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SHORT COMMUNICATIONS

CONTROL OF THE BURROWING NEMATODE, *RADOPHOLUS SIMILIS* ON COCONUT SEEDLINGS WITH DBCP

BY

P. K. KOSHY and V. K. SOSAMMA

Central Plantation Crops Research Institute Regional Station, Kayangulam,  
Kerala, India

Roots, both inside and outside the husk of coconut (*Cocos nucifera* L.) seedlings, raised in nurseries at the Central Plantation Crops Research Institute, Kasaragod and the Coconut Research Station, Nileshwar were found heavily infested with the burrowing nematode, *Radopholus similis* (Gobb, 1893) Thorne, 1949. Release of such infested seedlings aids in the dissemination of this serious pathogen to other parts of the country. A dip treatment with different concentrations of DBCP (1, 2-dibromo 3-chloropropane) for different durations was therefore tested for the release of nematode-free seedlings.

One year-old West Coast Tall (WCT) coconut seedlings infested with *R. similis* were obtained by growing sprouts in a small plot between banana plants severely infested with *R. similis* for one year. These seedlings were carefully uprooted, washed thoroughly and roots external to the husk were closely pruned off neatly with a sharp knife. Aqueous solutions of DBCP at 250, 500 and 1000 ppm concentration were used for the dip treatments for 5, 10, 15 and 30 minutes with frequent stirring. Each treatment was replicated five times. Thousand ppm concentration was tried for 45 and 60 minutes to find out phytotoxicity, if any.

The seedlings were dehusked and roots inside the husks were removed for observation 1, 2, 3, 5 and 7 days following the treatment. These roots were cut into pieces of 1" length and split into eight. They were left in water for 72 hours in Petri plates kept at a temperature of 4-14°C (Koshy *et al*, 1975). The suspension was passed through a 60 mesh sieve first to remove the root particles, and nematodes were collected on a 350 mesh sieve for observation and counting. Treatments which yielded even one living nematode was taken as ineffective.

Among the treatments, dip in DBCP at 1000 ppm concentration for 15 minutes and longer was found effective in killing all the nematodes present in roots inside the husk. Slight phytotoxicity was noticed in the case of dip treatments at 1000 ppm concentration lasting 30, 45 and 60 minutes. The freshly emerging leaf at the time of treatment on opening showed three inch wide yellow bands (Plate 1) which gradually disappeared in 3 to 4 months.

It was observed that roots external to the husk carried nematode populations as high as 1000/g as against 427/g in the root portions inside the husk. One hundred such infested seedlings were treated with DBCP 1000 ppm concentration for 15 minutes. They were planted in

sterilised soil and observed monthly for one year. None of them yielded any nematodes at the end of this period, indicating the possibilities of this method to denematise infested seedlings. The cost of the treatment involved worked out to 5 paise (Re 0.05) per seedling.

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## REFERENCE

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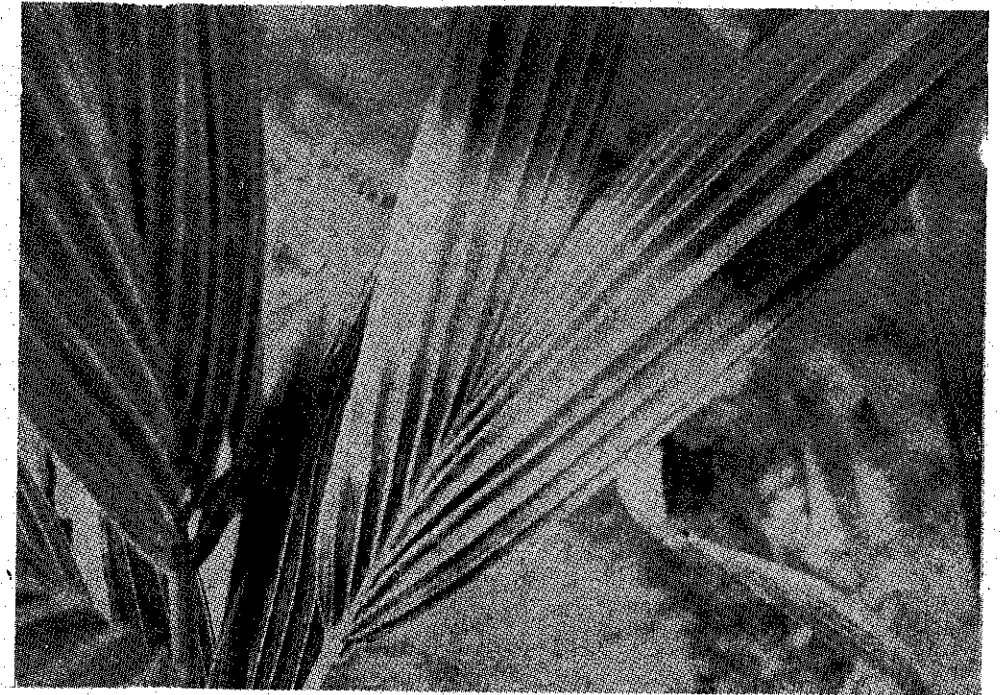


Fig. 1. Leaf of a coconut seedling showing yellow band after DBCP treatment.