

Bio efficacy of entomopathogenic nematodes against serpentine leaf miner, *Lirionymza trifolii* Burgess (Diptera: Agromyzidae) in oilseed crops

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Serpentine leaf miner, *Lirionymza trifolii* Burgess (Diptera: Agromyzidae) is a polyphagous pest native to USA and the Caribbean. It was introduced into India in 1990's along with cut chrysanthemums and it was first reported in the annual castor group meeting held at Hyderabad. It has very wide host range with 78 annual plant species as host. Damage is mainly caused by larva as it mines below the leaf epidermis causing damage to the leaf mesophyll. Adult flies puncture the leaf tissue both for feeding and oviposition causing strippling appearance on leaves. The mines caused by the larva even act entry points for pathogens making the plant susceptible to secondary infection. Several natural enemies like predators, parasitoids and pathogens control leaf miner populations in the field. Most of these natural enemies get killed due to chemicals applied during the season to control other pests. Entomopathogenic nematodes are one of the most virulent pathogens killing different life stages of the insect pests. An entomopathogenic nematode, *Heterorhabditis bacteriophora* (Nematoda, Heterorhabditidae) was tested against late instar larvae and pupa of *L. trifolii*. Infective juveniles (IJs) were inoculated @ 50 IJs per larvae/pupa. About 50% mortality was observed in late instar larvae in 24 hours post infection. Pupae were not affected by this nematode and 100% adult emergence was observed. This bioassay demonstrates that EPNs can be included as a component in biocontrol of *L. trifolii* in oilseed crops.

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