

PATHOGENICITY OF BACTERIUM, *PSEUDOMONAS PUTIDA* FROM ENTOMOPATHOGENIC NEMATODE (*STEINERNEMA ABBASI*) AND ITS SECRETION AGAINST *GALLERIA MELLONELLA* LARVAE

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Abstract

The entomopathogenic bacterium *Pseudomonas putida* from *Steinernema abbasi* and its metabolic secretions were lethal to the *Galleria mellonella* Larvae. Different laboratory experiments on time interval, substrate, moisture, temperature, dose, penetration of cells, stored and dried metabolites were conducted in and filter paper bioassays. It was concluded that death was probably due to the toxic metabolites. This bacterium and its metabolites were found very effective at 30° C. Penetration of bacterium was rapid after application on *G. mellonella* larvae, *P. putida* cells were recovered from the haemocoel when suspensions containing bacterial cells were applied to the *G. mellonella* indicating that bacterial symbionts do have a free-living existence and can enter the haemocoel in the absence of nematode vector. Stored metabolite and dried metabolites were found persistent for long time. This bacterium or its toxic secretion can be used for insect control that can be important component of integrated pest management against different insect pests. *P. putida* and its secretions are suggested as the most appropriate suspension to apply against insect pest control program in tropical ecological regions.