

## BIOMANAGEMENT OF ROOT-KNOT DISEASE OF *LUFFA CYLINDRICA* WITH OPPORTUNISTIC FUNGUS

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**ABSTRACT :** Some genera belonging to the family Cucurbitaceae are important summer vegetable crop in India. Like other vegetables, *Luffa cylindrica* is also affected by root-knot disease caused by various species of *Meloidogyne*. The plants infected with the nematode develop characteristic symptoms of stunting, chlorosis, and formation of galls on underground parts. All these malformations lead to a considerable decrease in yield and eventually to huge economic losses. To control the disease, without using chemicals, a biocontrol fungal agent *Paecilomyces lilacinus* was tested carrying out pot experiments. The results of the experiment revealed that inoculation of *L. aegyptica* with only *Meloidogyne incognita* caused very high and significant ( $P = 0.01$ ) reduction in the growth of  $T_1$  plants, when compared with controls. The plants not inoculated with the nematode but treated with *P. lilacinus* only, neither reduced nor enhanced the growth of ( $T_2$ ) plants. In comparison to  $T_1$  plants, increase in growth of  $T_2$  plants was significantly ( $P = 0.01$ ) higher where the fungus, *P. lilacinus* was applied into the soil one week before of nematode application. The  $T_4$  plants, to which *P. lilacinus* was supplied simultaneously along with the nematode, exhibited a non-significant increase over the control. When *P. lilacinus* was applied to the soil one week after nematode inoculation, the plants exhibited a significant ( $P = 0.05$ ) reduction in the growth of  $T_5$  plants. Application of the fungus into the soil before inoculation of the plants was found to be more effective than other combinations.

**Key Words :** *Luffa cylindrica*, *Meloidogyne incognita*, *Paecilomyces lilacinus*.