

## **Inhibition of Aflatoxin Production in *Aspergillus* in the Course of Peanut-Fungus Interaction**

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Common soil fungi, *Aspergillus flavus* and *A. parasiticus*, are opportunistic pathogens that invade preharvest peanut seeds. These fungi often produce carcinogenic aflatoxins that possess threat to human and animal health through food chains and cause significant economic losses worldwide. Quantitative determination of aflatoxins and further processing of crops are mandated to ensure that contaminated agricultural products do not enter food channels. Under favorable conditions, the fungus-challenged peanut seeds produce phytoalexins, structurally related stilbenoids, capable of retarding fungal development.

The purpose of the present study was to evaluate potential influence of peanut phytoalexins on fungal development and aflatoxin formation in the course of peanut-fungus interaction. The present research revealed that during such interaction, aflatoxin formation was completely suppressed in *A. flavus* and *A. parasiticus* strains tested, when low concentrations of spores were introduced to wounded pre-incubated peanuts. In most of the experiments, when fungal spore concentrations were two orders of magnitude higher, the spores germinated and produced aflatoxins. Of all experimental seeds that showed fungal growth, 57.7% were aflatoxin free after 72 h of incubation. The research provided new knowledge on the aflatoxin/phytoalexin formation in the course of peanut-fungus interaction.