

2nd International Conference on **Animal & Dairy Sciences**

September 15-17, 2014 Hyderabad International Convention Centre, India

Studies on antifungal role of phytochemicals against *Aspergillus parasiticus*

Umayya Suganthi R, Prasad KS, Sejian V and David ICG
National Institute of Animal Nutrition and Physiology, India

Aflatoxins are toxic secondary metabolites of toxigenic fungi *Aspergillus parasiticus* and *Aspergillus flavus* that commonly grow on various agricultural commodities. Improper storage conditions favor fungal infestation and toxin production on livestock feeds and such contamination is predominant in tropical countries. Consumption of aflatoxin contaminated feed affects liver, kidney and immune system and leads to toxic, mutagenic and carcinogenic effects in animals, thereby causing both health and economic losses in livestock. Management of feed commodities is required to ensure that they remain safe for consumption by animals. In the recent years plant based preservatives are focused as a viable strategy against infection by microbes. Therefore the present study was aimed to assess the potential of various phytochemicals to inhibit the growth of aflatoxin producing strain of *Aspergillus parasiticus* (IMTECH 2797). The phytochemicals β -caryophyllene, piperine, thymol, eugenol, transcinnamaldehyde, basil oil and transcinnamic acid were tested for their inhibitory effect at varying concentrations ranging between 0.01 to 1.0% under *in vitro* conditions in potato dextrose agar media. Among the phytochemicals studied, piperine did not inhibit fungal growth. β -caryophyllene reduced the growth of *A. parasiticus* colonies by 47% at 1% concentration. But basil oil exhibited complete (100%) inhibition of fungal growth at 1% concentration. At 0.2% concentration, transcinnamic acid and eugenol inhibited *Aspergillus* growth completely while thymol and transcinnamaldehyde showed a similar effect at 0.1%. The study indicated the potential of phytochemicals as effective antifungal agents against *Aspergillus parasiticus*.

Biography

Umayya Suganthi R is working as Senior Scientist at National Institute of Animal Nutrition and Physiology, Bangalore. She completed her PhD in 2009. She has published research in peer reviewed journals and is a member of editorial board of various journals of repute.

suganthimanimaran@gmail.com