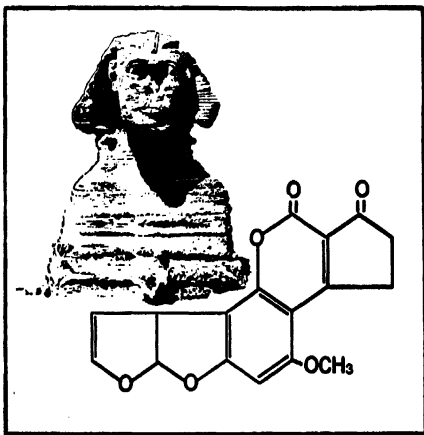


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ABSTRACTS BOOK
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Preliminary Studies on Rice Straw Incriminated with the Causation of Dengala Disease.

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Dengala disease simulating chronic ergotism is observed on the Indian sub-continent following the feeding of rice straw mostly in buffalos. Preliminary studies were carried out on rice straw (incriminated with the causation of the disease) to different species of laboratory animals (weanling and adult rats and mice). In the species tested, death occurred much earlier as compared to the controls. An appreciable difference in the feed consumed by the control group of weanling rats was noticed. Generalized acute vascular changes alongwith gastroenteritis were also noticed at necropsy in all species. In the experimental chicks dyspnoea, ruffled feathers, drooping of wings was observed and these died earlier than the control birds. Parenteral administration of the incriminated rice straw extracts to WLH cocks resulted in cyanosis, shrivelling of comb and wattles and drooping of wings. 15 samples of the incriminated rice straw extracts were screened for trichothecenes employing method of Bamberg & Strong (1971). Fraction I (hexane:ethyl acetate 1:3) of 12 samples exhibited specific T2 and diacetoxyscirpenol fluorescing spots. Certain unidentified toxins, based upon Rf values (probably startatoxin, fusarenon-X and nivalenol), were observed in fraction IV (ethyl acetate:methanol 4:1) and V (methanol). Three similarly prepared rice straw extracts were screened by Dr. Y. Ueda, Tokyo University of Science, Japan. In one of these T2 toxin (1,415 ug/kg), diacetoxyscirpenol (180 ug/kg), fusarenon-X (200 ug/kg) and deoxynivalenol (trace) were detected.

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Research on Mycotoxin Problems in India.

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Mycotoxin contamination of agricultural commodities especially groundnut and maize and the consequent health hazards to animals and humans is a serious problem in India. In recent years, several centers have carried out research in this area. The research efforts at the NIN have been directed to survey of agricultural commodities for natural occurrence of mycotoxins, to assess mycotoxicoses in humans and animals, and to find genetic resistance

in crop cultivars to aflatoxin production. The research at the CFTRI has been in surveying rice, groundnut and its products for natural occurrence of mycotoxins and in developing methods for detoxification of aflatoxins in groundnut oil and meal. Work at the Bhalgalpur University has been on the aflatoxin problem in maize before harvest and in storage. Veterinary Scientists of Hissar Agricultural University have investigated trichothecene toxins involved in Dagnala disease in cattle fed on rice straw. The International Crops Research Institute for the Semi-Arid Tropics in Hyderabad is engaged in research on the aflatoxin problem in groundnut, particularly in identification and utilization of genetic resistance to develop groundnut cultivars with resistance to seed invasion by Aspergillus flavus and to aflatoxin production.

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Research on the Aflatoxin Problem in Groundnut at ICRISAT.

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Aflatoxin contamination of groundnuts is a serious problem in most groundnut producing countries and as such is given high research priority at ICRISAT. Since 1979, we have concentrated on selecting cultivars resistant to seed invasion and colonization by toxigenic strains of Aspergillus flavus, and/or to aflatoxin production. Resistance to invasion and colonization by A. flavus of rehydrated, mature seed has been found, and confirmed, in some cultivars. Such resistance is of value in the event of the stored groundnuts absorbing sufficient moisture to permit fungal growth. We have also screened cultivars for field resistance to invasion of seeds by A. flavus, both under natural conditions and with inoculum of the fungus added to the soil in the pod zone. Some cultivars with resistance to seed colonization also showed resistance to field invasion by A. flavus. None of the cultivars tested has yet shown complete resistance to aflatoxin production, but significant differences occurred in amounts of aflatoxin produced in seeds inoculated with a toxigenic strain of A. flavus.

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Mycotoxin Problems in Tamil Nadu.

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