Pakistan Journal of Nematology, 2013, Vol. 31 (1), 77-84

Biocontrol of root-knot nematode by arbuscular mycorrhizal fungi in *Luffa cylindrica*

N. Hajra, F. Shahina* and K. Firoza*

Department of Botany, Jinnah University for Women, 5-C Nazimabad, Karachi
**National Nematological Research Centre, University of Karachi, Karachi-75270, Pakistan*

*Corresponding author's e-mail: shahinafayyaz@gmail.com

Abstract

Experiment was conducted to evaluate the efficacy of arbuscular mycorrhizal (AM) fungi (*Glomus* spp. and *Gigaspora* spp.) as bioprotectant against root-knot nematode *Meloidogyne incognita* in sponge gourd (*Luffa cylindrica* (L.) Roem.), mycorrhizal plant of family Cucurbitaceae. All parameters were estimated in roots, shoot and leaves of mycorrhizal and non mycorrhizal plants. Physical/biochemical and carbon profile were taken into account. Comparative study clearly indicates the significant variations in all parameters. Leaf area and plant height were increased in mycorrhizal plants than non-mycorrhizal, while it showed a sharp decrease in nematode infected plants, same plants also showed less water content due to xylem vessels damage. However, in mycorrhizal plants, roots had large amount of carbohydrates indicating transfer of photosynthates to fungal partner. Nematode infected roots have least amount of carbohydrates showing a great sink of carbon to rhizosphere.