

Research Paper :

Assessment of yield losses due to root-knot nematode, *Meloidogyne incognita* infesting okra [*Abelmoschus esculentus* (L.) Moench]

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SUMMARY

The micro plot experiment was conducted to assess the avoidable yield loss in okra due to root-knot nematode, *M. incognita*. The results indicated that the loss in yield of okra was recorded to the extent of 27.02 per cent, when the crop was treated with carbofuran 3G @ 2 kg a.i./ha.

Key words :

Okra [*Abelmoschus esculentus* (L.) Moench] also known as 'lady's finger' in western style or 'Bhindi' in Indian language is grown extensively in all the tropical and sub-tropical parts of the world. It is one of the important pod vegetable crops being cultivated all over India. The crop is attacked by various insect and non-insect pests. In addition to insect pests and diseases, plant parasitic nematodes have also becoming a limiting factor in the successful cultivation of this crop. Many species of phytonematodes have been found associated with rhizosphere of okra. Amongst these, root-knot nematode, *Meloidogyne incognita* is considered to be of great economic importance. It has a host range of 232 host genera (Krishnappa, 1985). The estimated losses in yield of okra due to plant parasitic nematodes are 20.40 per cent on worldwide basis (Sasser, 1987).

MATERIALS AND METHODS

The present investigation was carried out in root knot nematode sick microplots (1.8 x 1.1 m size) of AICRP on Nematodes, Department of Agricultural Entomology, Mahatma Phule Krishi Vidyapeeth, Rahuri during Rabi, 2008. The nematocide Carbofuran 3G was applied at 2 kg a.i./ha at sowing. Two to three seeds of okra (cv. ARKA ANAMIKA) were sown at 30 x 15 cm spacing. Seven days

after germination only one healthy seedling was maintained per hill. There were two treatments including untreated control, replicated ten times in paired plot design. The crop in the microplots was grown by following the recommended agronomic practices. The 200 g soil samples were processed by Cobb's sieving and decanting method in laboratory for initial and final root-knot nematode population in the microplots. From these observations, per cent decrease in nematode population was worked out.

At termination, ten plants from each microplot were uprooted carefully and washed under clean tap water to remove the adhering soil particles to the roots. Number of root galls and egg masses on roots per plant were recorded and gall indices 1 to 5 scales were worked out. From these observations per cent decrease in gall index over an untreated control was worked out. Length, fresh and dry weights of shoots and roots were also recorded at termination. From these observations, per cent increase in length, fresh and dry weights of shoots and roots over an untreated control were worked out. The okra fruit yield obtained from the plants in the micro plots of each treatment at each picking made at 3 days interval commencing from 55 days after sowing up to termination was recorded and expressed in quintals per hectare. From these observations,

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