IONSHIP OF ALTITUDE, SOIL pH, AND POPULATION DENSITY OF *FUSARIUM* SPECIES IN SELECTED TOWNS OF CAVITE

THESIS

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RELATIONSHIP OF ALTITUDE, SOIL pH AND POPULATION DENSITY OF *FUSARIUM* SPECIES IN SELECTED TOWNS OF CAVITE

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ABSTRACT

GARAY, FLORDELINA REYNOSO, Cavite State University, Indang, Cavite. March 2000. "Relationship of Altitude, Soil pH and Population Density of *Fusarium* Species in Selected Towns of Cavite". Adviser: Dr. Adelaida E. Sangalang.

Fusarium species were isolated from soil samples obtained at altitudes 0-80m, 81m-290m, 291m-500m and 501m-1000m above sea level. Six species of *Fusarium* were isolated namely; *F. oxyporum, F. solani, F. equiseti, F. semitectum, F. moniliforme and F. proliferatum* .

The most abundant species isolated from all the samples were *F. oxysporum and F. solani* both at higher and lower elevation. *Fusarium moniliforme* and *F. proliferatum* were not isolated at 500 m altitude.

The population density of *F. solani* and *F. oxysporum* were higher in most acidic soil.

Based on the frequency of isolates *F. solani* and *F. oxysporum* were found in all soil samples of all altitudes. *Fusarium equiseti* and *F. semitectum* were found in 83.33 % of all soil samples. *Fusarium moniliforme* and *F. proliferatum* were found in 33.33% and 49.99% in all soil samples of all altitudes respectively.

Population density of different *Fusarium* species was highly correlated with altitude. *Fusarium moniliforme* was found highly correlated with lower altitude. *Fusarium equiseti* was found with the least number of isolates compared with the other four *Fusarium* species. *Fusarium oxysporum* and *F. solani* were found with the highest number of isolates in all soil samples of all altitudes.

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INTRODUCTION

The genus *Fusarium* is one of the most economically important genera of fungi. It includes many pathogenic species which cause a wide range of plant diseases (Nelson *et al.*, 1981). The genus has a widespread distribution. Its representatives occur in all major agro-climatic regions of the world (Burgess 1981). Some species of *Fusarium* like *F. oxysporum, F. solani,* and *F. roseum* are the most frequently reported species from grasslands in general and from individual types of grasslands (Ebbels, 1974). *Fusarium* species are prominent and characteristic members of native grassland and prairie communities. The worldwide distribution of *Fusarium* species is reflected in its occurrence over a wide range of soil pH. They are very common in alkaline to neutral calcareous soils and acidic soils (Warcup 1957).