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Important nematode problems in vegetable crops and their management

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ABSTRACT : Plant-parasitic nematodes are microscopic invertebrate animals distributed all over the world in different kinds of habitats and found in nearly every biological niche that supports life. They damage the crops not only by feeding on plants but also by interacting with various other organisms. They cause severe losses to economically important crops like vegetables, cereals, pulses, oilseeds, fruit crops, etc. Sasser and Freckman (1987) have indicated an annual crop loss due to phytonematodes on world wide basis to the tune of $100 billion. The intensity of the disease often gets aggravated when nematodes either alone or in combination with other pathogens like fungi, bacteria, viruses, mycoplasma etc. are present and hence, constitute an important constraint to world agricultural production. Vegetables are the important component of human diet which contributes as source of proteins, vitamins and minerals. India is the second largest vegetable producer in world next to China which accounts for about 15% of the world's production of vegetables. The destructive plant- parasitic nematodes are one of the major limiting factor in vegetable production throughout world. Low production and productivity of vegetables are mainly because of biotic and abiotic stresses and among the biotic stresses nematodes are one of them. Large number of plant parasitic nematode is recorded from the rhizosphere of many vegetable crops like Root-knot nematode (*Meloidogyne* spp.), Reniform nematode (*Rotylenchulus reniformis*), cyst nematode (*Globodera* spp.), lesion (*Pratylenchus penetrans*) etc. Among all the plant parasitic nematodes, root-knot nematode (*Meloidogyne* spp.) are the major phytonematodes causing damage to vegetable crops. The yield of okra, tomato and brinjal are reduced by 27.3 per cent respectively due to *Meloidogyne incognita* infestation @ 3-4 larvae g/soil under field conditions (Bhatti and Jain, 1977). Therefore, the idea of keeping the nematode population below the economic damage level by adopting different available tactics is advised to the growers. Individual methods of nematode control have either proved ineffective or uneconomical against plant-parasitic nematodes. Therefore, integration of various suitable tactics may be an ecofriendly, economically viable and practically feasible approach for managing nematode problems in vegetable crops.

Key Words : Plant parasitic nematodes, vegetables, eelworms, management, horticultural crops.