

## A study on presence of Aflatoxin in deried coconut

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The present investigation was carried out with a view to isolate the fungi associated with dried coconut collected from different places and to study their toxin producing ability. Nine samples of dried coconut of different grades were collected from different places of Ahamednagar district. Isolation of fungi from these samples yielded 8 types of different fungi, out of which three belonged to the genus *Aspergillus* and genus *Pencillium*, and one each of *Rhizoups* spp., *Alternaria* spp. and *Fusarium* spp. Results indicated that dried coconut samples were heavily infected with *Aspergillus* spp. (green and black pigment) than other fungi. 26 cultures obtained from the dried coconut samples were screened for their toxin producing ability.

Key words : Aflatoxin, Aspergillus, Dried coconut

### INTRODUCTION

**M**ycological contamination of agricultural commodities now being viewed with serious concern. In our country the presence of moulds in foods has been given importance mainly because of storage loss and from the sale point of view like color and taste. During the entire post harvest period of storage, food crops are highly vulnerable to mould attack. The fungal growth is usually accompanied by the simultaneous production of the toxic metabolites. Tropical conditions in India like high temperature and high moisture level during the monsoon season, unseasonable rains and inadequate pre-and -post-harvest practices that promote elaboration of toxins in foods. For many years, moulds have been known to produce toxic metabolites but their effects were largely ignored. The fungal toxins are chemical pollutants of biological origin. They can occur wherever fungi proliferate but present most serious hazards in foods and animal feeds. These chemicals are toxic and are found to be carcinogenic and hemorrhagic to human beings and animals.

Among the known mycotoxins, the most important from the direct hazard point of view to human health are aflatoxins. The relative concentrations of aflatoxin, however, very greatly depending on fungal strain, substrate and condition of growth. Aflatoxins cause two types of toxicity in human beings namely acute and chronic. In acute toxicity, deaths are caused in which encephalopathy and fatty degeneration of the viscera (EFDV) and fetal hepatitis are the incident of aflatoxin ingestion, where as

in chronic toxicity aflatoxin caused primary liver cancer, Indian Childhood Cirrhosis (ICC), liver enlargement and other melodies.

All Fruits and fruit products produced in India are not consumed immediately after harvest. They are required to be stored for some time. In developing countries like India, it is not possible to store all fruits and fruit products under controlled conditions. Improper storage practices accompanied by high temperature and high moisture conditions are favorable for fungal invasion and elaboration of aflatoxins.

Therefore, it was felt to study the presence of aflatoxins in above-mentioned commodity *i.e.* dried coconut with the objective to isolate and identify different fungal contaminants with the post harvest spoilage of dried coconut.

### MATERIALS AND METHODS

To achieve the objective mentioned earlier, the following methodology was followed.

#### *Collection of samples:*

The samples of dried coconut were randomly collected from different places in the Ahamednagar district. The samples were collected from the market where common people purchased such food material. Each sample weighing about 100 g, was collected in the sterilized polyethylene bags.

The samples of the following grades were collected in triplicate.