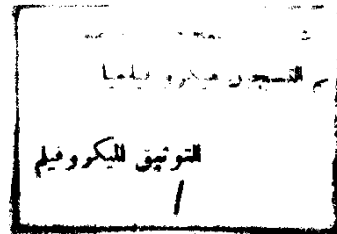


PHYSIOLOGICAL GENETIC STUDIES  
ON SOME IRRADIATED SOYBEAN CULTIVARS



BY

HODA MOHAMED ELDEMERDASH

A thesis submitted in partial fulfillment  
of

the requirments for the degree of

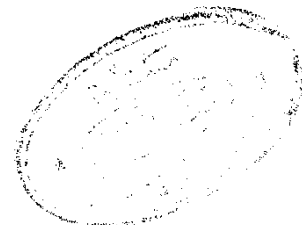
630-28115  
H.M

MASTER OF SCIENCE

in

Agriculture

( Genetics )



43419  
✓

Department of Genetics  
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1993

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PHYSIOLOGICAL GENETIC STUDIES ON  
SOME IRRADIATED SOYBEAN CULTIVARS.

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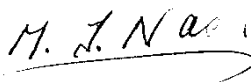
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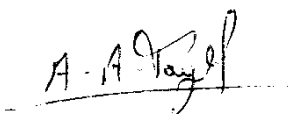
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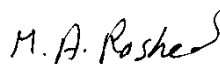
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Abstract

This investigation was carried out to study the effect of three gamma ray doses; 7.5, 10 and 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 distinguishing between high and low yielding plants under control and gamma ray treatments.

## ACKNOWLEDGEMENT

The author wishes to express her sincere appreciation and gratitude to Professor Dr. Mohammed A. Rashed, Professor of Genetics, Faculty of Agric., Ain Shams University, for his kind supervision, suggesting the problem, continuous advice and valuable suggestions in performing and writing the manuscript .

Heart felt thanks are also extended to Dr. Eman M. Fahmy, Assistant Professor of Genetics, Faculty of Agric., Ain Shams University, for her kind supervision, energetic guidance and valuable suggestions in performing and writing the manuscript.

Many thanks are due to Professor Dr. M. T. M. Sharbash, the head of Plant Production and Entomology Department, National Center for Research and Radiation Technology, Atomic Energy Authority (N.C.R.R.T) for his unlimited help supervision during this investigation.

Special acknowledgement are extended to Professor Dr. Fatthy M. Abdel-Tawab, Professor of Genetics, Faculty of Agric., Ain Shams University, for his suggesting the problem, valuable advice during statistical analysis, continuous advice.

Acknowledgement is also extended to all staff members of the Dept. of Genetic, Fac. of Agric., Ain Shams University, whose encouragement made this work possible.

Finally, I also feel most grateful to my husband Dr. Ahmed Abdalla, my daughter Marwa and my son Mohammed for their continuous encouragement and patience.

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