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RESEARCH ARTICLE

Interaction studies of *Fusarium oxysporum* f. sp. *cubense* with burrowing nematode (*Radopholus similis*)

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ABSTRACT

Investigations were undertaken in pot to assess a possible interaction between Panama wilt of banana caused by *Fusarium oxysporum* f. sp. *cubense* and burrowing nematode *Radopholus similis*. The disease incidence was highest in inoculation of burrowing nematode (*Radopholus similis*) followed by *Fusarium oxysporum* f. sp. *cubense* and inoculation of *Fusarium oxysporum* f. sp. *cubense* followed burrowing nematode (*Radopholus similis*) and simultaneous inoculation of *Fusarium oxysporum* f. sp. *cubense* and burrowing nematode (*Radopholus similis*). Plant growth parameters were least in simultaneous inoculation of *Fusarium oxysporum* f. sp. *cubense* and burrowing nematode (*Radopholus similis*).

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INTRODUCTION

Banana and plantains (*Musa* spp.), the second largest fruit crop in the world, are important staple foods in tropical America, Asia and the Pacific. Banana is one of the most important fruit crops extensively grown in India. Among the various biotic factors affecting production, the burrowing nematode, *Radopholus similis* is considered the most economically important nematode disease of banana (Gowen, 1995). Sundararaju (1996) reported that the burrowing nematode causes severe root rotting, resulting in about 25-35 per cent reduction in yield.

Another important limiting factor in banana production is Panama wilt, caused by *Fusarium oxysporum* f. sp. *cubense* Snyder *et* Hansen. In India, the first reports of Panama wilt were in 1911 in West Bengal and 1956 in Tamil Nadu and many reports have been made subsequently. The main nematode found associated with this disease is *Radopholus similis*. Therefore, the present study was undertaken to assess the interaction between the wilt fungus, *F. oxysporum* f. sp. *cubense* (*Foc*) and burrowing nematode, *Radopholus similis*.

MATERIALS AND METHODS

A pot culture experiment was initiated at K.R.C. College of Horticulture, Arabhavi. There were six treatments replicated four times with Complete Randomized Design. A susceptible cultivar Ney Poovan (Yalakkibale) was planted in pots containing sterilized soil. Inoculation was done 25 days after planting with the following treatments :

– T_1- Inoculation of *Fusarium oxysporum* f. sp. *cubense* alone
– T_2 -Inoculation of burrowing nematode (*Radopholus similis*) alone
– T_3- Simultaneous inoculation of *Fusarium oxysporum* f.