# PHYSIOLOGICAL GENETIC STUDIES ON SOME IRRADIATED SOYBEAN CULTIVARS



BY

HODA MOHAMED ELDEMERDASH

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Approval sheet

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HODA MOHAMED ELDEMERDASH

B.Sc. ( Agric.), Ain Shams University, 1973

This thesis for M. Sc. degree has been approved by :

Prof. Dr. M. I. Nasr M. I. Nasr

Prof. and Head of Genetics Dep., Faculty of Agric. Menofia University

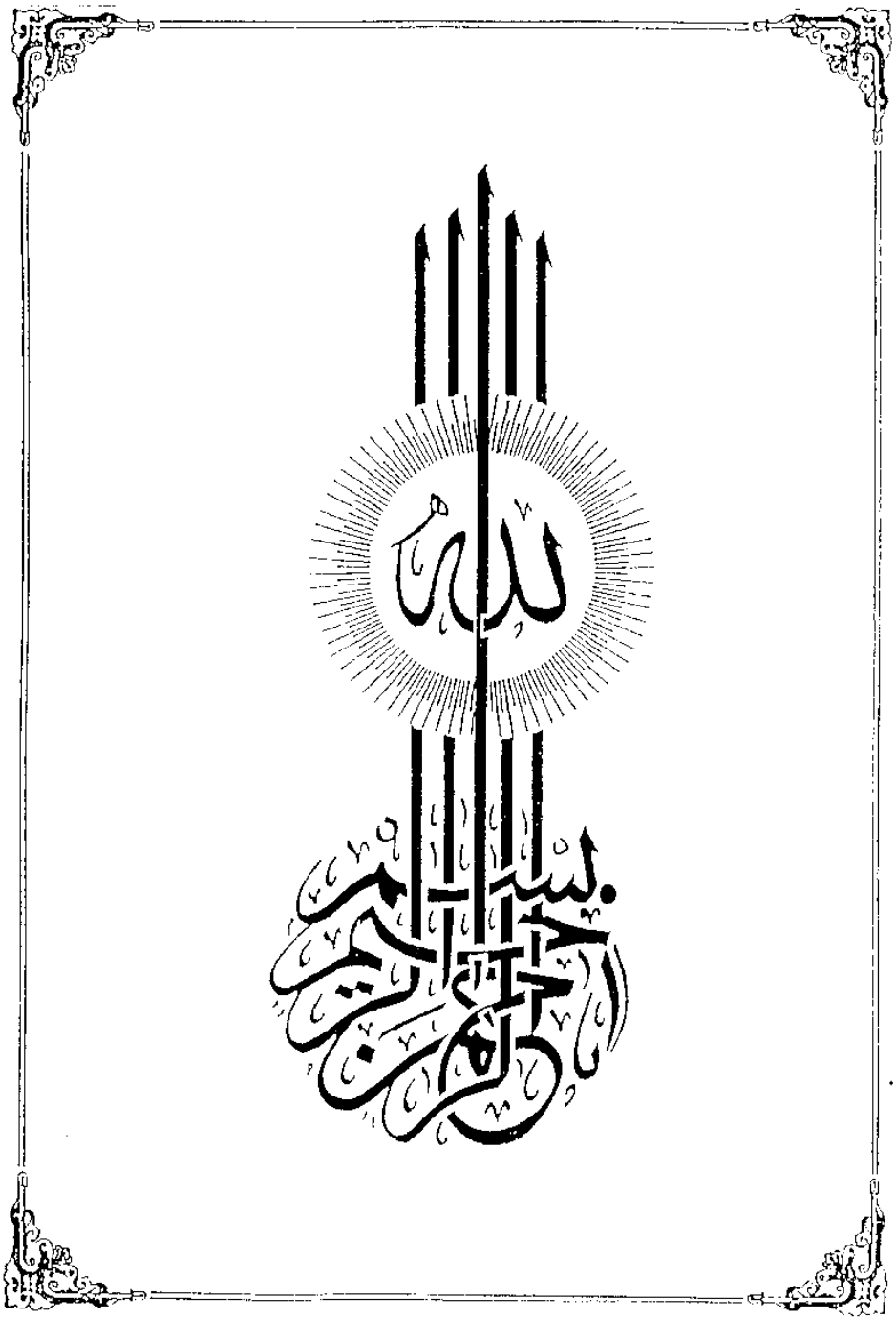
Prof. Dr. A. A. Tayel A. A. Tayel

Prof. of Genetics, Faculty of Agric. Ain Shams University.

Prof. Dr. M. A. Rashed (supervisor) M. A. Rashed

Prof. of Genetics, Faculty of Agric. Ain Shams University.

Date of Examination : 21 / 4/1993



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HODA MOHAMED ELDEMERDASH

B.Sc. ( Agric.), Ain Sahms University, 1973

under the supervision of:

Prof. Dr. M. A. Rashed,

Prof. of Genetics, Ain Shams Univ.

Dr. Eman. M. Fahmy

Associate Prof. of Genetics, Ain Shams Univ.

Prof. Dr. M. T. M. Sharabash

Prof. of Agronomy, National Center Res. and Radiation Technology.

Abstract

This investigation was carried out to study the effect of three gamma ray doses; 7.5, 10and 15 Krad on three soybean cultivars for the yield and its components. Biochemical genetic markers as protein and isozymes electrophoresis were applied on the third generation under 15 Krad to find the correlations

genetic markers as protein and isozymes electrophoresis were applied on the third generation under 15 Krad to find the correlations between these markers and the treated plants.

The study revealed that the 15 Krad gamma ray treatment seems to be a predictable treatment for isolating some mutant (s) at the successive treated generations. SDS-PAGE technique can be used in characterizing high and low yielding plants under control and gamma ray treatments. Esterase isozymes showed variations in the number of bands, intensity and/or density. IPO isozymes showed comparable results between Mead and Clark cultivars, while Crawford showed two more bands. GOT isozymes was appeared as a good marker for selecting high yielding genotypes in the successive breeding generations while LAP isozymes was not a good tool in distingushing between high and low yielding plants under control and gamma ray treatments.

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