

# Aflatoxin in Foods



食物環境衛生署  
Food and Environmental  
Hygiene Department

## What is Aflatoxin ?

- Aflatoxin belongs to a group of fungal toxins known as mycotoxins.
- It is produced by a specific group of mould called *Aspergillus flavus*, *Aspergillus parasiticus* and *Aspergillus nomius*.
- *Aspergillus* is found widely in soils and will release aflatoxin under appropriate temperature and humidity.

## Types of Aflatoxin and their Toxicity

Aflatoxins include B1, B2, G1, G2, M1 and M2. The aflatoxin M1 and M2 are metabolic products of B1 and B2 and are excreted in the milk of dairy cattle that have consumed feed contaminated with B1 and B2. Amongst them, B1 is the most potent liver carcinogen in human.

## Health Effects

### Acute Effects

When foods that contain high levels of aflatoxins are ingested in a short period of time, acute food poisoning may occur. Acute food poisoning by aflatoxin rarely occurs in developed countries. Symptoms may include fever, vomiting and jaundice. Acute liver damage can occur which may be fatal in more severe cases.



### Chronic Effects

Aflatoxin may be found in low levels in foods. Long term intake of aflatoxin can be associated with liver cancer.

## Occurrence of Aflatoxin

Aflatoxin is commonly found in peanuts because they are grown in tropical climate with high temperature and humidity. Other food commodities include corn, figs, nuts, cereals, milk and dairy products such as cheese and yoghurt are also found to be associated with aflatoxin.

## Characteristics of Aflatoxin

- Colourless, tasteless and odourless.
- Stable at high temperature and cannot be destroyed by normal cooking.
- Released within the temperature range of 28°C to 33°C and relative humidity between 83% and 97%.

## How to Reduce the Aflatoxin Induced Food Risk ?

Tripartite collaboration amongst the food trade, consumers and government is the key to safeguarding food safety.

### Responsibilities of Food Trade

The trade should develop HACCP based food safety plan and/or to minimise aflatoxin in their products by:

- Obtaining raw materials only from reliable and reputable suppliers.
- Verifying the specifications for quality product and demand decontamination process for reduction of aflatoxin level if indicated.
- Maintaining good storage conditions :
  - ◇ The environment should be cool and dry.
  - ◇ The stock rotation should be on a first-in-first-out basis.
- Keeping records of control points.



### Responsibilities of Consumers

#### *Purchase*

- Purchase from reliable and reputable retailers.
- Observe whether foods are stored in dry and cool conditions.
- Avoid any unclean, open or damaged package.

#### *Storage*

- Keep foods in dry and cool environment.
- Avoid direct sunlight.
- Avoid stocking up excessive foods.
- Watch out the durability of food.

#### *Consumption*

- Consume before the "best before" date.
- Discard any food that looks mouldy, damaged or shrivelled.

The Food and Environmental Hygiene Department (FEHD) controls this harmful substance through enforcing standards for the levels of contamination in food. Inspectors routinely take samples, particularly peanuts and peanut products for aflatoxin analysis in order to ensure that they are safe for human consumption.

Moreover, the FEHD makes effort to monitor the trend of the exposure and safeguard the public against high exposures that threaten health.

For further information,  
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