

## Biocontrol potential of endophytic aspergillus spp. against fusarium verticillioides

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### Abstrak

*Fusarium verticillioides* is the causal agent of ear, stalk and root rot of maize that results in the severe reduction in yields and quality of infected products. Endophytic fungi have been purported as potential candidates in controlling pathogens since they are considered strong plant mutualists that confer disease resilience to their host. The present study was carried out to determine the in vitro antagonistic activity and biocontrol potential of endophytic *Aspergillus* spp. associated with *P. amboinicus* leaves against *F. verticillioides*. Three fungal endophytes from the genus *Aspergillus* were isolated and identified from the leaves of *P. amboinicus*, namely *A. flavus*, *A. terreus* and *A. niger*. The fungal isolates were tested for antagonism against *F. verticillioides* in dual culture plates. Results indicate that the *Aspergillus* endophytes can restrict growth of *F. verticillioides* and employ varying mechanisms of antagonism. *A. niger* inhibited *F. verticillioides* by 47.37%, followed by *A. flavus* (41.02%) and *A. terreus* (27.91%) respectively. Observations of dual culture plates revealed that *A. flavus* and *A. niger* antagonized the pathogen via overgrowth mechanism while *A. terreus* employed antibiosis to restrict the growth of *F. verticillioides*. The varying degrees of antagonism exhibited by the *Aspergillus* endophytes show their potential as biocontrol agents and source of bioactive compounds