EFFECT OF MICRO-NUTRIENTS ON THE GROWTH AND SPORULATION OF *FUSARIUM SOLANI* F. *AURANTIFOLIAE* BHAT. AND PRASAD

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Abstract

The two isolates (F 1 and F 2) of *Fusarium solani* responsible for lime twig disease were tested for their trace element requirements. The effect of zinc, iron, copper and manganese singly and in all possible combinations on growth and sporulation of the two isolates was studied and it was found that in both of them iron and zinc, singly and in all combinations, played a remarkable role. Best growth and sporulation took place where the medium was supplemented with a combination of zinc, manganese and iron. Copper either singly or in mixtures was less effective for sporulation while zinc had a key role in this process.

Introduction

Conclusive evidences are now on record on the essentiality of micro-nutrients for fungi and that they are not 'spurious stimulants' but are biologically essential nutrients (Raulin, 1869; Blank, 1941; Lilly and Leonion, 1945). The indispensability of zinc for normal growth of various species of *Fusarium* has been proved by Saraswathi Devi (1955) and Agarwal (1955). Omission of manganese from a balanced nutrient medium resulted in decreased growth of *Aspergillus niger* and complete inhibition of spore production (Steinberg, 1945). In the three species of *Fusarium* investigated by Yogeswari (1948) manganese not only enhanced the growth rate of the mycelium but greatly induced sporulation. Agarwal (1959) found that copper favoured increased sporulation of both colocasia and potato strains of *Fusarium coeruleum.* Steinberg (1950) observed that the addition of iron in traces accelerated the growth 40 to 75 times as compared to iron-free medium in certain fungi

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