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Influence of Ragi Root-Aphid, *Tetraneura hirsuta* B., on the Reniform Nematode, *Rotylenchulus reniformis* Linford and Oliveira, 1940

Several species of plant parasitic nematodes are known to be present in the rhizosphere of ragi plants. Linford and Yap (1940) have reported the occurrence of the reniform nematode *Rotylenchulus reniformis* Linford and Oliveira, 1940 on *Eleusine indica*. Subsequently Goodey *et al.* (1965) have listed a *Meloidogyne* sp. under *E. coracana* as well as three other species of root-knot nematodes, *M. incognita acrita* Chitwood, 1949, *M. arenaria* (Neal, 1889) Chitwood 1949, and *M. javanica* (Treub, 1885) Chitwood, 1949, the lesion nematodes *Pratylenchus penetrans* (Cobb, 1917) Filipjev and Stekhovan, 1941 and *Pratylenchus zea* Graham, 1951 and the reniform nematode, on *E. indica*. The prevalence of reniform nematode in Tamil Nadu on ragi *(E. coracana)* causing poor growth and grassy appearance has been reported by Rajagopal (1965). Sitharamaiah *et al.* (1971) have included in their list of nematode species occuring in *E. coracana*, in India, two spiral nematodes, *Helicotylenchus indicus* and *Helicotylenchus* sp., two root-knot nematodes *M. incognita* and *M. javanica*, *Tylenchus* sp., and the reniform nematode.

In order to find out whether the infestation of the root-aphid, *Tetraneura hirsuta* B., has any significant effect on the nematode population, preliminary studies were carried out in the ragi fields of the Tamil Nadu Agricultural University Farm, Coimbatore during June, 1973 and the results of the observations are presented in this note.

CO 7 ragi crop of two months age in a plot of 1 X 2 m was selected and ten soil samples in each from the rhizospheres of the root-aphid infested plants and noninfested plants were drawn. 200 ml of soil from each was

processed through 350 mesh sieve and sugar floatation method (Gooris and D' Herde, 1972) and the population of the nematodes was assessed.

Three species of plant parasitic nematodes, *R. reniformis*, *Hoplolaimus seinhorsti* Luc, 1958 and *Tylenchorhynchus* sp., were observed in the soils collected around the root-aphid infested plants. *R. reniformis* and *H. seinhorsti* were found to be more in the soils of the root-aphid infested plants than in the non-infested plants, the difference in the case of the former species being statistically signifcant (Table 1).

TABLE 1. Population of nematodes in relation to root aphid infestation.

	Population per 200 ml of soil					
	R. reniformis			*H. seinhorsti*		
	Range	Mean	Degree of significance	Range	Mean	Degree of significance
Root aphid infested	140 - 523	267.3	P = 0.01 per cent	6 - 84	48.1	Not significant
Root aphid non-infested	49 - 245	112.6		24 - 49	34.7	

Virus infected plants were generally reported to attract more insect pest and nematode population. The rate of multiplication of the stem and blub nematode, *Ditylenchus dipsaci* (Kuhn, 1957) Filipjev 1936 was reported to be higher in virus-infected tobacco plants (Weishcher, 1970). The present study suggests that primary infestation by root aphid in ragi confers higher susceptibility to the plants resulting in increased population of nematodes.

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