

Root Knot Nematode as a Pest of *Coleus parviflorus* in Kerala

Coleus parviflorus is an important tuber crop cultivated in Kerala. In the sandy tracts of Quilon District it is cultivated in rotation with paddy crop. In 1963 about 95% of tubers harvested from some wet plots at Mayyanad in the above District showed heavy infestation by *Meloidogyne incognita* Kofoid. Pushkernath and Chowdhary (1938) had recorded it on the same host at Simla. But the present record of its occurrence in Kerala and that too in a severe form is a significant one since *C. Parviflorus* is a crop of economic importance in the State.

The attacked tubers (Fig. I) appear maformed with severe galling and are larger than healthy ones. But soon after harvest they begin to lose weight and in a period of ten days the weight is reduced to $\frac{1}{4}$ as shown in Table-I. They also shrivel up considerably as seen in Fig. II.

Examination revealed the presence of numerous gravid females of *M. incognita* under the skin of infected tubers and the healthy ones were free from this nematode. A nematocidal trial was conducted to determine the extent to which the disease could be controlled. Six plots, each 24' x 4 $\frac{1}{2}$ ', were demarcated in a field at Mayyanad. Three of these were treated with nemagon diluted to 20 times with water at the rate of 1.75 gallons per acre. The treatment was done by pouring 2 ml of the solution in holes, 15 cm deep (made with a stick) and 22.5 cm apart, along and across the plots. The holes were sealed with soil after pouring the emulsion. Three plots were kept as control. Cuttings were planted ten days after the application of the nematocide. Infestation of the tubers in the treated and untreated plots at the time of harvest are shown in Table II.

TABLE I
Change in weight of healthy and diseased tubers of *C. Parviflorus* on storage
(original weight 1000 g)

No. of days after harvest	Wt. of healthy tubers (g)	Wt. of diseased tubers (g)
1	940	860
2	940	806
3	895	744
4	875	620
5	870	510
6	870	434
7	865	375
8	860	302
9	840	250
10	840	210

TABLE II

Infestation of *M. incognita* on tubers of *C. parviflorus* in treated and control plots at the time of harvest

		Wt. of healthy tubers	Wt. of attacked tubers	% of attack
		(Kg)	(Kg)	
Treated plot	1.	6.53	0.32	4.67
„	2.	6.25	0.25	3.85
„	3.	7.86	0.94	10.68
Control plot	1.	0.90	6.20	87.32
„	2.	0.20	7.25	91.64
„	3.	0.68	6.82	90.93

Thus it was observed that 87.32 to 90.93% of the tubers were infested by the nematode in the control plots as against 3.85 to 10.68% in treated plots. This shows that the disease can be controlled by applying nemagon at the rate of 1.75 gallons per acre.

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Reference

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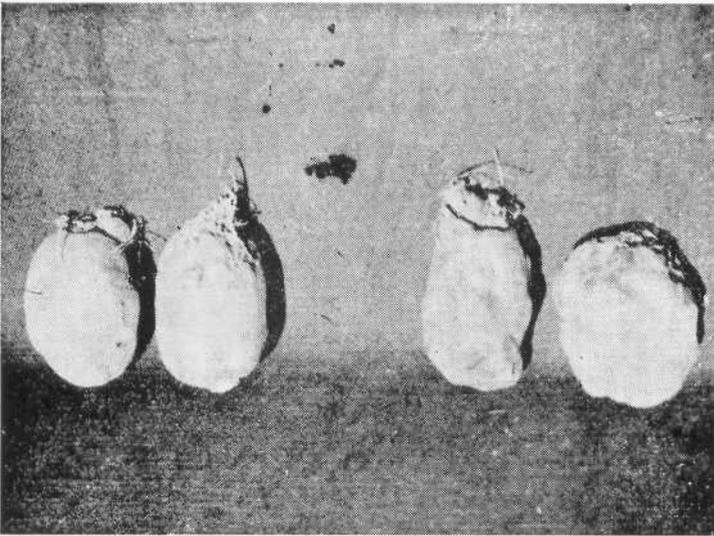


Fig. 1. Healthy and diseased tubers of *C. Parviflorus* at the time of harvest

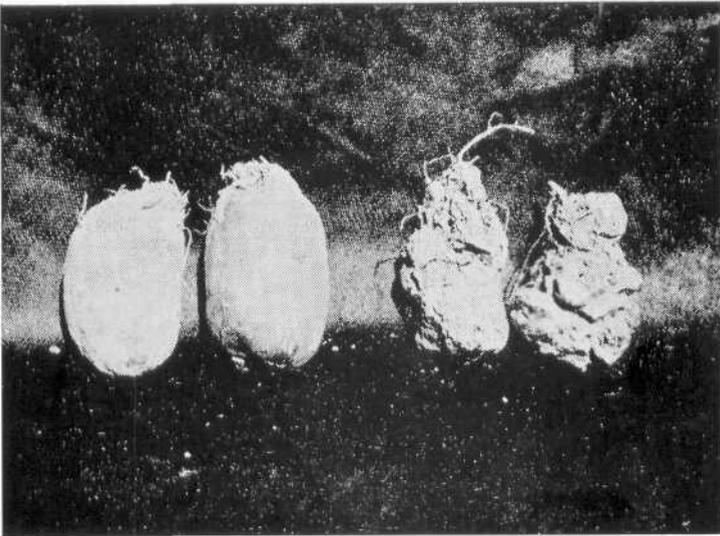


Fig. II. Healthy and diseased tubers of *C. Parviflorus* ten days after harvest