the negative effect of bengal gram flour and cotton oil on nematode multiplication. This may also be due to the inhibitory factors present in cotton oil. In general, plant origin media have low multiplication compared to animal origin media as reported by Abe (1987) and Hussaini *et al.* (2002). Similar results were obtained in the present study. The source of lipid also influences the nematode multiplication as reported by Ogura & Haraguchi (1993). The present study revealed that cotton oil is less suitable for nematode multiplication.

Dog biscuit medium and medium developed by Bedding gave similar results. Low yield was obtained in goat and beef homogenate media when compared with dog biscuit and Bedding media. There was no significant difference between the goat and beef homogenate media. The cause for the low yield in goat and beef media may be due to the presence of complex fatty acid chains in the medium as reported by Fodor *et al.* (1994). Chicken offal material for bedding medium is available freely and hence can be more economical than dog biscuit medium.

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Effect of Leaf Extracts of *Acalypha indica, Cassia fistula* and *Solanum torvum* on *Pratylenchus coffeae*

P. SUNDARARAJU AND V. SARITHA

Crop Protection Laboratory, National Research Centre For Banana (ICAR)
Thogamalai Road, Thayanur Post, Tiruchirapalli – 620 102, Tamil Nadu, India.

The root-lesion nematode, *Pratylenchus coffeae* is important nematode pest of banana causing extensive root damage. Several chemicals are used as remedial measures to control plant parasitic nematodes (Jonathan & Rajendran, 2000; Devi, 1995; Sundararaju, 2004). But the continuous use of chemicals poses an adverse effect on the beneficial micro-organism in the soil, in addition to creating residual toxicity and development of resistant strains of the pathogen. Therefore, an attempt was made to study the effect of certain promising plant extracts against root-lesion nematode, *P. coffeae* under laboratory condition.

Fresh leaves of three plants namely, *Acalypha indica, Cassia fistula, Solanum torvum* were collected and washed in sterile water. The water present on the surface area was allowed to dry up by spreading in a clean airflow chamber and finely dried in oven at 60^0C for 12 h. The dried leaves of each plant were ground by using pestle and mortar by adding acetone (1:1 w/v). After thoroughly macerating the plant material it was squeezed through muslin cloth and filtered through Whatman No.1 filter paper. Acetone was evaporated by using a flash evaporator under reduced pressure. Finally the residues were collected and kept it as a stock solution (100 %), which was further diluted to 25 and 50% by using, distilled water. One hundred freshly collected *P. coffeae* were inoculated into a 5cm Petri dish containing 10ml of 1:3 concentration of extract. Distilled water alone served as control. The Petri dishes were kept in incubator at 26 ± 1^0C. Nematode mortality was counted at 24, 48 and 72 h. Death of nematodes was confirmed after transferring

Table 1. Effect of plant extracts on mortality of *Pratylenchus coffeae* under *in vitro* conditions. (Mean of three replications)

Plants used	Per cent Mortality after											
	24 h				48 h				72 h			
	100%	50%	25%	Mean	100%	50%	25%	Mean	100%	50%	25%	Mean
Acalypha indica	81.7[a]	89.7[a] (63.9)	64.7a (66.9)	81.3 (54.1)	100.0[a]	100.0[a] (64.3)	100.0[a] (64.3)	100.0 (64.3)	100.0[a]	100.0[a] (53.7)	100.0[a] (53.7)	100.0 (53.6)
Cassia fistula	86.1[b]	71.3[b] (65.5)	62.2[b] (58.4)	73.2 (52.3)	100.0[a]	100.0[a] (64.3)	98.6[a] (64.3)	99.5 (63.8)	100.0[a]	100.0[a] (53.7)	100.0[a] (53.7)	100.0 (53.6)
Solanum torvum	89.7[a]	89.7[a] (66.9)	59.0[a] (66.9)	79.4 (49.7)	100.0[a]	100.0[a] (64.3)	100.0[a] (64.3)	100.0 (64.3)	100.0[a]	100.0[a] (53.7)	100.0[a] (53.7)	100.0 (53.6)
Control (Distilled Water)	29.8[c]	29.6[c]	29.5[c]	29.6	35.9[b]	35.6[b]	35.3[b]	35.6	46.5[b]	46.3[b]	46.0[b]	46.2
Mean	73.8	70.1	53.8		83.9	83.9	83.4		86.6	86.5	86.5	
CD (P=0.05)	4.27	3.7	7.40		1.49	1.29	2.58		0.82	0.71	1.42	

Figures in parentheses are per cent decrease (-) over control; Column figures followed by different letters are significantly different from each other at 5% level

them to distilled water. Then the percentage mortality was calculated and the data were subjected to Arcine transformation and analysed statistically by applying factorial completely randomised design method.

Data presented in Table 1 revealed that all the three plants tested showed nematicidal effects against *P. coffeae*. Among the three plant extracts tried, cent per cent mortality was observed in plant extracts of *A. indica* and *S. torvum* at 48h in all the three concentration of 25, 50 and 100% (Table 1). Whereas, the cent per cent mortality was recorded from the plant extract of *C. fistula* at 48h in the concentration of 50 and 100%. The cent per cent mortality was observed in all the three plant extracts when exposed to 72h in all the three concentration. However, the mortality rate was minimum at 24h in all the three plant extracts. No mortality was recorded in distilled water.

The results indicated that all the plant extracts exhibited high degree of nematicidal action against the adults and juveniles of *P. coffeae*. The leaf extracts of *S. torvum* and *A. indica* recorded the highest mortality (89.7%) at 100% concentration after 24h. The mortality of *P.coffeae* was directly proportional to the exposure period of the plant extract. The effect of the treatment and dilution was found to be statistically significant in the data recorded after 24,48 and 72 h. These results are in agreement with the earlier reported by Desai *et al*. (1985).

It is thus concluded that *S. torvum* and *A. indica* which are commonly available in banana fields can be effectively utilised for the control of *P. coffeae*.

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