

Important concepts of breeding cross pollinated

This group refers to cross fertilizing species these species produce seed by cross pollination (allogamy) hence, referred to as allogamous species or out breeders. Various plant characters which promote cross pollination which include dichogamy, monoecy, dioecy, heterostylely, herkogamy, self incompatibility and male sterility.

Some important features of out breeders are

1. They have random mating. In such population, each genotype has equal chance of mating with all other genotypes
2. Individuals are heterozygous and have advantage of heterozygosity
3. Individuals have deleterious recessive gene which are concealed by masking effect of dominant genes.
4. Out breeders are intolerant to inbreeding. They exhibit high degree of inbreeding depression on selfing.
5. Cross pollination permits new gene combinations from different sources.
6. In these species, variability is distributed over entire population.
7. They have wide adaptability and more flexibility to environmental changes due to heterozygosity and heterogeneity.

Methods of Breeding Allogamous species

1. Plant introduction
2. Mass and progeny selection
3. Back cross method.
4. Heterosis breeding
5. Synthetic breeding
6. Composite breeding
7. Polyploidy breeding
8. Distant hybridization
9. Transgenic breeding
10. Mutation breeding (rarely)

Three breeding approaches viz., recurrent selection, disruptive mating and biparental mating are used for population improvement.