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RADIATION INDUCED MUTATIONS FOR YIELD AND OIL CONTENT IN SOYBEAN (*Glycine max* (L) Merrill)*

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ABSTRACT

Field experiments were initiated with Amsoy-71 and Calland soybean varieties (as second crop) to improve yield and oil contents by mutation breeding in 1982. The seeds of both soybean varieties were irradiated by ^{60}Co at five different doses (5, 10, 15, 20 and 25 krad). M_2 plants were grown as single plants and M_3 plants were grown in rows. Oil analyses were started on the seed of M_3 plants by Nuclear Magnetic Resonance (NMR). Four mutants of Amsoy-71 varieties and five mutants of Calland varieties revealed promising yield potentials. Also oil contents of these selected mutant lines showed increased of 9.9 % for Calland derivatives and 5.58 % for Amsoy-71 derivatives. These mutants with their controls were evaluated at two locations (Adana and Antalya in 1987 and 1989). Some of these lines have quite high yields and high oil potentials. It is expected that at least some of these selected promising mutant would be released as varieties.