

Evaluation of Vegetable Germplasm for Resistance to Root-knot Nematode, *Meloidogyne incognita*

Z. Khan*, K. K. Gangopadhyay¹ and B. H. Gawade

Plant Quarantine Division, ¹Germplasm Evaluation Division, National Bureau of Plant Genetic Resources, New Delhi- 110012
E-mail: znema@yahoo.com

Abstract—Root-knot nematodes (*Meloidogyne* spp.) are sedentary endoparasites of roots, attacking a wide range of crops worldwide and are considered to be the most potential nematodes pest of vegetable crops. Infection of roots by root-knot nematodes predisposes plants to infection by other soil-borne pathogens, which causes disease complex, which damage plants more severely and render the disease control more difficult than single pathogens alone. Cultivation of nematode-resistant cultivars is a simple and economical way to prevent nematode-induced damage and to avoid environmental pollution due to excessive use of nematicides. During 2012-14 a total of 296 accessions (acc) of two vegetable crops namely, egg plant *Solanum melongena* (176) and okra, *Abelmoschus esculentus* (120) were screened for resistance to *M. incognita*. Preliminary screening was conducted in 10-cm diameter pots filled with 500g naturally infested soil containing 4 Juveniles/g soil. Sixty days after sowing, the plants were uprooted and washed with tap water to observe gall formation. The host status of each accession was assessed on the basis of number of root galls induced. A total of 5 acc found resistant to *M. incognita* with <10 root galls/plant, which include 2 acc of egg plant (IC545948 and IC090869) and 3 acc of okra (IC022232; IC039140 and IC117074). All these 5 resistant accessions were rescreened to confirm their host status to *M. incognita* by artificial inoculation (1000 J2/ plant) in same size of pots filled with 500g sterilized field soil. All germplasm accessions were found resistant to *M. incognita* with <10 root galls/plant.