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A COMPARATIVE STUDY ON THE EFFECTIVENESS OF LABORATORY BIOASSAYS OF ENTOMOPATHOGENIC NEMATODES AGAINST DESERT LOCUST NYMPHS, *SCHISTOCERCA GREGARIA* (ACRIDIDAE: ORTHOPTERA)

A.N. MAHAR, N.D. JAN*, S.R. GOWEN, N.G.M. HAGUE, A.A. AL-SIYABI AND A.Q. MAHAR**

Department of Agriculture, University of Reading, Reading, UK.
**School of Plant Science, University of Reading, Reading, UK.*
***Agriculture Training Institute, Jacobabad, Sindh, Pakistan.*

Abstract

Entomopathogenic nematodes, *Steinernema carpocapsae, S. feltiae* (Steinernematids) *Heterorhabditis indica* and *H. bacteriophora* (Heterorhabditids) were studied to control nymphs of desert locust *Schistocerca gregaria.* Results of all experiments showed a significant difference in mortality percentage among all isolates. All nematodes were found more effective when exposure time was increased up to 10 days. On the other hand, both Heterorhabditids caused maximum mortality as compared to Steinernematids at 30^{o} C. When different moisture levels were tested in the sand arena, a medium level of moisture (1 %) caused maximum insect mortality in all isolates. However, highest concentration of each isolate (200 IJs per ml) proved to be most appropriate for maximum insect death. Similarly, both Heterorhabditis nematodes when orally applied to insects killed maximum nymphs as compared to other two Steinernematids. A similar response was observed in infectivity test when maximum percentage of IJs of both isolates of Heterorhabditis successfully penetrated into the body of locust nymphs. This research suggests some useful basic findings in developing biocides with suitable virulent of entomopathogenic nematode for controlling nymphs of desert locust.