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GAMMA RAY INDUCED VIABLE MUTATIONS IN SESAMUM

Sesamum Cv. Kayamkulam-1 was subjected to gamma irradiation at doses 5, 10, 15, 20, 25 and 30 krad at the Kerala University Centre, Katyavattom, Trivandrum. The effects of mutagen in the M_1 and M_2 generations and mutagenic efficiency was already reported (Nair and Nair, 1977). This paper reports the viable mutants isolated in the M_2 generation. The viable mutants included plants with completely changed growth habit such as dwarf, lanky, flat stem and early branching, a few types with leaf variations and abnormal flower types. The frequencies with which these mutants appeared in different treatments were very low and hence a frequency estimation was not attempted.

Dwarf mutants were predominant in all the treatments. They were short in stature with normal or very narrow leaves. Lanky mutants were tall growing and thin stemmed with slender long internodes. The flat stemmed mutant had a flat and forked stem. Nayar and George (1969) reported in sesamum following \times -irradiation a mutant with few short internodes, weak branches and retarded growth.

The mutants showing leaf variations had twisted leaf, curly leaf, little leaf, cluster leaf and forked leaf. In the twisted leaf mutant, the cotyledonary leaves were twisted near the tip. The cluster leaf mutants had leaves arranged in a whorl or in a cluster. George and Nayar (1973) reported a number of abnormal leaf mutants in linseed.

The abnormal flower mutants had their flowers modified into vegetative parts. Similar mutants were reported by Bansal (1973) in *Capsicum annum* following chemical mutagen treatment.

The results thus indicate that gamma ray at low to medium doses are capable of inducing various types of viable mutations in sesamum.

സംഗ്രഹം

കായംകുളം-ഒന്ന് എന്നയിനം എള്ളുവിത്തു ഗാമാറശ്മി വികിരണത്തിനു വിധേയമാക്കിയതിലുള്ള പ്രഭാവങ്ങൾ ഒന്നും roenio raiejcgooffllra^ പഠിച്ചു. rosnsoo തലമുറയിൽ വിവിധ തരം ജീവനക്ഷമ ഉൽപരിവർതിതങ്ങൾ rara>a_nrae<xi'l,jrt>|<tK> ഉയരംകുറഞ്ഞതും, നീളംകൂടി വണ്ണകുറവുള്ളതും, പരന്ന roiffi6nso\$"dfes1offlgo, പലതരം ഇലകളുള്ളതും, അപസാമ്യപുഷ്പങ്ങളുള്ളതുമായ ചെടികൾ ഉണ്ടായിരുന്നു. ഈ പഠനത്തിൽനിന്നും ഗാമാറശ്മി raicw^cnr> ഡോസുകളിൽ ജീവനക്ഷമ ഉൽപരിവർതിതങ്ങൾക്ക് പ്രേരിതമാണെന്ന് കണ്ടു.

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