INTRODUCTION
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Soybean (Glycine max (L.) Merrill) is an important pulse crops in both developed and developing countries. In India it is cultivated about 4.0 million hectares and annual production of 6.0 million tones. It is used as edible seeds and also for oil extraction.


Induced mutations contribute primarily towards generating more genetic variability and thus providing a broad base for further selection of crop improvement and to enhance genetic variability in crop plants (Ahmed John, 1995).
With regard to the literatural survey, the attention of the various workers leading to the studies upon the separation of protein only. So far, no work has been done to investigate the effect of physical mutagen on amino acid sequence in parents and their hybrid of Glycine max.

Therefore the present study was undertaken with range of doses on two parents of different genotypes (JS 335 and Punjab-1) and their hybrid (JS 335 X Punjab-1) of Glycine max in order:

- to assess the sensitivity of the different genotype to the mutagen,
- to estimate the relative effectiveness an efficiency of the mutagen
- to estimate the extent of variability generated in quantitative traits and
- to determine the amino acid sequence of isolated peptide.

The polygenic variation and stabilization of different traits from M1 to M3 have been made. The experimental data have analyzed by Pans and Sukhatme (1967). The radiation of the hybrid by gamma rays created significant genetic variability and segregants of high order with better yield. The significant research findings are presented in the thesis and discussed.