

Note brève

NEMATICIDAL POTENTIALS OF SOME NATURALLY-GROWING MEDICINAL PLANTS AGAINST *PRATYLENCHUS ZEAE*

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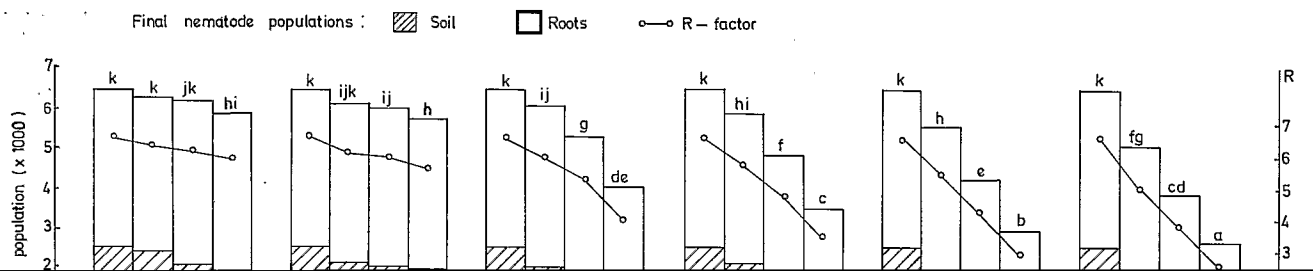
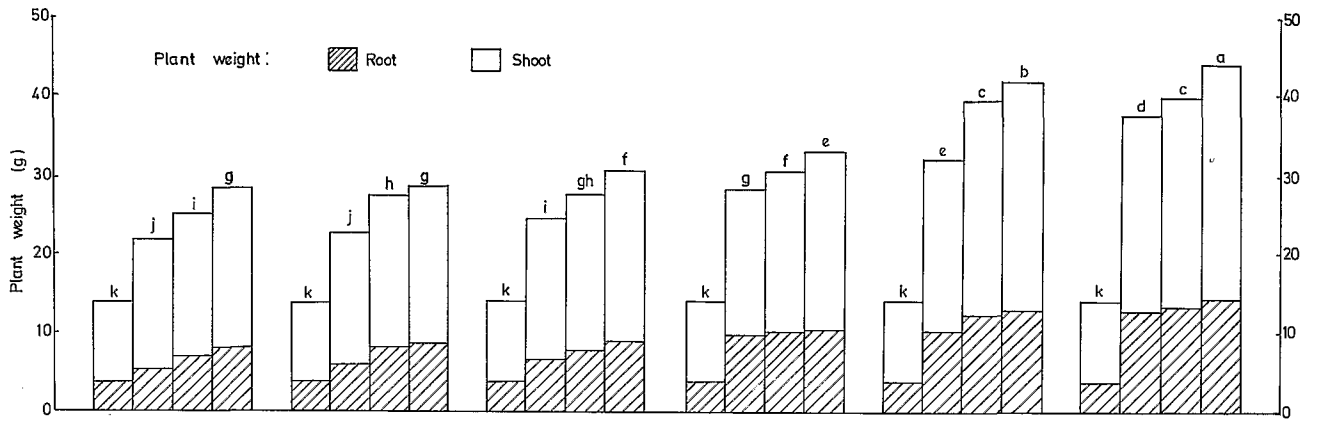
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Many wild and cultivated medicinal plants have been shown to possess nematicidal properties against several plant-parasitic nematodes (Desai, Shah & Pillai, 1973; Egunjobi & Afolami, 1976; Saxena, Chhabra & Jasial, 1977; Haseeb *et al.*, 1978; Sitaramaiah & Singh, 1978; Vijayalakshmi & Prasad, 1979; Vijayalakshmi, Mishra & Prasad, 1979; Prot & Kornprobst, 1983; Mani *et al.*, 1986; Akhtar & Alam, 1989; Mojumder *et al.*, 1989; Stephen, Al-Askari & Antoon, 1989). A great variety of annuals and perennials of medicinal value abound the rain-forest and savanna areas of Nigeria. However, except for neem, *Azadirachta indica* Juss. (Egunjobi & Afolami, 1976), no attempt has ever been made in this country to evaluate their nematicidal potentials. In the present study, leaves of six naturally-growing plants and trees of medicinal value were tested for their nematicidal effect on the development of *Pratylenchus zeae* Graham, 1951 on chilli (*Capsicum frutescens* L.) cv. PL 2289.

Three different doses viz., 25, 50 and 100 g/kg soil (representing 56, 112 and 224 t/ha), of thoroughly washed and chopped leaves of *Abrus precatorious* L. (fam. Papilionaceae), *Acacia albida* Del. (fam. Mimosaceae), *Albizia adianthifolia* (Schum.) W. F. Wight. (fam. Mimosaceae), *Azadirachta indica* Juss. (fam. Meliaceae), *Cnestis ferruginea* DC (fam. Connaraceae) and *Tamarindus indica* L. (fam. Caesalpiniaceae) were each added to 1 kg heat-sterilized soil contained in each of

tions in soil and roots were estimated and fresh weights of shoots and roots of plants were determined. Oostenbrink's "Reproduction factor" ($R = Pf/Pi$) (Oostenbrink, 1966) was calculated as the final nematode population (Pf) divided by initial nematode population (Pi). The experiment was conducted during July-September, 1987 and repeated during the same months in 1988.

Of the six plant species tested, incorporation of leaves of *A. precatorious* allowed the highest multiplication of the nematode population, while *A. indica* allowed the lowest. The remaining four plant species viz., *A. albida*, *A. adianthifolia*, *C. ferruginea* and *T. indica*, exhibited nematode toxicity to varying extents in between these two extremities (Fig. 1). The differences in between the plant species means were highly significant on Duncan's multiple range test. When the same plant species was studied at different doses, it was observed that *A. precatorious* was ineffective at all the three doses in reducing nematode population, while *C. ferruginea* caused a decline only at the dose of 100 g/kg and the difference was statistically significant. *A. indica*, *A. albida*, *T. indica* and *A. adianthifolia* significantly reduced the nematode population at all the three doses with significant population decrease with each increase in the dose. Chopped leaves of *A. indica* at the dose of 100 g/kg caused the greatest decline in nematode population followed by those of *A. albida*, *T. indica* and *A. adianthi-*



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