

Efficacy of Bio-Control Agents against *Colletotrichum falcatum* Causing Red Rot Disease of Sugarcane

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Abstract : Sugarcane is one of the major commercial crop playing roles in agriculture and industrial economy of India. Globally sugarcane is affected by approximately 240 diseases caused by various plant pathogenic organisms. Among them, red rot disease caused by the fungus *Colletotrichum falcatum*, is one of the most important diseases. In the present investigation, one fungal bioagent of *Trichoderma harzianum*, Pant Bioagent 1 and one bacterial bioagent *Pseudomonas fluorescense*, Pant Bioagent 2 (PBAT 1 and PBAT 2, respectively) were tested by dual culture method against the pathogen under laboratory conditions. The effectiveness of biocontrol agents was observed against four isolates of *C. falcatum*. In the case of PBAT1 maximum percent inhibition of pathogen was recorded in isolated Cf 0238 (61.05%), followed by Cf 09 (60.62%) whereas, minimum percent inhibition was recorded in Cf 3220 (48.55%) and in case of PBAT2 maximum mycelial growth inhibition percent was recorded in Cf 767 (50.50%) followed by Cf 088230(48.83%), whereas minimum percent inhibition was recorded in Cf 08 (40.16%) followed by Cf 0238 (41.83%). The present study showed that these biocontrol agents have the potential of controlling the pathogen and can further be used for the management of red rot disease in field.

Keywords : biocontrol agents, *Colletotrichum falcatum*, isolates, sugarcane

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