Induction Of Somatic Mutations In Chrysanthemum By Gamma Irradiation

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ABSTRACT

Rooted cuttings of chrysanthemum (Dendranthema grandiflora Tzvelev) cv. ‘Gulmohar’ exposed to 1.0 kR, 1.5 kR, 2.0 kR, 2.5 kR and 3.0 kR of ⁶⁰Co gamma rays resulted in reduction in plant survival, plant height, plant spread, branch number, leaf and flower number and flower size after irradiation. The bud formation and flowering was delayed with the exposure to gamma rays and there was increase in leaf and floral abnormalities. Five mutations were induced in flower colour, plant size (dwarfness) and days taken to full bloom (earliness or lateness) and VM₂ generation was raised to study the stability of induced characters. The mutations which showed stability in VM₂ generation were isolated and established in pure and stable forms. The comparative analysis of original cultivar and mutants was done to find out the significant differences in various vegetative and flowering parameters.

Key words : Chrysanthemum, Dendranthema grandiflora, mutation, gamma rays