

Introducing CGMS genes to the commercial and hopeful cotton cultivars of Iran

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This study was carried out in order to investigation of possible cytoplasmic-genetic male sterile lines production of commercial and hopeful cotton cultivars of Iran through transferring of these traits from male sterile lines. In this kind of male sterility, the cytoplasm of male sterile at the presence of dominance fertility restorer alleles, lose their effects which cause to return the ability of anthers to produce fertile pollen. This investigation was performed during four years in three regions of Varamin, Gorgan and Kashmar. Annually selfing crosses were done among male sterile and male fertility restorer lines and all cultivars as well as selfing in order to multiplication of lines. In order to transferring the male sterility, crosses were done between cultivars and A line. Harvested seeds from these crosses were cultivated along with their parents in the farm for back-crossing purpose during next years. Also crosses were done between cultivars and R line in order to transferring the male fertility gene. In order to retrieve the cultivars along with male fertility gene, back-crossing between offspring and maternal parent was continued during next years. Because of male fertility gene, the offspring from these crosses were male fertile. Assessment of the male sterile flowers showed that, the filament of flags were short and the anthers were thin and unable to burst. The sterility situation of the anthers was stable and in higher temperature no pollens were seen.