

Antagonistic behavior between two maize seed colonizing fungi.

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The two maize seed pathogens, *Aspergillus flavus* and *Fusarium verticillioides*, can co-occur within the same kernel. It is unclear how these two fungi interact within seeds, as each one is capable of colonizing all tissue types within the kernel. The long-term goal of this research project is monitor this interaction in vivo by profiling gene expression in each fungus as the two co-infect maize seeds. Initial studies to address this goal are focused on procedures for isolating fungal RNA from infected kernels and on studying the in vitro interactions of these two fungi co-inoculated on media. We have successfully isolated fungal RNA from maize kernels infected in the field with *A. flavus* and shown by reverse transcription PCR that transcripts for the *A. flavus* aflatoxin pathway genes *vbs*, *nor1*, *aflR*, and *ver1* are present in these kernels 6 days after inoculation. In vitro studies have failed to show strong antagonism between these two fungi, indicating that the importance of monitoring the effect of the interaction on the metabolism of these fungi. In particular, we are interested in whether the interaction affects the production of fumonisin and aflatoxin, the respective mycotoxins produced by *F. verticillioides* and *A. flavus*.