ANTAGONISTIC POTENTIAL OF ENDOPHYTIC FUNGI FROM DIFFERENT FRUIT TREES AGAINST *Sclerotium rolfsii*, CAUSAL AGENT OF SOUTHERN BLIGHT DISEASE IN PEANUT

CHRISTINE JOY LORENZO CORPUZ

An undergraduate thesis manuscript presented to the faculty of the Department of Crop Protection, College of Agriculture, Central Luzon State University in partial fulfillment of the requirements for the degree of Bachelor of Science in Agriculture

BACHELOR OF SCIENCE IN AGRICULTURE
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APPROVED:

CELYNNE O. PADILLA
Adviser
06-18-17
Date

RONALDO T. ALBERTO
Critic
06-18-17
Date

RONALDO T. ALBERTO
Department Research Coordinator
06-18-17
Date

MARITA S. LABE
Department Chair
18 June 2017
Date

ACCEPTED:

ERNESTO A. MARTIN
Dean
6-18-17
Date

RECORDED:

RONALDO T. ALBERTO
College Research Coordinator
06-18-17
Date

BIOGRAPHICAL SKETCH

The author, CHRISTINE JOY L. CORPUZ was born on September 28, 1997 in Urdaneta City, Pangasinan. She is the eldest of the three children of Mr. Richard T. Corpuz and Mrs. Loida L. Corpuz.

She finished her primary education at Pozorrubio Central School under the SPED-Fast learners curriculum in 2003 and successfully completed her secondary education at Juan G. Macaraeg National High School under the Special Science Class (SSC) curriculum in 2013.

She decided to pursue her tertiary education at Central Luzon State Unversity, Science City of Munoz, Nueva Ecja where she took up Bachelor of Science in Agriculture (BSA), Major in Crop Protection specializing in Plant Pathology.

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ANTAGONISTIC POTENTIAL OF ENDOPHYTES OF DIFFERENT FRUIT TREES AGAINST *Sclerotium rolfsii*, THE CAUSAL AGENT OF SOUTHERN BLIGHT DISEASE IN PEANUT[1/]

by

CHRISTINE JOY L. CORPUZ

ABSTRACT

The study was conducted to isolate fungal endophytes from 10 fruit trees namely: custard apple, avocado, cashew, java plum, soursop, guava, jackfruit, mango, star apple and pomelo. A total of 182 isolates were tested *in-vitro* against *Sclerotium rolfsii*. Only 6 EF were selected from preliminary *in-vitro* test and further tested for the 1st trial of dual culture test. Out of the six fungal endophytes, only 3 potential EF showed a significant antagonistic activity and subjected to the 2nd trial of DCT. The potential antagonistic endophytic fungi were Sterile mycelia Sa7Sc1, Sterile mycelia Lk3Sc2 and *Aspergillus* sp. Sh4Sc2. The highest growth inhibition was recorded by *Aspergillus* sp. Sh4Sc2 with 66.33% followed by Sterile mycelia Lk3Sc2 with 36.18%. Additionally, zone of inhibition was observed using Sterile mycelia Sa7Sc1 with 9.38 mm.

Pot experiment revealed that bio-formulation of Sterile mycelia Lk3Sc2 recorded the highest % germination of peanut seeds. Moreover, 0% disease incidence, % damping-off, % post-emergence rotting and % post emergence wilting was also observed on seeds treated with Sterile mycelia Lk3Sc2. Additionally, bio-formulation of Sterile mycelia Sa7Sc1 and *Aspergillus* sp. Sh4Sc2 had 90% and 80% germination with 10% disease incidence accounted to each treatment, respectively. Bio-formulation of Sterile mycelia Lk3Sc2 and Sterile mycelia Sa7Sc1 provided good and vigorous growth of peanut.

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