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Class : 12 th
Unit : 1 (Sexual Reproduction in Plants)
Chapter : Pollination (Continued)
Topic : Cross - Pollination
Lecture No. — 02
Date : 4/07/2020

Cross - Pollination :

Cross pollination is the transfer of pollen grains from the anther of one flower to the stigma of a genetically different flower. It is also called allogamy (Gk. allos - other, gamos - marriage) or xenogamy (Gk. xenos - strange, gamos - marriage).
Cross pollination is performed with the help of an external agency either abiotic (e.g., wind, water) or biotic (e.g., insects, birds, bats, snails).
Cross pollination is named after the agency that assists it, i.e.,
(i) Anemophily (Wind pollination)
(ii) Hydrophily (Water pollination)
(iii) Entomophily (Insect pollination)
(iv) Ornithophily (Bird pollination)
(v) Chiropterophily (Bat pollination)
and (vi) Malacophily (Snail pollination)

Maharaza

(i) Anemophily (Gk. anemos - wind, philein - to love)

It is a mode of cross-pollination or transfer of pollen grains from a mature anthere to the stigma which is accomplished through the agency of wind.

Characteristics of anemophilous flower:

(i) Flowers are small and inconspicuous.
- Non-essential parts of flowers are either absent or reduced.
- Flowers are colorless, odorless and nectarless.
- Pollen grains are light, small and dusty. and can be blown to distance upto 1300 Km.
- Pollen grains are dry and unwettable.
- Stigma of flowers are hairy, feathery or branched to catch the wind-borne pollen grains.
- Anemophily is highly wasteful as it is non-directional.

(ii) Hydrophily (Gk. hydro - water; phelein - to love)

It is the mode of pollination or transfer of pollen grains from the mature anthere of a flower to the stigma of another flowere which is accomplished through the agency of water.

Characteristics of hydrophilous flowers:
- Flowers are small and inconspicuous.
- Perianth and other floral parts are unwettable.

Maharaza

- Nectar and odour are absent.
- Pollen grains are light and unwettable.
- Stigma is long, sticky but unwettable.

Hydrophily occurs only in few aquatic plants, e.g., Vallisneria, Zostera, Ceratophyllum etc.

Hydrophily is also of two types:

(a) Hypohydrophily:

It occurs below the surface of water. Eg., Zostera, Ceratophyllum.

(b) Epihydrophily:

Epihydrophily occurs over the surface of water, e.g., Vallisneria.