IMPORTANCE & CONTROL OF AFLATOXIN IN FOOD INDUSTRY

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WHAT ARE AFLATOXINS:

• FORMS OF MYCOTOXIN
• MOST TOXIC &/OR CARCINOGENIC
• METABOLITES OF THE FUNGI SPECIES; *Aspergillus flavous, A. parasiticus & A. nomius* etc.
• FIELD & STORAGE CONTAMINATION IS REAL
• REGULATED IN FOODS & FEEDS.
STRATEGIES TO PREVENT CROPS CONTAMINATIONS:

• PRE & POST-HARVESTS
• YEARLY CROP ROTATIONS
• IRRIGATION IN HOT & DRY WEATHERS
• USE OF PESTICIDES TO REDUCE INSECT POPULATION
• DRYING TO SAFE-MOISTURE LEVEL
• PROTECTIVE STORAGE
AFLATOXIN LEGAL LIMITS IN VARIOUS COUNTRIES:

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>AFLATOXIN B1 (ppb)</th>
<th>TOTAL AFLATOXIN (ppb)</th>
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</thead>
<tbody>
<tr>
<td>US</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>EU</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>AUSTRALIA</td>
<td></td>
<td>15</td>
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<td>CANADA</td>
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<tr>
<td>EGYPT</td>
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<tr>
<td>MAIZE</td>
<td></td>
<td>20</td>
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<tr>
<td>PEANUTS</td>
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<tr>
<td>NIGERIA</td>
<td>20</td>
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<tr>
<td>PHILIPPINES</td>
<td></td>
<td>20</td>
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<tr>
<td>SOUTH AFRICA</td>
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CONTEMPORARY ISSUES IN FOODS/FEEDS INDUSTRY:

• INCREASING DEMAND FOR FOOD/FEED STUFFS.
• RISING DEMAND FOR FOODS/FEEDS
• FOODS/FEEDS QUALITY
• FOODS/FEEDS SAFETY
• MARKET VALUE OF PRODUCTS
• QUALITY ASSURANCE
IMPORTANCE OF AFLATOXIN IN FOOD INDUSTRY:

• AFLATOXIN IS A GLOBAL PROBLEM
• < 25% OF THE WORLD’S GRAIN SUPPLY IS CONTAMINATED WITH MYCOTOXINS
• NEGATIVE ECONOMIC IMPACTS ON CROP, POULTRY, FOOD & FEED PRODUCERS
• ECONOMIC LOSSES DUE TO AFLATOXIN IN POULTRY FEED IS ENORMOUS
• HEALTH IMPLICATION ON MAN & ANIMAL
• AFLATOXIN IS A SILENT KILLER
CONTROL OF AFLATOXINS:

PRACTICAL CONTROL MUST BE TWO FOLDS
# Prevention of fungal growth & toxin production
# Decontamination of existing *Aflatoxin* in feeds

OTHER STRATEGIES:
* Plant breeding to resist mold growth
* GHP, GAP, GMP, GWP, etc
* Use of toxin binders
* Nutritional modifications
* Application of mineral clays
Properties of a good toxins binder in animal feed

• Ability to adsorb a wide range of mycotoxins
• Low effective inclusion rate
• Rapid and uniform dispersion in the feed during mixing
• Heat stability during pelleting, extrusion, and during storage
• No affinity for vitamins, minerals or other nutrients
• High stability over a wide pH range
• Biodegradability after excretion
• Safety to animals and humans
• Palatability
CONCLUSION:

- PRACTICALLY, NO FEED IS COMPLETELY FREE OF AFLATOXINS. HOWEVER, MEASURES SHOULD BE TAKEN TO REDUCE THEIR EFFECTS.
- ENSURE FOOD SAFETY BY GMP AND BIO-SECURITY.
- IT IS A COLLECTIVE RESPONSIBILITY, TO DELIVER US FROM THE CLAWS OF THIS OBNOXIOUS KILLER CALLED AFLATOXIN.
- FOOD SAFETY IS NOT NEGOTIABLE
THANK YOU