Title Interactions of *Colletotrichum musae* and *Lasiodiplodia theobromae* and their biocontrol by *Pantoea agglomerans* and *Flavobacterium* sp. in expression of crown rot of "Embul" banana

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Abstract

Previous research has shown that two local isolates of bacteria (*Pantoea agglomerans* and *Flavobacterium* sp.) are capable of biocontrol of the two main pathogens (*Colletotrichum musae* and *Lasiodiplodia theobromae*) known to cause crown rot on "Embul" (*Musa*, AAB) banana. In this investigation an attempt was made to elucidate the comparative virulence of these pathogens and to determine the underlying biocontrol mechanisms. *L. theobromae* was more virulent, causing faster spread of the disease, whereas *C. musae* was more resistant to the bacterial antagonists. Viable cells of the antagonists were more effective at suppressing conidial germination than cell-free culture media. It seemed that antifungal compounds acting on conidial germination may be heat stable and those acting on mycelia may include heat labile compounds also. Considering the specialized roles observed for each pathogen in terms of causing the disease, and in modes of control by antagonists, future field investigations on biocontrol should consider the roles played by the pathogens and the antagonists.

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