

## Chemically induced male sterility system in sesame (*Sesamum indicum* L.) Kumar .R

### Abstract

Hybridization and mutagenesis have been applied in India since 1970's in order to improve several seed crops as wheat, soybean, maize, groundnut, sunflower, rice, sesame, cowpea, moth bean etc. many mutant varieties were approved as national varieties and some promising regional line through mutagenesis. Through exhaustive work has not been done on the male sterility systems and identification of restorers in Sesamum, there are few studies on genetic male sterility (GMS) and cytoplasmic male sterility (CMS) and also reports of male sterility during the study of cytogenetics or crossability using wild species in sesame. The possible application of genetic male sterility (GMS) in plant breeding are reviewed and discussed. The basic contribution of GMS is that it provides a means of genetic emasculation which can be applied for the massive production of hybrids. There are two main fields of application, the production of hybrid varieties and inter- and intraspecific hybridization and back-crossing programmes for the introduction of genetic variation into crop varieties. Induction of genetic male sterility system coupled with natural honey bee activity can provide an effective tool for hybrid seed production in sesame. An attempt was made to induce genetic male sterility system through a chemical mutagenesis. Two male sterile plants have been developed and maintained through sib mating. The male sterility system was to be unstable in sesame. Stable male sterile lines are to be selected through repeated selection.

**Keywords:** sesame, mutagens, male sterility.

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