

**Effect of GRAS compounds on aflatoxin production of a *Aspergillus flavus* In maize ( *Zea mays* L.)**

*R.M.R.N.K. Rathnayake, B.M.K.S. Thilakarathna & M.D. Fernando., Effect of GRAS compounds on aflatoxin production of a *Aspergillus flavus* In maize ( *Zea mays* L.), Proceedings of the research Symposium on "Post Harvest Technology for Food security" Institute of Post Harvest Technology, pp.38,Abstracts  
Institute of Postharvest Technology, Research and Development Center, Jayanthi Mawatha, Anuradhapura, Sri Lanka*

The inhibitory effects of four Generally Recommended As Safe (GRAS) compounds; namely, sodium bicarbonate, ammonium bicarbonate, calcium chloride, and citric acid in different concentrations were evaluated on conidial germination and mycelia growth of *Aspergillus flavus*, an aflatoxin producing fungi on maize (*Zea mays* L.). The most effective compound, sodium bicarbonate in 4% (wt/v) concentration was used for spraying maize kernels before or after inoculation with the pathogen and aflatoxin content was determined by high performance Liquid Chromatography with fluorescence detection. Sodium bicarbonate and ammonium bicarbonate either completely inhibited or significantly reduced the in vitro mycelia growth and spore germination of *A.* whereas citric acid and calcium chloride did not show any inhibitory effect. Maize kernels that were first inoculated and then treated with 4% sodium bicarbonate followed by inoculation contained 11.9 ug/kg and 2.6ug/kg of aflatoxin respectively. Non – treated control kernels were high in aflatoxin (18.9 ug/kg) where sodium bicarbonate on naturally infected kernels controlled the aflatoxin production by 100%.