I J P S INTERNATIONAL JOURNAL OF PLANT SCIENCES
ISSN-0973-1547 Volume **15** | Issue 2 | July, 2020 | 107-112

DOI: 10.15740/HAS/IJPS/15.2/107-112
Visit us - *www.researchjournal.co.in*

RESEARCH ARTICLE

Study on mutagenic effectiveness and efficiency of mutagens in inducing chlorophyll mutations in m_2 generation in sorghum [*Sorghum bicolor* (L.) Moench]

■ **S.M. Surashe, H.V. Kalpande and S.B. Borgaonkar**

SUMMARY

An investigation was carried out to create the variability generated through induced mutation in two sorghum populations *viz*., 296 B (*Kharif*) and Parbhani Moti (*Rabi*). Two mutagens *viz*., gamma irradiation (10 kR, 20kR, 30kR and 40kR) and EMS (0.1%EMS, 0.2%EMS, 0.3%EMS and 0.3%EMS) and their combination were used M_2 generation. Mutagenic sensitivity in M_2 generation on the basis of reduced germination and plant survival revealed a dose dependent reaction and differential response of the populations. In general, chlorophyll mutation frequency expressed on M_2 seedling basis increased linearly with doses of three the mutagens in 296 B and Parbhani Moti. The frequency was more in 296 B followed by Parbhani Moti of three mutagens. The spectrum of chlorophyll mutations comprised albina, xantha, viridis, xanthaviridis, chlorina. The most frequently occurred mutant was viridis type followed by chlorina in all the populations. The population 296 B had expressed largest frequency of chlorophyll mutants followed by Parbhani Moti.

Key Words : Mutation, Segregants, EMS, LD_{50}, Genetic variability, Albina, Xantha, Chlorina

How to cite this article : Surashe, S.M., Kalpande, H.V. and Borgaonkar, S.B. (2020). Study on mutagenic effectiveness and efficiency of mutagens in inducing chlorophyll mutations in m_2 generation in sorghum [*Sorghum bicolor* (L.) Moench]. *Internat. J. Plant Sci.*, **15** (2): 107-112, **DOI: 10.15740/HAS/IJPS/15.2/107-112,**

Article chronicle : Received : 08.03.2020; **Revised :** 21.05.2020; **Accepted :** 08.06.2020

MEMBERS OF THE RESEARCH FORUM

Author to be contacted :
S.B. Borgaonkar, Upland Paddy Research Scheme, Vasantrao Naik Marathwada Krishi Vidyapeeth, **Parbhani (M.S.) India**
Email : borgaonkars@rediffmail.com

Address of the Co-authors:
S.M. Surashe and H.V. Kalpande,Department of Agricultural Botany, Vasantrao Naik Marathwada Krishi Vidyapeeth, **Parbhani (M.S.) India**