

(Eisenback *et al.*, 1981). The head region did not show any incomplete annulation as against the characterization of NC 68 population by 2 to 3 incomplete annulations (Eisenback and Hirschmann, 1979).

The authors are thankful to Prof. Van Gundy for constant encouragement and FAO/UNDP, Rome for awarding fellowship to the senior author.

#### REFERENCES

- EISENBACK, J.D. & HIRSCHMANN, H. (1979). Morphological comparison of second stage juveniles of six populations of *Meloidogyne hapla* by SEM. *J. Nematol.* **11** : 5-16.
- EISENBACK, J.D. & HIRSCHMANN, H. (1980). Morphological comparison of *Meloidogyne* males by scanning electron microscopy. *J. Nematol.* **12** : 22-32.
- EISENBACK, J.D., HIRSCHMANN, H., SASSER, J.N. & TRIANTAPHYLLOU, A.C. (1981). A guide to the four most common species of root-knot nematodes (*Meloidogyne* spp.) with a pictorial key. A coop. publication of Dept. of Plant. Path and Genetics, North Carolina State Univ. and the TSAID, Raleigh, North Carolina.

## A SIMPLE METHOD FOR INOCULATION AND PRODUCTION OF SYMPTOMS BY *RADOPHOLUS SIMILIS* ON COCONUT\*

BY

P.K. KOSHY and V.K. SOSAMMA

Nematology Laboratory, Central Plantation Crompt Research Institute Regional Station, Kayangulam  
Krishnapuram P.O. 690533, Kerala, India

Raising sprouts by dehusking seednuts partially by retaining a tuft of fibers covering the eyes of the nut was found to accelerate germination and make roots available six weeks earlier for easy handling in the laboratory. Using this method typical elongate orange coloured lesions could be detected on coconut roots after 24 hours of inoculation with *Radopholus similis*.

Two hundred seednuts of var. West Coast Tall (Fig. 1) were dehusked retaining a tuft of fibers covering the eyes of the nut. These were sown in steam sterilised soil in 35 cm earthen pots. The seed on germination puts out a plumule and a single root from the base of the prostem. Subsequent roots were found to originate adjacent to the first. Soon after the appearance of the plumule nuts were depotted and washed carefully with running tap water. Then a coloured silk thread was carefully tied on to the root 2.5 cm away from the root tip (Fig. 2). The whole root

\* Contribution No. 553 of CPCRI, Regional Station, Kayangulam.

SHORT COMMUNICATIONS



Fig. 1.

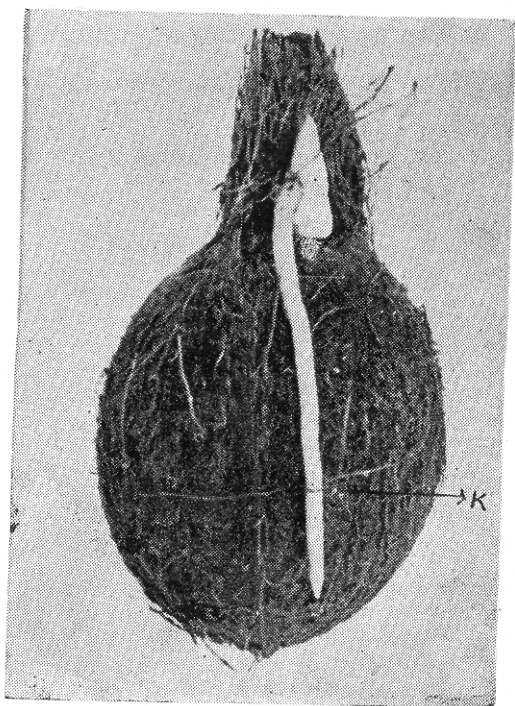


Fig. 2.

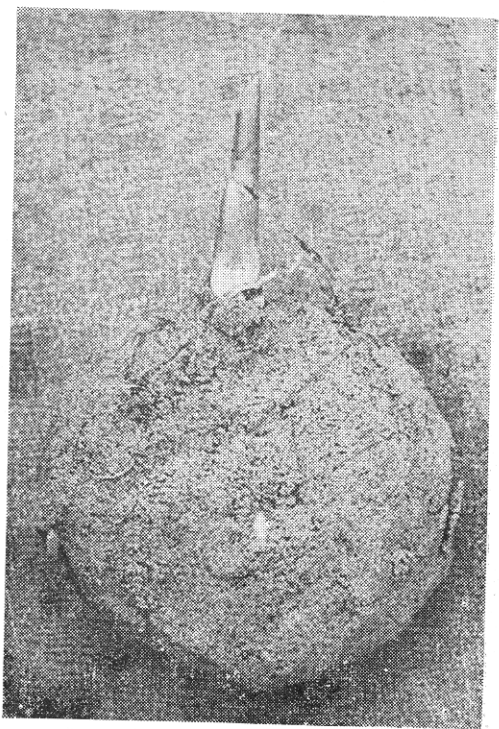


Fig. 3.

