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**DOI:** 10.15740/HAS/IJPS/11.1/84-87 Visit us - www.researchjournal.co.in

# **R**ESEARCH ARTICLE

# Genetic variability on protein content of blackgram [*Vigna mungo*(L.) Hepper] induced by gamma rays and EMS

## K.S. USHARANI, C.R. ANANDA KUMAR AND C. VANNIARAJAN

### **SUMMARY**

Legumes are considered as the major source of protein, however, the protein and their amino acid constituents are less when compared to animals. The attempts were made to improve the protein quantity of legumes with various strategies and achieved a little improvement. However, it is not sufficient to fulfill the portion requirement. In the present investigation, blackgram var. VBN 4 was treated with physical mutagen gamma rays (40kR, 50kR and 60kR,) and chemical mutagen EMS (50mM, 60mM and 70mM) individually and also in combination with an objective to assess the genetic variability on protein content in  $M_2$  generation. Genetic variability is the most essential prerequisite for any successful crop improvement programme as it provides spectrum of variants for the effective selection. Phenotypic co-efficient of variation was found to be greater than genotypic co-efficient of variation for all the treatment. The results showed some level of improvement in protein content in 60mM (23.31mg.g<sup>-1</sup>) of EMS and 50kR+50mM (21.94mg.g<sup>-1</sup>), 60kR+60mM (21.70mg.g<sup>-1</sup>) and 60kR+70mM (23.14mg.g<sup>-1</sup>) of combination treatments.

Key Words : Gamma rays, Ethyl methane sulphonate, Protein content, M, generation, Variability

How to cite this article : Usharani, K.S., Kumar, C.R. Ananda and Vanniarajan, C. (2016).Genetic variability on protein content of blackgram [*Vigna mungo* (L.) Hepper] induced by gamma rays and EMS. *Internat. J. Plant Sci.*, **11** (1): 84-87.

Article chronicle : Received : 19.11.2015; Revised : 30.11.2015; Accepted : 08.12.2015

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