BIOLOGICAL CONTROL OF SEEDLING DAMPING - OFF AND POD ROT OF PEANUT

BY

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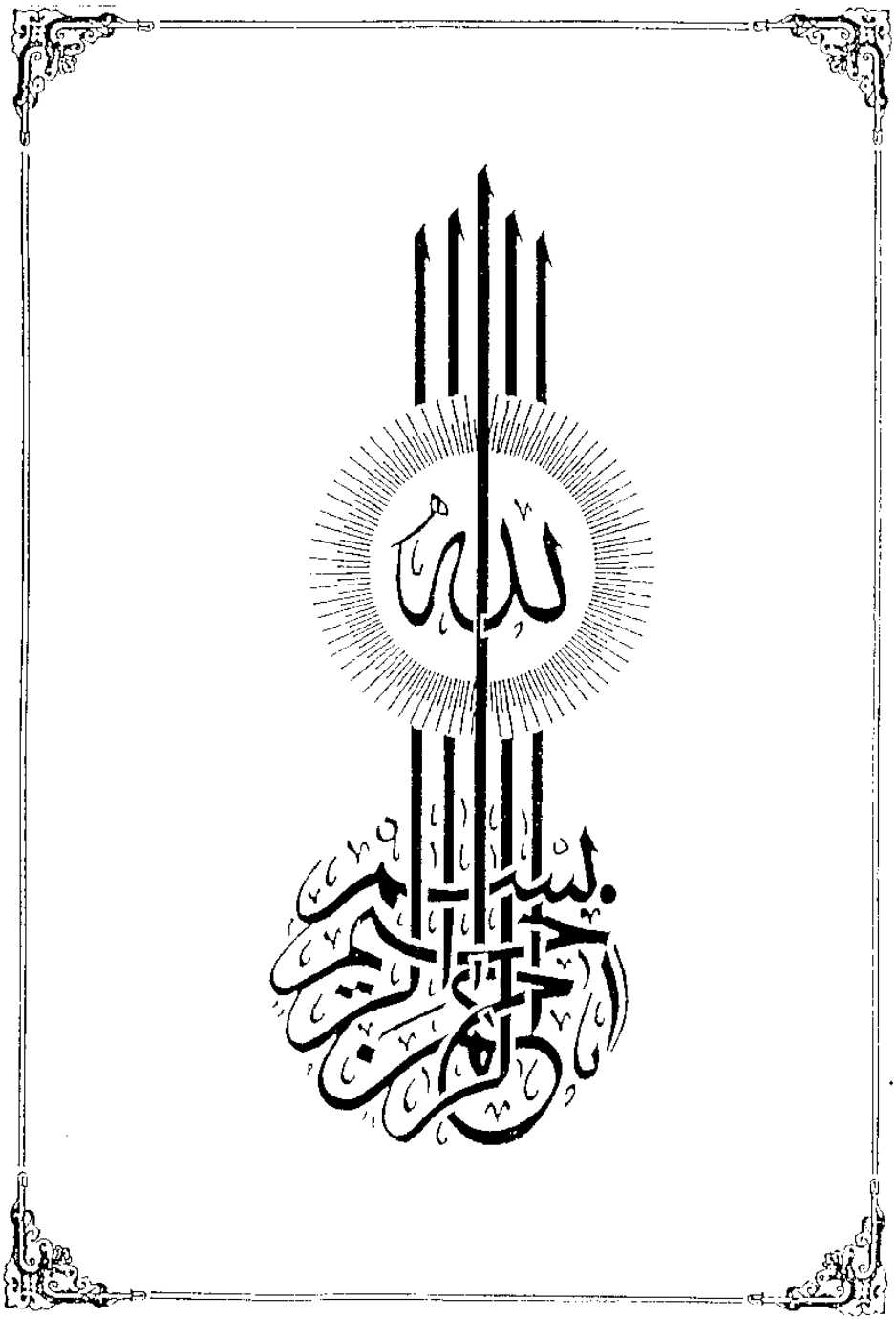

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ABSTRACT

Isolation of pathogenic fungi showed that Rhizoctonia solani was on the top of fungi associated with peanut plants.

Pathogenicity studies showed that R. solani caused damping-off and pod rot of peanut.

Isolation of antagonistic fungi produced four different isolates of Trichoderma.

Evaluation of antagonistic activity of *Trichoderma* spp. against *R. solani* *in vitro* showed significant differences between the 20 tested isolates.

The role of media on the antagonism of *Trichoderma* spp. against linear growth of *R. solani* were varied.

The best carbon sources favoured antagonistic activity of *Trichoderma* were starch and mannitol.

Optimum pH value of the medium that favoured antagonistic activity of *Trichoderma* was 5.0.

Incubation at 20-25 °C favoured antagonistic action.

Optimum incubation period that favoured antagonism of *Trichoderma* was 3 days.

Wheat bran/peat preparation of *Trichoderma* was chosen as the best food base and a carrier for the application of biocontrol agent to soil.

Evaluation of 20 isolated of *Trichoderma* *in vivo* showed significant differences under greenhouse conditions.

The most efficient biological control of damping-off was achieved with Trichoderma preparation at the rate of 4g/kg soil.

Application of biocontrol agent indicate significant efficiency in controlling damping-off in sandy clay than sandy soil.

The efficiency of biocontrol agent depended on application methods, inoculum type and time of application.

Application of wheat bran/peat mixture at the same time of sowing seed was more efficient for controlling damping-off and pod rot of peanut.

All treatments of Trichoderma affected growth characters of peanut plants.

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CONTENTS

CONT. PAGE

CONT. PAGE

LIST OF TABLES

CONT.

LIST OF FIGURES

CONT.

INTRODUCTION