Antagonistic Potential of Trichoderma Strains against Colletotrichum musae

Authors : Shah Md. Asraful Islam, Shabina Yeasmin, Fatima Aktar Mousumi

Abstract : The experiment was conducted to evaluate the antagonistic potential of three commercially available Trichoderma strains viz., T. harzianum (armigera), T. harzianum (Ispahani), and T. viride against Colletotrichum musae isolates from three banana varieties viz., sagar, sobri, and katali. Mycelial growth rates of C. musae isolates were observed, the highest mycelial growth (11.62, 15.75, and 23.12 mm diameter) was observed by C. musae from sagor banana at 1, 2 and 3 days after inoculation, respectively. All the Trichoderma strains were capable of growth inhibition of C. musae isolates. After 4 days of duel culture, the highest mycelial growth reduction (10.33 mm diameter) was observed by the interaction between T. harzianum (armigera) with C. musae from sagor banana. Moreover, the highest growth inhibition (46.29%) was observed by the interaction between T. harzianum (armigera) with C. musae from the sobri banana. All the Trichoderma strains fully affected the viability of all the Colletotrichum isolates. Interestingly, both cultural filtrates and mycelial powders of all the Trichoderma strains showed a very nice inhibitory effect against C. musae isolates, where cultural filtrates were more potential than that of mycelial powders. So, all the tested Trichoderma strains may be used for the control of banana anthracnose disease.

Keywords : biological control, banana, anthracnose, Trichoderma, Colletotrichum
Conference Title : ICP 2020 : International Conference on Postharvest
Conference Location : Dubai, United Arab Emirates
Conference Dates : March 19-20, 2020