



RESEARCH PAPER

Mutation frequency and effectiveness of different doses of gamma rays in sesame (*Sesamum indicum* L.)

H.A. Naghera, V.R. Akabari*, H.B. Virani and M.S. Chaudhari

Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh (Gujara) India

(Email : virenbreeder@gmail.com)

Abstract : The present study aimed to investigate the mutagenic frequency and effectiveness of chlorophyll and viable mutations in sesame in the M_2 generation. Three well-known varieties G.Til 4, G.Til 6 and G.Til 10 were subjected to various gamma-ray dosages viz., 10 kR, 20 kR, 30 kR, 35 kR, 40 kR and 45 kR. Results indicated that chlorophyll mutation, their mutagenic frequency and effectiveness linear increasing with increased in gamma rays dose and reach at maximum at 45 kR in G.Til 4, G.Til 6 and decreasing in G.Til 10. While viable mutation, their mutagenic frequency and effectiveness increased with increased in gamma rays dose and optimum at 45 kR gamma rays in all three varieties of sesame G.Til 4, G.Til 6 and G.Til 10. Mutagenic dose 45 kR gamma rays is effective to generate viable mutation in all three varieties of sesame, therefore, optimum dose is recommended.

Key Words : Mutagenic frequency, Effectiveness, Gamma rays, Sesame

View Point Article : Naghera, H.A., Akabari, V.R., Virani, H.B. and Chaudhari, M.S. (2025). Mutation frequency and effectiveness of different doses of gamma rays in sesame (*Sesamum indicum* L.). *Internat. J. agric. Sci.*, **21** (1) : 146-151, DOI:10.15740/HAS/IJAS/21.1/146-151. Copyright@2024: Hind Agri-Horticultural Society.

Article History : Received : 20.10.2024; Revised : 23.11.2024; Accepted : 24.12.2024