## Investigation on bio-efficacy, $LD_{50}$ and $LT_{50}$ of *Steinernema* carpocapsae against Spodoptera litura

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**ABSTRACT:** Bio-efficacy of *S. carpocapsae* was studied against Tobacco caterpillar under laboratory conditions. The per cent mortality of insect larvae was recorded after every 12 hrs up to 168 hrs at different inoculum levels *viz.*, 100, 200, 300, 400 and 500 IJs per Petri plate (5 larvae/Petri plate). The experimental results revealed that maximum (100.00) per cent mortality of *S. litura* was recorded within 72 hrs of exposure at an inoculum level of 500 IJs of *S. carpocapsae*. While, minimum 50 per cent mortality of *S. litura* was observed after 72 hrs at 100 IJs per Petri plate. After 132 hrs 100 per cent mortality of *S. litura* was recorded at all inoculum levels *viz.*, 500, 400, 300, 200 and 100 IJs per Petri plate, respectively. The LD<sub>50</sub> values after 12, 24, 36, 48, 60, 72, 84 and 96 hrs of exposure were 959.4, 469.9, 325.1, 219.8, 152.1, 77.8, 49.09 and 16.26 IJs per Petri plate (5 larvae/Petri plate), respectively and the LT<sub>50</sub> values recorded were 68.2, 50.23, 40.83, 31.7 and 23.04 hrs, at inoculum levels of 100, 200, 300, 400 and 500 IJs per Petri plate, respectively. *S. litura* was found highly susceptible to *S. carpocapsae* and the mortality of insect larvae further increased with an increase in the inoculum levels and period of exposure.

Key Words: Entomopathogenic nematode, Steinernema carpocapsae, bio-efficacy, LD<sub>50</sub> LT<sub>50</sub>.