

Research Note :

Inhibitory effect of certain fungicides and antibiotics on radial growth of *Rhizoctonia bataticola* causing root rot wilt of betel vine



S.B. BRAHMANKAR, N.R. DANGE AND DEEPALI G. TATHOD

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See end of the article for authors' affiliations

Correspondence to :
S.B. BRAHMANKAR

Department of Plant Pathology, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, AKOLA (M.S.) INDIA
Email : bramhash@gmail.com

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Piper betle L.(betel vine) is victim of several diseases of fungal origin. But the most important is rot root/wilt caused by *Rhizoctonia bataticola* in Vidarbha (Maharashtra). Now-a-days, this disease has become so threat that its cultivation has been abandoned in certain parts of Vidarbha. In the present study fifteen fungicides and two concentrations of three antibiotics were tested against *R. bataticola*.

The fungus, *R. bataticola* was isolated from diseased samples of betel vine wilt and its pathogenicity was proved. *In vitro* the assay of fifteen fungicides and three antibiotics was carried out by poisoned food technique. The stock solutions of fungicides and antibiotics were prepared and mixed in molten and cooked autoclaved Potato dextrose agar (PDA) medium to get the required concentration. Five mm disc of fungus was placed in centre of Petriplate containing various amended media and incubated at $27 \pm 2^{\circ}\text{C}$. The radial growth of colony was measured nine days after the incubation. The per cent inhibition of colony diameter of test fungus was calculated by the following formula as suggested by Vincent (1947) :

$$I = \frac{C - T}{C} \times 100$$

where,

I = per cent inhibition

C= Growth of test fungus in control (mm)

T = Growth of test fungus in treatment (mm)

The data presented in Table 1 showed that

100 per cent inhibition of test fungus was recorded in dithane M-45, dithomyl, dithane Z-78, thiram, ridomil, benlate, carbendazim and metalaxyl. In rest of the treatments, inhibition was ranged from 54.72 to 82.78 per cent except in copper oxychloride where the inhibition only 8.61 per cent. This confirms the finding of earlier research works on different fungicides like ridomil (Ramraj, 1980); dithane M-45 (Maiti *et al.*, 1978); thiram (Siddappa and Anilkumar, 1985) and Carbendazim (Verma and Vyas,1976).

Out of three antibiotics screened, Validamycin and Kasugamycin inhibited the radial growth of test fungus totally at 200 ppm, though 100ppm concentration was not effective (Table 2). These results corroborate with the findings of Shrivastava and Vyas (1983) and Balasubramaniam *et al.* (1988).

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Inhibitory effect,
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