

DOUBLE FERTILIZATION

After entering one of the synergids, the pollen tube releases the two male gametes into the cytoplasm of the synergid. One of male gametes moves towards the egg cell and fuses with its nucleus thus completing the syngamy. This results in the formation of a diploid cell, the zygote. The other male gamete moves towards the two polar nuclei located in the central cell and fuses with them to produce a triploid primary endosperm nucleus (PEN). As this involves the fusion of three haploid nuclei it is termed triple fusion. Since two types of fusions, syngamy and triple fusion take place in an embryo sac the phenomenon is termed double fertilization, an event unique to flowering plants. The central cell after triple fusion becomes the primary endosperm cell (PEC) and develops into the endosperm while the zygote develops into an embryo. Fig:

