

Induction of Genetic Variability and Isolation of Mutants in Tuberose (*Polianthes tuberosa* L)

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ABSTRACT: *The investigation was carried out to study the effect of various mutagenic treatments on vegetative and floral characters on different cultivars of tuberose and isolation of promising mutants. The experimental material comprised of 4 varieties viz., Kalyani Single, Kalyani Double, Suvasini and Prajwal treated with 2 doses each of gamma rays viz., (0.5 Kr, 1.5 Kr), X-rays (0.6 Kr, 1.2 Kr) and Ethyl Methyl Sulphonate (0.1 per cent, 0.2 per cent) along with untreated sample (control). Findings indicated that mutagenic treatments at lower doses had significant stimulative effect on some parameters i.e., sprouting percentage, days taken to sprouting whereas most of the parameter showed decrease from desired parameters i.e., survival rate, leaf length, no. of spikes/plant & florets/spike, flowering duration and vase life. Higher doses of all mutagens were detrimental for vegetative and floral characters. Six mutants were also obtained exhibiting variation in plant height [cv. Prajwal treated with EMS (0.2%)], increase in number of petals per floret (cv. Prajwal treated with 1.2 Kr X-rays), fusion of two floret into one [cv. Suvasini and cv. Prajwal treated with EMS (0.2%)], decrease in number of whorl per floret [cv. Suvasini with 1.2 Kr gamma rays treatment] and presence of stamen in double type cultivar (cv. Suvasini with plant treated with 1.2 Kr X-rays).*

Keywords: EMS, floral characters, tuberose, X-rays, γ -rays

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