

Department of Plant Protection, Agric. College, Baghdad Univ., Iraq

EFFECT OF *MELOIDOGYNE JAVANICA* ON EGGPLANT SEEDLINGS OF DIFFERENT AGES

by

H.A. AL-SAAEDY, Z.A. STEPHAN and M.M. GIRGEES

Summary. Damage to eggplant seedlings by *M. javanica* was in inverse relation to their age. Germinating seedlings failed to survive and only 65% of four-week old seedlings survived with an 86% reduction in fruit weight.

Root-knot nematodes (*Meloidogyne* spp.) cause severe damage to eggplant (*Solanum melongena* L.) in Iraq (Al-Saaedy and Stephan, 1986). The extent of damage depends on the growth stage at which the plant is exposed to the initial attack, young seedlings usually suffering more than older ones (Wallace, 1970). We examined this in relation to *Meloidogyne javanica* (Treb.) Chitw. in a field experiment.

Materials and methods

Microplots measuring 1m x 1m x 1m depth were filled with sterilized sandy soil and inoculated with nematode eggs extracted from tomato roots by the sodium hypochlorite method (Hussey and Barker, 1973). A suspension of 50,000 eggs was poured into each of two 5 cm furrows, 70 cm apart, in 20 of the microplots; 10 microplots were left uninoculated as controls. The inoculated and uninoculated microplots were then planted with 1, 2, 3 or 4-week old eggplants in lines 20 cm apart, and 20 cm between plants in the row. There was a further treatment in which four seeds were planted at the equivalent placing of the seedlings and after germination each station was thinned to a single plant. There were four replicates of each treatment in inoculated microplots and two replicates (control) in the uninoculated microplots. During the experiment, each microplot received 50 g ammonium sulphate and 40 g super phosphate. The experiment was terminated after 165 days and measurements made of plant growth.

Results

The extent of damage was in inverse relation to the age of the eggplant seedlings (Table I). None of the germinated seedlings survived to the end of the experiment, and only 25% of the one week old seedlings survived and none of the surviving plants yielded any fruit. The four week old plants were least affected, but the 65% of plants that survived yielded only 14% of the fruit weight of the nematode-free control plants.

TABLE I - Effect of *Meloidogyne javanica* on eggplant growth and production.

Seedling age (week)	Nematode inoculum level (egg)	Plant height (cm)	Fruit weight (g)	Number of fruits	% dead plants
0 (seeds)	0	54	358	2	0
	100000	0	0	0	100
1	0	55	416	2	0
	100000	6	0	0	75
2	0	58	634	4	0
	100000	7	28	1	60
3	0	63	690	5	0
	100000	12	69	1	55
4	0	66	821	6	0
	100000	28	118	1	35
L.S.D. 5%		11.78	59.19	0.41	

Literature cited

- AL-SAAEDY H.A. and STEPHAN Z.A., 1986 - Root-knot nematode on eggplant in Iraq. *Nematol. medit.*, 14: 283-284.
- HUSSEY R.S. and BARKER K.R., 1973 - A comparison of methods of collecting inocula of *Meloidogyne* sp. including a new technique. *Pl. Dis. Reprt.*, 27: 1025-1028.
- WALLACE H.R., 1970. Some factors influencing nematode reproduction and growth of tomatoes infected *Meloidogyne javanica*. *Nematologica*, 16: 387-397.