

EFFECT OF CONGRESS GRASS, *PARTHENIUM HYSTEROPHORUS* ON HATCHING AND PENETRATION OF ROOT-KNOT NEMATODE, *MELOIDOGYNE INCOGNITA* IN BRINJAL

Ashutosh Shukla¹, Ramesh Chand¹, Pintoo Kumar¹ and Adesh Kumar²

¹*Department of Nematology,*

²*Department of Plant Molecular Biotechnology & Genetic Engineering*

Narendra Deva University of Agriculture & Technology, Kumarganj, Faizabad (U.P), India-224229

Email: adesh.kumar88@yahoo.com

Abstract: Experiments were conducted to study the effect of Congress grass, *Parthenium hysterophorus* on egg hatching and larval penetration of root-knot nematode, *Meloidogyne incognita*. Observations revealed significant reduction in egg hatching and larval penetration in all the treatments in comparison to control. The Highest egg hatching and penetration was recorded in untreated check (473.50 and 513.50), where as the lowest in treated check (108.00 and 75.75) respectively. The egg hatching was 159.00, 183.50, 199.50, 220.00, 233.00, 250.00, and 265.00 and larval penetration 245.50, 271.00, 288.50, 333.25, 385.75, 404.50 and 435.25 in *Parthenium* leaf compost @7.5% + compost, *Parthenium* leaf compost @ 5% + compost, *Parthenium* leaf compost @7.5%, *Parthenium* compost@ 5% + compost, *Parthenium* leaf compost @ 5%, *Parthenium* compost @ 5% and compost @ recommended doses treatment in ascending order respectively. Similar trend in observations was observed at 72 hours of inoculation and the hatching and penetration increased in all the treatment in comparison to the observation recorded at 36 hours of inoculation.

Keywords: *Parthenium hysterophorus*, Hatching, Penetration, *Meloidogyne incognita*, Brinjal

REFERENCES

- Anonymous** (1992). Achievement (1977-87). AICRP on Nematode pest and their control. 16-26.
- Byrd, D.W., Krikpetrick, T. and Barker, K. R.** (1983). An improved technique for clearing and staining plant tissue for detection of nematode. *J. Nematology*. 15: 142-143.
- Caswell, E.P. Tang, C.S. Frank, J. De. Apt. W.J. and De Frank, J.** (1991). The influence of root exudates of *Chloris gayana* and *Tagetes patula* on *Rotylenchulus reniformis*. *Revue de Nematol.*, 14 (4): 581-587.
- Chand, R. Kumar, P. and Singh H.K.** (2012). Studies on the effect of allelopathic properties of some weed and medicinal plant leaf extract on hatching and mortality of *Meloidogyne incognita* race -1 larvae. *J. Progressive Science*. 3 (2): 218-223
- Chand, R. Kumar, P. Kureel, R.S. and Kumar, A.** (2012). Studies on the impact of decomposed leaf of some wild weeds of population built up of root knot nematode *Meloidogyne incognita* on brinjal. In *Proceeding National Symposium on Agri-Horti. Crops for sust. Productivity, quality improvement & food security* Organized by Centre of Excellence in Agri. Biotech., SVPUAT, Meerut, UP. From-14-16 September.
- Chedekal, A.K.** (2013). Effect of four leaf extracts on egg hatching and juvenile mortality of root-knot nematode, *Meloidogyne incognita*. *International Journal of Advanced Life Sciences*. 6(1): 68-78.
- Chedekal, A.K., Al-Kayoumi, K.N.** (2013). Effect of Neem (*Azadirachta indica*) seed and leaf extract on Egg hatching and juvenile mortality of root-knot nematode. *International Journal of Advanced Life Sciences*. 6 (2): 116-121.
- Goeldi, E.A.**, (1892). Relatoria sobre a molestia do caferiro na provincial do Rio de Janeiro 87,121.
- Jatala, P.** (1985). Biological control of nematodes. In *An advanced treatise on Meloidogyne*, vol. 1. (eds. J.N. Sasser and C.C. Caster), PP 303-308.
- Kaur, H. and Katoch, A.** (2012). Effect of some plant extracts on egg hatching of *Meloidogyne incognita* (Kofoid & White) Chitwood, the root-knot nematode. *Trends in Biosciences*, 5(1) : 54-56.
- Kumar, S. Raj, K. Gupta, D.C. Sindhan, G.S. Kushal, R and Sharma S.** (1995). Influence of root exudates of different cultivars of cowpea on egg mass hatching and mortality of *Meloidogyne javanica*. *Ann. Biol. Ludhiana*. 11 (1-2): 240-245.
- Majumdar, Goswami, B.K.** (1987). Effect of aqueous extract of madar (*Calotropis gigantea*) and marbel (*Cuscuta reflexa*) on larval mortality hatching from egg masses and subsequent penetration into tomato roots. *Ann. Agric. Res.* 8 (2): 285-289.
- Singh, K.S., Azam, M.F., Gurjar, M.S. and Ali, S.** (2012). Effect of plant extracts against *Meloidogyne incognita* on chickpea (*Cicer arietinum* L.) *Annals of Plant Protection Sciences*. 22 (2) : 449-451.
- Tanda, A.S. Atwal, A.S. and Bajaj Y.P.S.** (1989). In vitro inhibition of root-knot nematode, *Meloidogyne incognita* by sesame root exudates and its amino acids. *Nematologica*. 35 (1): 115-124.