CONTROL OF SOIL POLLUTION AND FORAGE PRODUCTION OF *PHALARIS SP.* BY USING NATURAL FERTILIZATION RESOURCES

BY

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B.Sc. Agric. (Agronomy), Ain Shams University, 1988

Diploma in Environmental Sciences. Department of Agricultural Science. Institute of Environmental Studies and Research. Ain Shams University ,1993

A Thesis Submitted in Partial Fulfillment
of
The Requirement for the Master Degree
in
Environmental Science

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Ain Shams University

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APPROVAL SHEET

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ABSTRACT

Nagi Hussein Mahmoud Baumi, Control of soil pollution and forage production of *Phalaris* sp. by using natural fertilization resources. M.Sc. Thesis, Institute of Environmental Studies and Research, Agriculture Science Department, Ain Shams University, 1999.

Two field experiments were set up at Mariut Research Station, Desert Research Center, during 1994/95 and 1995/96 growing seasons to study the effect of two levels of biofertilizer (without inoculation and with inoculation with *Azotobacter*), four levels of organic manure i.e. 0.0, 20, 40 and 60 m^3/fed and three rates of nitrogen fertilizer viz., 0.0, 40 and 80 kg N/fed. The split plot design with four replications was applied where the main plots were devoted to biofertilizer treatments, while the sub-plots were occupied by the combination of farmyard manure and nitrogen fertilizer. The results showed that inoculation reedcanary grass with *Azotobacter* enhanced vegetative growth parameters, forage yield as well as seed yield and some, chemical components and reduced most of heavy metals concentration in both soil and plant tissues. It was also noticed that increasing organic manure or nitrogen fertilizer rates increased all growth parameters and this reflect in more forage or seed quantity and quality of reedcanary grass under calcareous soil conditions of Mariut district. Moreover, heavy metals concentrations due to the application of organic manure or nitrogen fertilizer were increased in soil or plant tissues but its concentrations still at the safe limits.

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CONTENTS

LIST OF TABLES