In Vitro Antifungal Activity of Ferulic Acid against *A. flavus* Growth

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Aspergillus flavus colonization in peanut leads to aflatoxin contamination which poses a serious threat to human health and food safety. *A. flavus* invasion in peanut is mostly prevalent during the post-harvest stage where the seed coat is the only protective layer of the endosperm. In attempt to regulate *A. flavus* growth in peanut, an *In Vitro* Seed Colonization assay (IVSC) and radial growth were used to establish the role of insoluble polyphenols from peanut seed coat in regulating *A. flavus* contamination based on the comparison between resistant and susceptible genotypes. We sought to identify the biochemicals present in the seed coat extract and studied the antifungal properties of each of the compounds in response to *A. flavus* colonization. HPLC analysis was used to identify the biochemicals present in the seed coat extract. Antifungal properties of the polyphenols were determined using the poison food technique. The radial growth bioassay and calculated minimum inhibitory concentration showed that ferulic acid inhibits *A. flavus* growth when compared to the positive control Nystatin (a known fungicide). The result shows that ferulic acid could be used as a selection tool in screening for *A. flavus* resistant lines in breeding programs.