



Chapter 1: Sexual Reproduction in Flowering Plants

QUICK REVISION: ONE-LINER QUESTIONS AND ANSWERS

- What is the reproductive part of a flowering plant? - **The flower.**
- What is the male part of a flower called? - **The Androecium.**
- The androecium is made of what units? - **Stamens.**
- A stamen has which two parts? - **The anther and the filament.**
- What part of the anther makes pollen? - **The microsporangium (or pollen sac).**
- What is the ploidy of a microspore mother cell? - **Diploid (2n).**
- How do microspore mother cells form microspores? - **Through meiosis.**
- What is the ploidy of a pollen grain? - **Haploid (n).**
- What is the hard outer layer of pollen? - **The exine.**
- What tough material makes the exine? - **Sporopollenin.**
- What is the thin inner layer of pollen? - **The intine.**
- Name the two cells in a mature pollen grain. - **The vegetative cell and generative cell.**
- Which pollen cell is larger and forms the pollen tube? - **The vegetative cell.**
- Which pollen cell forms the two male gametes? - **The generative cell.**
- What is the female part of a flower called? - **The Gynoecium (or pistil).**
- A pistil has which three parts? - **Stigma, style, and ovary.**
- Which part of the pistil catches pollen? - **The stigma.**
- What structure is found inside the ovary? - **The ovule.**
- After fertilization, what does the ovule become? - **The seed.**
- What sac inside the ovule holds the egg cell? - **The embryo sac.**
- What is the ploidy of a megaspore mother cell? - **Diploid (2n).**
- Meiosis of a megaspore mother cell produces how many megaspores? - **Four.**
- How many of the four megaspores usually survive? - **Only one.**
- A typical embryo sac has how many cells and nuclei? - **7 cells, 8 nuclei.**
- Name the three cells at the micropylar end. - **One egg cell and two synergids.**
- What do we call the egg cell and its two synergids? - **The egg apparatus.**
- Name the three cells at the opposite (chalazal) end. - **The antipodal cells.**
- What is the large cell in the middle of the embryo sac? - **The central cell.**
- What two nuclei are in the central cell? - **The two polar nuclei.**
- What is the transfer of pollen to a stigma called? - **Pollination.**
- Pollination within the same flower is called what? - **Autogamy.**
- Pollination between flowers on the same plant is called what? - **Geitonogamy.**
- Pollination between flowers on different plants is called what? - **Xenogamy.**
- What is pollination by insects called? - **Entomophily.**
- What is pollination by water called? - **Hydrophily.**
- Can the male gametes in flowering plants swim? - **No, they are non-motile.**
- What tube grows from the pollen grain to the ovule? - **The pollen tube.**
- How many male gametes does the pollen tube deliver? - **Two.**
- What is the fusion of a male gamete and the egg cell? - **Syngamy (fertilization).**
- Syngamy results in what new cell? - **The zygote.**
- What is a zygote's ploidy? - **Diploid (2n).**
- What is the second fertilization event in angiosperms? - **Triple fusion.**
- What three nuclei fuse during triple fusion? - **One male gamete and two polar nuclei.**
- Triple fusion forms what special nucleus? - **The Primary Endosperm Nucleus (PEN).**
- What is the endosperm's ploidy? - **Triploid (3n).**
- What do we call syngamy and triple fusion happening together? - **Double fertilization.**
- What is the main job of the endosperm? - **To feed the growing embryo.**
- The zygote grows into what structure? - **The embryo.**
- What part of the ovule becomes the seed coat? - **The integuments.**
- After fertilization, what does the ovary become? - **The fruit.**
- What do we call a fruit that forms without fertilization? - **A parthenocarpic fruit.**
- The banana is a natural example of what? - **Parthenocarpy.**
- A fruit that develops only from the ovary is a what? - **A true fruit.**
- A fruit that develops from more than the ovary is a what? - **A false fruit.**
- The apple is a common example of what kind of fruit? - **A false fruit.**
- An embryo developing from an unfertilized egg is called what? - **Parthenogenesis.**
- What is it called when seeds form without any fertilization? - **Apomixis.**
- What do we call it when a single seed has multiple embryos? - **Polyembryony.**
- Polyembryony is common in which type of fruit? - **Citrus fruits.**