**Mycotoxins**

Mycotoxins are the toxic substances produced by fungi on food materials. These are secondary metabolites. Some of these cause very severe effects on animals, plants and microbial systems. These includes aflatoxins, ochratoxins, sterigmatocystin, citrinin, potulin, rubratanin, zearalenone and trichotheceus and other produced by different species of *Aspergillus, Penicillium, Fusarium* etc.

More than 150 species of fungi are known to produce different types of mycotoxins in laboratory as well as under natural conditions. The concern about mycotoxins producing potential of moulds has increased since 1960 i.e. after the discovery of Turkey-K disease which was attributed to aflatoxin elaborated by *Aspergillus flavus*, since then several hundred strains belongs to this group have also been isolated from various group have also been isolated from various food and feed materials.

Symptoms produced by mycotoxins can be distinguished into four categories

1. Mycotoxins producing in coordination and Tremor (Tremorgen).
2. Mycotoxin producing excessive salivation and diarrhoea
3. Mycotoxins producing emetic symptoms
4. Mycotoxins producing carcinogenic symptoms

As a result of consumption or ingestion of mycotoxin human diseases are also occurred known as mycotoxicases. Among those diseases, three well known diseases are Ergotism, alimentary toxic aluki (ATA) and the liver cancer or Reye’s syndrome caused by aflatoxins. Among all the mycotoxins, aflatoxins occupy key position with regard to carcinogenic effects human and animals system.

Table showing mycotoxins and mycotoxicases

|  |  |
| --- | --- |
| Mycotoxins | Mycotoxicases |
| 1. *Aspergillus* toxin 2. Aflatoxin B1, B2, G1, G2 3. Sterigmatocystin 4. Ochratoxin | Liver cancer, carcenogenesis, renal tumar. |
| 1. *Fusarium* toxin 2. Moniliformin 3. Fumornisins | Kidney damage, liver damage |
| 1. *Penicillium* toxin 2. Citroviridin 3. Citrinin 4. Cyclopiazonic acid 5. Patulin 6. Penicillic acid 7. Penitrem acid 8. Rubratoxin | Promote cancer, digestive disorder, abnormal abortion, cervical disorder, bloody diarrhoea, Kidney damage, liver damage etc. |
| 1. Other mycotoxins 2. *Agricus* toxin 3. *Amanitins* | Mushroom poisoning |
| 1. Ergot alkaloids 2. Ergosine, Ergonetrin, Ergocristine | Ergotism |

Elimination of mycotoxins from the foods and animals falls is necessary. Three basic approaches i.e. prevention, inactivation and detoxication has been proposed to control the mycotoxins.