

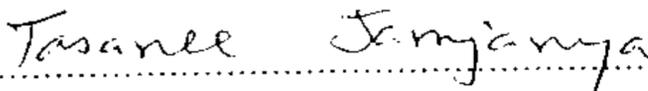
THESIS TITLE : Pathogenicity of Entomopathogenic Nematode, *Steinernema carpocapsae* (Weiser) In Fruit fly *Bactrocera dorsalis* (Hendel)

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ABSTRACT

Nematode activity varies significantly with temperatures from 5 to 35 °C and moisture from 0.1 ml. to 0.7 ml. as determined by filter paper bioassays. There was trends in the results toward an optimum level of infectivity at an temperature near 25 °C and a moisture content near 0.5 ml. A moisture content near 0.5 ml. was the most infectivity 91% at 72 hr. Invasion efficiency (propagation of tested nematodes that established in the host) was positively related to host exposure period. Invasion efficiency determined from the cadavers of fruit flies that died within 96 hr of initial exposure to nematodes and contained established nematodes increased from 0.6% after 24 hr to 3.8%. Concentration of nematode also significantly affected invasion efficacy and ranged from 0.3 % (1,000 nematodes) to 1.4% (50 nematodes). Established value of LC₅₀ ranged from 180 to 231 infective juveniles (IJ)per host, and invasion efficacy ranged from 0.7% to 1.6% among the concentration tested.

Effect of host age and concentration of nematodes (100-500 IJ) on mortality of pupa (9- day) ranged from 66-86%, and invasion efficacy ranged from 1.9-3.7%.

Applications of the nematodes (2,000 IJ) on food of adult fruit flies (0-, 10-, 20-, 30- and 40-day) in cages resulted that the fruit flies were killed within 7 day.