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## STUDIES ON THE EFFICACY OF THE ANTIHELMINTHIC ANTIBIOTIC KT-199 IN THE CONTROL OF *MELOIDOGYNE INCOGNITA* ON TOMATO

by  
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**Summary.** The antihelminthic antibiotic KT-199 inhibited development and reproduction of *Meloidogyne incognita* without affecting growth of tomato plants.

Gowda and Setty (1984) reported that the antihelminthic antibiotic KT-199, when applied as soil drench or foliar spray, significantly inhibited the development and reproduction of root-knot nematodes. Investigations were therefore undertaken to evaluate the effect of KT-199 when applied as cumulative doses in inhibiting the development and reproduction of *Meloidogyne incognita* (Kofoid et White) Chitw. on tomato in pot culture.

### Materials and methods

Four week old tomato (cv. Pusa Ruby) seedlings were transplanted to 15 cm diameter earthen pots filled with sterilized soil. Fifteen days after planting, all the pots were inoculated with freshly hatched juveniles (1000/pot) of *M. incognita*. Then the inoculated pots were treated with 250 ppm concentration of the antibiotic in water as soil drench at weekly intervals starting from two days after inoculation and increasing the dosage at the rate of 10 ml per pot, so that finally four pots had received 40 ml, four pots 30 ml, four pots 20 ml and four pots 10 ml of the 250 ppm water solution of the antibiotic. Four plants were left untreated as control. Forty days after the inoculation, the plants were uprooted and observations on plant growth, nematode development and reproduction were recorded.

### Results and discussion

The antibiotic applied in cumulative doses to the tomato plants had no adverse effects on their growth. The antibiotic at different cumulative doses, significantly reduced the number of galls, egg masses and egg production when compared with untreated control (Table I). As the dosage of the antibiotic was increased from 10 to 40 ml per

pot, there was a progressive reduction in the number of galls, egg masses and egg production. However, maximum inhibition of nematode development and reproduction was observed in plants which had received a cumulative dose of 40 ml of the antibiotic. The plants which received a cumulative dose of 40 ml antibiotic applied in four split doses showed more than two fold decrease in galling, egg masses and egg production when compared with the control, indicating that periodical application of the antibiotic in split doses was more effective than a single dose application.

TABLE I - Effect of cumulative doses of the antibiotic KT-199 on the development of *Meloidogyne incognita* on tomato.

Dosage of antibiotic in ml of water solution/pot	Number of galls/plant	Number of egg masses/plant	Number of eggs/eggmass
10	123	77	469
20	96	66	446
30	94	55	397
40	86	45	355
Control	203	102	642
CD value at 1%	24.8	21.2	86.0

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### Literature cited

GOWDA N.D. and SETTY K.G.H., 1984 - Studies on the efficacy of the antihelminthic antibiotic KT-199 in the control of root-knot nematode *Meloidogyne incognita* (Kofoid and White) Chitwood on tomato. *Industan Antibiotics Bull.*, 26: 14-17.