

ENTOMOPATHOGENIC NEMATODES AND THEIR EFFICIENCY IN DIFFERENT HOST

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Abstract: The term 'Entomophilic nematodes' includes all relationships of insects and nematodes ranging from phoresis to parasitism and pathogenesis. 'Entomogenous nematodes' are those that have a facultative or obligate parasitic association with insects. Entomogenous nematodes have several deleterious effects on their hosts including sterility, reduced fecundity, longevity and flight activity, delayed development, or other behavioral, physiological and morphological aberrations and in some cases, rapid mortality. The entomopathogenic nematodes possessing balanced biological control attributes belong to genera *Steinernema* and *Heterorhabditis* and are having mutualistic association with bacteria of the genus *Xenorhabdus* for Steinernematidae and *Photorhabdus* for Heterorhabditidae. Entomopathogenic nematodes being highly lethal to many important insect-pests, are safe to nontarget organisms and working with their symbiotic bacteria kill the insects within 24-28 hours as compared to days and weeks required for insect killing in other biological control agents. Their infective juveniles (IJs) have been reported to tolerate short-term exposure to many chemical and biological insecticides, fungicides, herbicides, fertilizers and growth regulators, hence providing an opportunity of tank-mixing and application together. The EPNs have the great potential to be used in integrated pest management systems and work done have been reviewed in this article to facilitate the students and researchers to have an overview of the work done and proceed further to undertake the advanced research in different aspects related to entomopathogenic nematodes.

Keywords: Entomopathogenic nematodes (EPN), *Heterorhabditis*, *Photorhabdus*, *Steinernema*, *Xenorhabdus*.

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