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## LONGEVITY OF *PRATYLENCHUS COFFEA* IN FALLOW SOIL

by  
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The lesion nematode, *Pratylenchus coffeae* (Zimmermann) Filipjev *et* Schuurmans Stekhoven is widely distributed in Tamil Nadu, India. According to Radewald *et al.* (1971), the nematode survived for 16 weeks in excised roots stored in moist soil and retained the capacity to infect, feed and reproduce. There is no information on the longevity of *P. coffeae* in soil. The present investigations were conducted with a nematode population from banana to determine the longevity of this nematode in fallow soil and in naturally infested root pieces.

### Materials and Methods

Active *P. coffeae*, extracted from infested banana roots were mixed in sterile red loamy soil in a concrete mixer and 320 plastic containers (12.5×7.5 cm) were each filled with 200 g containing 80 *P. coffeae*. One hundred and sixty containers were placed in a green house and the other 160 were kept outside. Eighty of each set of containers received water on alternate days to maintain soil moisture and the other 80 were not watered and remained dry. Nematodes were extracted from four containers selected at random in each treatment at the commencement of the experiment and then at monthly intervals for the next thirteen months to ascertain survival. The suspension of nematodes from each container was then added to the rhizosphere of young banana suckers in sterile soil to test their infectivity. Roots were examined for the presence of lesions and rotting after 45 days.

Infested roots which showed typical root lesions and rotting were collected from banana plants at the Banana Research Station, Virinjipuram, Vellore. The roots were cleaned and cut into 10 cm pieces and twenty pieces were buried at a depth of 30 cm in each of 16 earthen pots (35 cm diam) containing sterile red loamy soil. Eight pots were kept in a green house and

eight were kept outside. Four pots of each treatment received water on alternate days and the other four remained dry. Nematode populations in soil (200 g) and roots (one root piece) were extracted at monthly intervals for thirteen months.

### Results and Discussion

Under outdoor conditions active *P. coffeae* populations were recovered after one month in dry soil and three months in moist soil. In the green house, the nematode survived for four months in dry soil and for twelve months in moist soil. The population reduction after a month was 70 and 30 per cent respectively of the initial population. The nematodes steadily declined in both soils and no nematodes were recovered after four months in dry soil or 12 months in moist soil.

Banana suckers inoculated with nematodes extracted after six months were invaded and showed lesions and rotting on roots. Nematodes extracted and inoculated after seven months did not invade banana roots.

Under outdoor conditions active nematodes were recovered from roots for 4 months in moist soil and one month in dry soil. Nematodes in the soil were recovered from moist soil for up to six months and from dry soil only the first month.

In the green house nematodes were recovered from roots for four months in moist soil and two months in dry soil. Nematodes in the soil were recovered from moist soil for twelve months and from dry soil for four months.

### Literature cited

RADEWALD J.D., O'BANNON J.H. and TOMERLIN A.T., 1971 - Temperature effects on reproduction and pathogenicity of *Pratylenchus coffeae* and *P. brachyurus* and survival of *P. coffeae* in roots of *Citrus jambhiri*. *J. Nematol.*, 3: 390-394.

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