

## Concepts of breeding Self pollinated

The mode of pollination and reproduction play an important role in plant breeding. Based on this, crop plants are divided into three groups *viz.*

1. Self Pollinated
2. Cross pollinated
3. Vegetatively propagated

### **Self Pollinated Species:**

These are all self fertilizing species. In these species development of seed take place by self pollination (autogamy). Hence self pollinated species are also known as autogamous species or inbreeders. Various plant characters such as homogamy, cleistogamy, chasmogamy, bisexuality etc. favour self fertilization.

Some important features of autogamous species are

1. They have regular self pollination
2. They are homozygous and have advantage of homozygosity, means they are true breeding.
3. Inbreeders do not have recessive deleterious genes, because deleterious genes are eliminated due to inbreeding by way of gene fixation.
4. Inbreeding does not have any adverse effects on inbreeders.
5. In autogamous species, new gene combinations are not possible due to regular self pollination.
6. Inbreeders are composed of several component (homozygous) lines. Hence variability is mostly among component lines.
7. Inbreeders have generally narrow adaptation and are less flexible.

### **Methods of Breeding in Autogamous Species**

1. Plant introduction
2. Pureline selection
3. Mass selection
4. Pedigree method
5. Bulk method
6. Single seed descent method
7. Backcross method
8. Heterosis breeding

9. Mutation breeding
10. Polyploidy breeding
11. Distant hybridization
12. Transgenic breeding

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