Induced Alterations in Fatty Acid Compositionsin the Mutant Seeds of *Gossypium Hirsutum* L.

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Abstracts: Oil storage in seeds offers an outstanding example of biosynthetic process, the end products of which are diverse and sufficiently flexible in their genetic control to allow for economically desired improvements of product quality. Genetic selection for oil seed quality has been of low intensity in nature and today an expanding array of new breeding goals for bio-oleochemical and technical uses is in progress. In addition, biotechnological innovations offer promising support to mutation breeding for the domestication or even construction of virtually new oilseed crops for application in both food and non-food uses. The purpose of this paper is to analyze the oil, lipid content and composition of fatty acid on the seeds of selected mutants. The mutant 11, 7, 2, 9 and 5 showed higher oil, lipid content than other mutants and control. These mutants also have two fold increase in lipid contents. The Gas-chromatographic analysis of fatty acids revealed that, the mutant 11 shows higher amount of fatty acids followed by mutant 7, 2, 9 and 5. Among the 14 fatty acids qualified, the highest amount in terms of mg • g^{-1} was noted in Cis-Linoleic acid individually between the mutants and totally among the mutants.

Key words: *Gossypium*; mutagenesis; mutants; oil and lipids; GC analysis of fatty acids