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## ABSTRACT

The mutagenic treatments in this study i.e. gamma rays and sodium azide were detected to facilitate and release the covariation that need plenty of crosses and time in traditional breeding.

The genetic variations obtained from master B and Lincoln cultivar, under such physical and chemical mutagens were evaluated for and useful characters

Results showed that the selected M<sub>2</sub> pea plants confirmed in M<sub>3</sub> generation. Additive gene action was important in controlling the selected characters through . The intergeneration coefficient of M<sub>2</sub> / M<sub>3</sub> was near unity indicating the extent of similarity of the selected characters through M<sub>3</sub> generation.

The electrophoresis of M<sub>3</sub> was characterized by increasing band number and intensity as compared with their respective parents this explains that the selected mutations have gone through completely similar pathes during evolutionary processes. Four mutations were recorded having high yielding potential and contain more amino acids and protein as compared with their respective parents. It could be concluded that such four mutants must be released in common agriculture in Egypt.

Keywords: mutations, additive , M<sub>2</sub> and M<sub>3</sub> , Electrophoresis , variations , intergeneration , mutagen.

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