INTRODUCTION

Although chemical insecticides have been the primary means of controlling soil insects for many years, concerns about public safety, environmental contamination and reduced insect control efficacy due to possible microbial degradation or insect tolerance have created the need for alternative insect control strategies (Gaugler, 1988 and Villani and Wright, 1988). One alternative to chemical insecticides is the use of entomopathogenic nematodes. These biocontrol candidates were used successfully against white grubs in turfs and pastures all over the United States of America both singly and in combination with biological and chemical insecticides (Gaugler and Kaya, 1990). The soil environment offers an excellent site for insect-nematode interactions; more than 90% of insect pests spend parts of their life cycles in the soil. Also, soil is the natural reservoir for steinernematid and heterorhabditid nematodes

(Gaugler, 1988; Reed and Carne, 1967; Kard et al., 1988; Heller and Kellog, 1989; Sosa and Beavers, 1985; Kaya, 1985). The entomopathogenic nematodes offer several advantages over chemical pesticides for white grub control, including host-seeking abilities and possible long-term control through recycles in infected hosts (Gaugler, 1981). Efficacy may be related to persistence of the nematodes applied in soil. They can also survive through slow desiccation and relative humidity below the wilting point of plants (Simons and Poinar, 1973; Molyneux and Bedding, 1984).

The recent outbreaks in the population of some scarabaeid pests, have caused great damage to various plantations in Egypt especially in newly reclaimed areas. In Egypt and in many parts of the world, scarabaeid pests attack pear, apple mango, peach, horse beans, wheat and ornamental plants (Bishara, 1985).