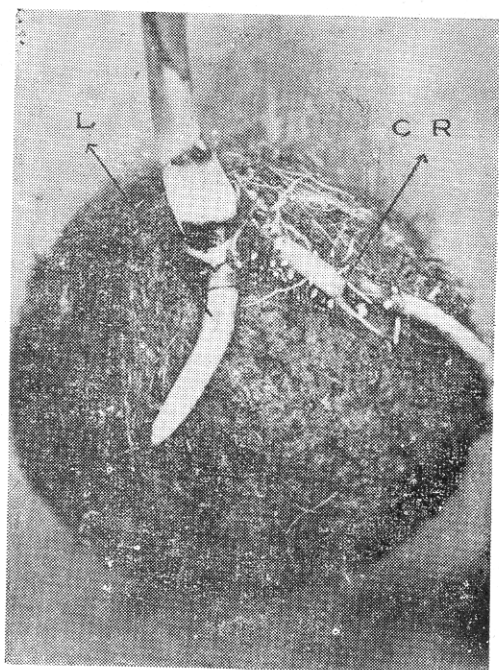


Fig. 4.

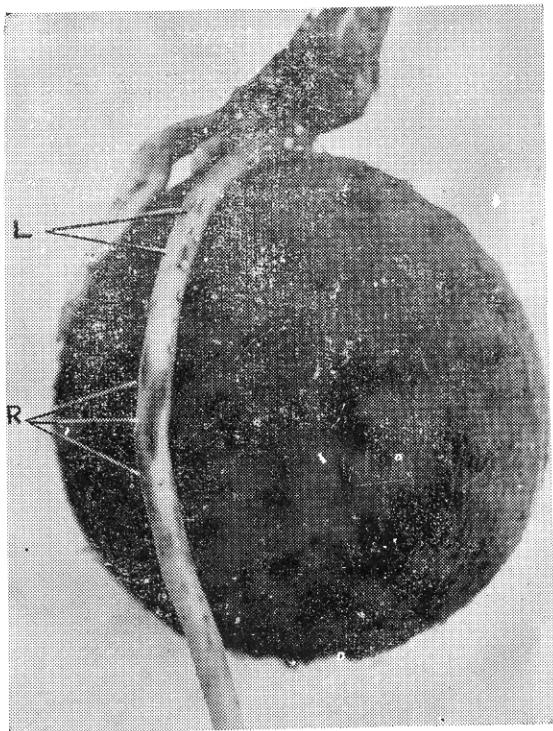


Fig. 5.

was covered with moist steam sterilised sandy loam soil in such a way that the marked portion remained partially visible (Fig. 3). About 200 freshly extracted active surface sterilised *R. similis* (larvae and females) suspended in 2 ml sterile water was pipetted out on to the root between the tip and the thread mark of 45 sprouts. More moist soil was placed on top of the root. The nut was then placed in horizontal position in a polythene bag containing sterile soil with inoculated root on the top and more soil added to cover up. Fifteen sprouts treated with 2 ml sterile water as above served as checks. Three plants from the treated and one plant from check were removed after every 24 hour, observed for the presence of lesions under a stereoscopic binocular microscope for 15 days. Elongate, orange coloured, small characteristic lesions caused by *R. similis* were visible in the marked white portion of the root from the second day onwards, but they could be detected under a stereoscopic microscope after 24 hour. The root portions having lesions (Fig. 5) were teased and confirmed the presence of *R. similis* population. Roots of the check plants neither recorded lesions nor nematodes on teasing. The thread mark remained visible even after a period of 30 days, also in cases where the thread was found displaced due to loose tying. Thus the inoculated portion of 2.5 cm can easily be identified and separated for further studies.

The same experiment was repeated on the newly emerging roots of the same plant after cutting off the already used root and thorough cleaning (Fig. 4). Thus the method was found suitable for inoculation studies with *R. similis*.