



Tomato plant protection to root-knot nematode (*Meloidogyne incognita*) with potassium nitrate

Gradients of salts of the specific ion repellents for

*Meloidogyne incognita*

-  $\text{NH}_4^+$ ,  $\text{K}^+$ ,  $\text{Cl}^-$  and  $\text{NO}_3^-$  -have been demonstrated to shield tomato roots from infestation in soil. The strategy of these greenhouse experiments was to interpose a salt barrier in a soil column between the plant roots and the nematodes. Potassium nitrate was found to produce a negative chemotaxis for 2<sup>nd</sup>-stage juveniles of

*Meloidogyne incognita*

(J2) as it creates a chemical “shield” around the root system to protect. Tomato seedlings treated with 30 mg/L ( $3 \times 10^{-4}$  M)  $\text{KNO}_3$  showed increased plant length and increased root growth without root knot formation after 21 days of incubation with

*M. incognita*

J2. Untreated plants were shorter and showed root knot formation. Potassium nitrate outperformed potassium chloride in protection against the root-knot nematode (Table 1).

Table 1. Percentage protection to the number of eggs produced by the root-knot nematode.

	$\text{KNO}_3$	KCl
% protection* $\pm$ S.D.	79,1 $\pm$ 6,7	12,3 $\pm$ 9,8

\*By comparing number of eggs produced in treated vs. untreated plants