class: XII

FERTILIZATION IN PLANTS

The most vital event of sexual reproduction is perhaps the fusion of gametes. This process called Syngamy results in the formation of a diploid zygote. The term fertilisation is also often used for this process. The terms syngamy and fertilisation are frequently used though, interchangeably.

Where does syngamy occur? In most aquatic organisms, such as majority of algae and fishes as well as amphibians, the organism. This type of gametic fusion is called external fertilisation. Organisms exhibiting external fertilisation show great synchrony between the sexes and release a large number of gametes into the surrounding medium (water) in order to enhance the chances of syngamy. This happens in the bony fishes and frogs where a large number of offspring are produced. A major disadvantage is that the offspring are extremely vulnerable to predators threatening their survival up to adulthood.

In many terrestrial organisms, belonging to fungi, higher animals such as reptiles, birds, mammals and in a majority of plants (bryophytes, pteridophytes, gymnosperms and angiosperms, syngamy occurs inside

the body of the organism, hence the process is called internal fertilisation. In all these organisms, egg is formed inside the female body where they fuse with the male gamete. In organisms exhibiting internal fertilisation, the male gamete is motile and has to reach the egg in order to fuse with it. In these even though the number of sperms produced is very large, there is a significant reduction in the number of eggs produced. In seed plants, however, the non-motile male gametes are carried to female gamete by pollen tube.