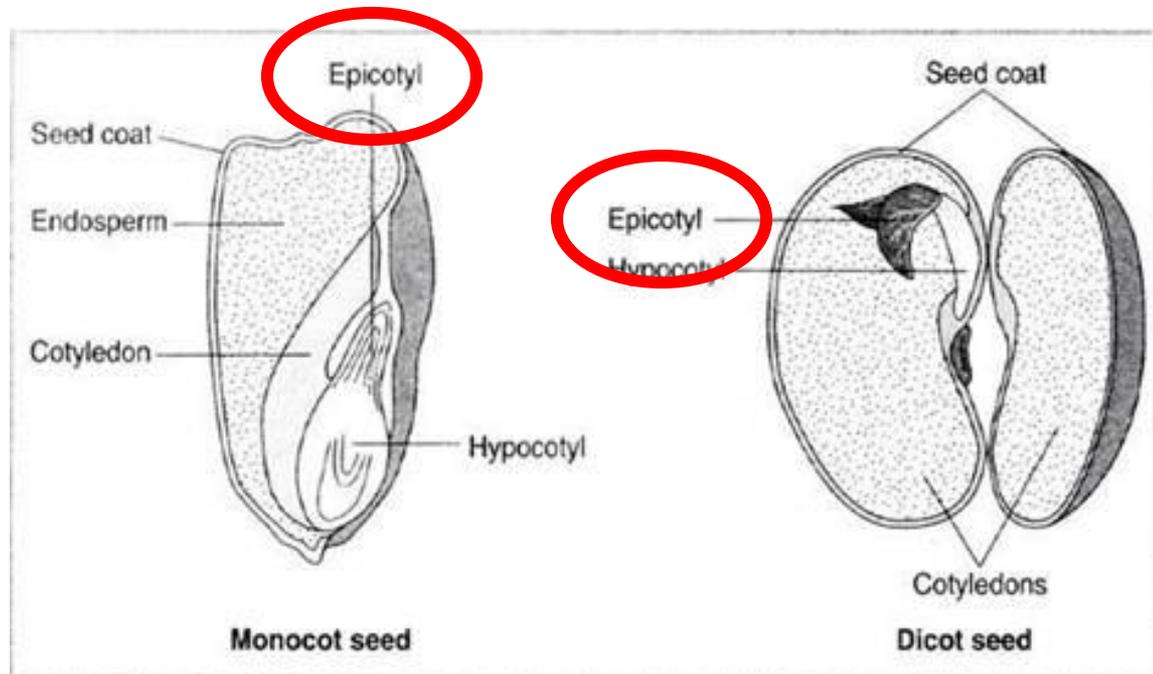
Endosperm

Serves as food for the growing plant during seed germination, often being entirely consumed in the process.



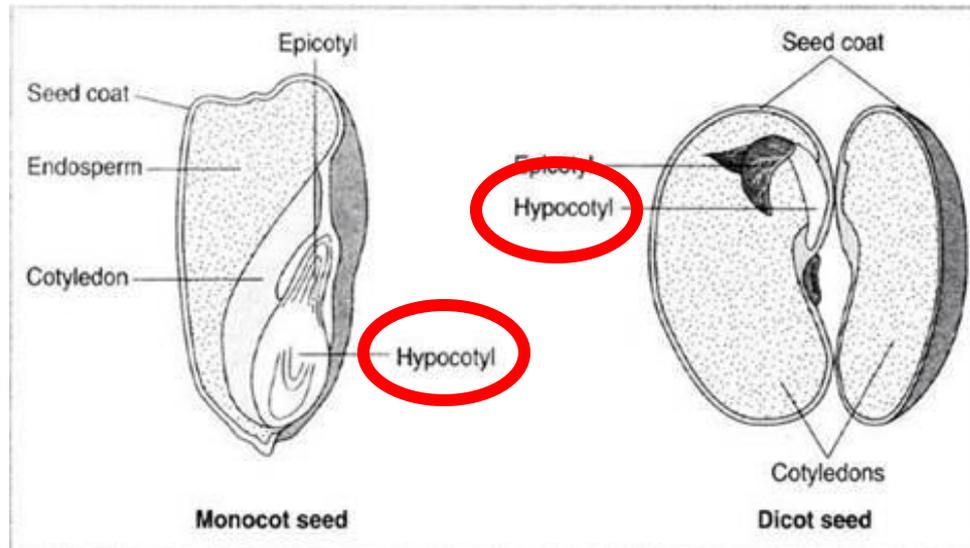
Epicotyl

The part of the axis of an embryo above the region of attachment of the cotyledons.



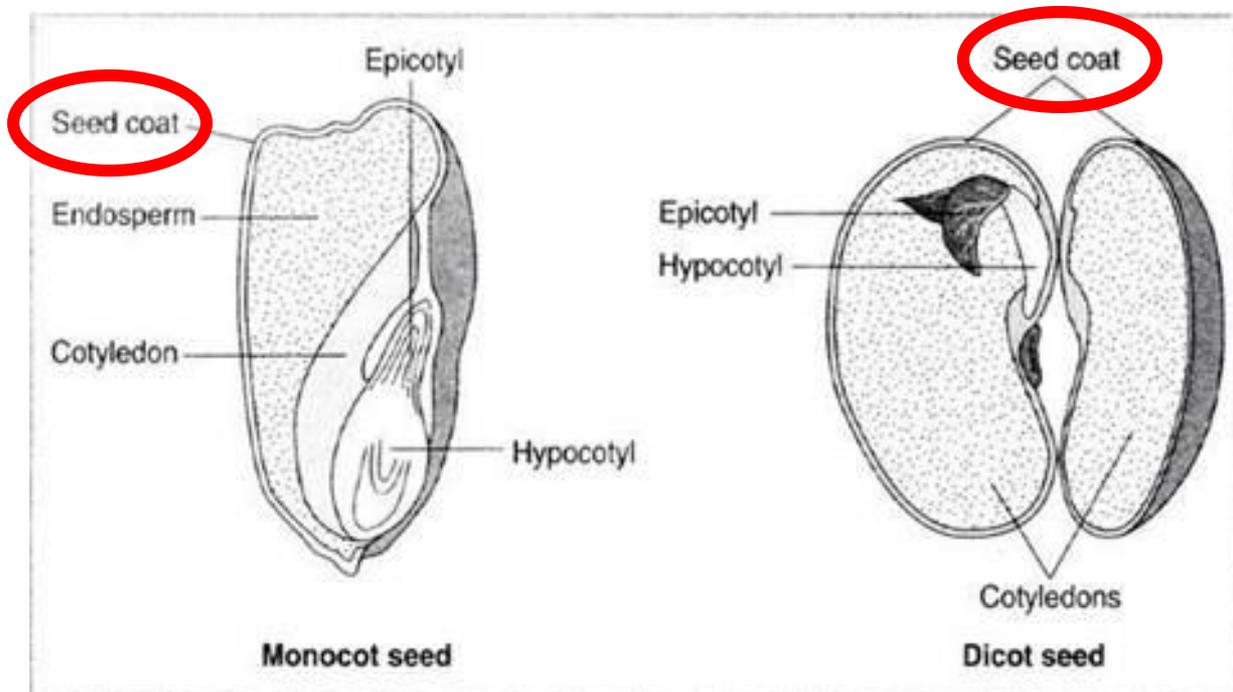
Hypocotyl

The short stem of an embryo seed plant, the portion of the axis of the embryo seedling between the attachment of the cotyledons and the radicle.



Seed Coat

The hard outer layer of a seed; the protective covering. Also called a testa.



Seed Germination

Seeds are living but in a dormant state.

Seeds require specific environmental conditions for germination.

When a seed breaks dormancy and begins to germinate, the process includes:

- 🌱 Seed absorbs water to soften and split the testa.
- 🌱 Cell division (mitosis) causes the embryo growth.
- 🌱 Starch from endosperm or cotyledons is converted to sugar and used as plant food.

Seed Enzymes



- Starch is present in both the endosperm of the monocotyledon seed and the cotyledons of the dicotyledon seedling.
- Diastase is an enzyme that digests the starch and transforms it into glucose.

References

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