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RESISTANCE TO THE RENIFORM NEMATODE  
*ROTYLENCHULUS RENIFORMIS*, IN TOMATO <sup>(1)</sup>

by

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An experiment was conducted in a plant-growth chamber to screen 35 cultivars and lines of tomato (*Lycopersicon esculentum* Mill.) and two accessions of *L. pimpinellifolium* (Tusl.) Mill. for resistance to *Rotylenchulus reniformis* Linford et Oliveira. Seeds were surface sterilized with sodium hypochlorite (0.1%) and sown in cylindrical glass tubes (7.5 cm length  $\times$  2.5 cm diameter) filled with steam sterilized soil. The plant-growth chamber was adjusted to  $27 \pm 1^\circ\text{C}$  and 9 hr day at 15,000 lux. Single plant (three replications per line) was maintained in each tube. The tubes were arranged in a random manner inside the growth chamber. The results are listed in Table I.

Nematodes for inoculation were recovered from soil of a monoculture maintained on castor (*Ricinus communis* L.) in glasshouse. Nematodes collected from Baermann funnels were incubated at laboratory temperature for 14 days so that the juveniles develop into immature females or adult males (Muralidharan and Sivakumar, 1975). The tubes were inoculated with approximately 100 immature females and an equal number of males when the plants were 10 days old. The roots were removed 12 days after inoculation and examined for attached females.

The reaction of cultivar ranged from immunity to various degrees

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Table I - Varietal susceptibility of tomato to *Rotylenchulus reniformis*.

No. females/ plant	Cultivar / Line / Accession	Category
0	Kalyanpur Sel I; Kalyanpur Sel III; LA 121; <i>Lycopersicon pimpinellifolium</i> (yellow fruit)	Immune
1 - 10	EC 118272; EC 118276	Resistant
11 - 30	Healani; Pelican; Punjab Kesari; Ronita; Rossol; Kalyanpur Sel II; AC 142; EC 118270; Pelican; EC 118277; F 24-C 8; F. 455-D1; 2466-27; SL-120	Susceptible
Above 30	Co. 1; Co. 2; Best of All; Breasch; Patriot; Piersol; Punijab Chhurra; Kalyanpur T1; VFN Bush; AC 238; F. 38-E2; F. 193-D6; F. 476-C9; NMR-1; S-12; <i>Lycopersicon pimpinellifolium</i> (red fruit)	Highly susceptible

of resistance among the entries tested. Cultivars Kalyanpur Selection I, Kalyanpur Selection III and LA 121 were found to be immune to the nematode as was *L. pimpinellifolium* 'yellow strain'. Lines E.C. 118272 and E.C. 118276 were resistant, with 5.3 and 10 females/plant, respectively. All the other entries with a root population of more than 10 females/plant are considered to be susceptible. A high degree of resistance to the reniform nematode in *L. pimpinellifolium* has also been reported by Rebois *et al.* (1973).

#### L I T E R A T U R E C I T E D

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