Research Paper :

Mode of action of the native potential antagonist, *Trichoderma fasciculatum* against *Colletotrichum gloeosporioides* causing mango anthracnose

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SUMMARY

For control of anthracnose of mango incited by *Colletotrichum gloeosporioides* Penz., native antagonistic microflora were used with different mechanisms. Under *in vitro* study, the four potential antagonists *viz.*, T_1, T_7, F_{11} and B_1 isolated from fructoplane showed the highest antagonistic activity in dual culture studies due to mycoparasitism and the efficacy of the four potential antagonists was confirmed in spread plate technique. Moreover, T_7 isolate was selected as the best fungicide compatible potential native antagonist among the fungicides evaluated in poison food technique. The effect of volatile and non-volatile metabolites produced by fructoplane isolate, *Trichoderma fasciculatum* (T_7) inhibited the mycelial growth and conidial germination over control on 3rd and 5th day of incubation, respectively through antibiosis. These findings indicated that the native potential antagonist T_7 which inhibited the growth of pathogen with different mechanisms combining with a compatible systemic fungicide Thiram at a lower concentration proved to be the best in integrated disease management of *Colletotrichum gloeosporioides*.

Key words :
Mango, *Colletotrichum gloeosporioides*, Anthracnose, *T. fasciculatum* Mycoparasitism, Volatile and non-volatile compounds

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